

# Agenda

## **TECHNICAL ADVISORY COMMITTEE MEETING** **WEDNESDAY, OCTOBER 11<sup>TH</sup>, 2017 – 1:30 P.M.** **EAST GRAND FORKS CITY HALL TRAINING ROOM**

### MEMBERS

Lang _____	Laesch/Konickson__	West _____
Ellis _____	Johnson/Hanson _____	Magnuson _____
Bail/Emery _____	Kuharenko/Williams/Yavarow _____	Sanders _____
Gengler/Erickson _____	Bergman/Rood _____	
Riesinger/Audette _____	Christianson _____	

1. CALL TO ORDER
2. CALL OF ROLL
3. DETERMINATION OF A QUORUM
4. MATTER OF APPROVAL OF THE SEPTEMBER 13<sup>TH</sup>, 2017, MINUTES OF THE TECHNICAL ADVISORY COMMITTEE
5. MATTER OF 2045 STREET/HIGHWAY ELEMENT UPDATE ..... KIMLEY-HORN
  - Kimley-Horn
  - TDM 2015 Base
  - Red River Bridge Study
6. MATTER OF T.I.P. PROJECT SOLICITATION ..... HAUGEN
  - ND Side
    - ND Main Street Initiative
  - MN Side
7. MATTER OF ND FREIGHT PLAN ..... HAUGEN
8. MATTER OF TITLE VI REVIEW ..... KOUBA
  - EJ Data
  - LEP Data
9. OTHER BUSINESS
  - a. 2017 Annual Work Program Project Update
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, September 13<sup>th</sup>, 2017  
East Grand Forks City Hall Training Conference Room**

**CALL TO ORDER**

Earl Haugen, Chairman, called the September 13<sup>th</sup>, 2017, meeting of the MPO Technical Advisory Committee to order at 1:40 p.m.

**CALL OF ROLL**

On a Call of Roll the following members were present: Michael Johnson, NDDOT-Bismarck; David Kuharenko, Grand Forks Engineering; Brad Gengler, Grand Forks Planning; Nancy Ellis, East Grand Forks Planning; Brad Bail, East Grand Forks Consulting Engineer; Paul Konickson, MnDOT-District 2; Ryan Riesinger, Airport Authority; and Nick West, Grand Forks County Engineering.

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

Guest(s) present: Al Grasser, Grand Forks Engineering.

**DETERMINATION OF A QUORUM**

Haugen declared a quorum was present.

**MATTER OF APPROVAL OF THE JULY 12<sup>TH</sup> AND THE AUGUST 9<sup>TH</sup>, 2017,  
MINUTES OF THE TECHNICAL ADVISORY COMMITTEE**

***MOVED BY JOHNSON, SECONDED BY ELLIS, TO APPROVE THE JULY 12<sup>TH</sup> AND THE AUGUST 9<sup>TH</sup>, 2017, MINUTES OF THE TECHNICAL ADVISORY COMMITTEE, AS PRESENTED.***

***MOTION CARRIED UNANIMOUSLY.***

**MATTER OF 2045 STREET/HIGHWAY ELEMENT UPDATE**

Haugen reported that an open house was held two weeks ago at the Empire Arts Center, with about twenty-five people in attendance.

Haugen referred to the packet and pointed out that a copy of the power point slide presentation given at the open house is included. He stated that he also appeared before the East Grand Forks

**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

City Council Work Session and the Grand Forks Planning and Zoning Commission, so included are a couple of things pertaining specifically to those two meetings as well.

Presentation (a copy of which is included in the file and available upon request) ensued.

Haugen explained that for the Planning Commission he just gave an update on where we began in 2015 to where we are now. He said that he also talked about why we did the Land Use Plans and why we are incorporating them.

Haugen stated that he also tried to address what might be the most significant difference between the current plan and this new plan. He explained that, while the current plan does have some performance measures in it, they really weren't defined, so we have defined them in the new plan with specific targets.

Haugen commented that there is a significant financial impact to East Grand Forks with the FAST-Act, and how MnDOT has redistributed federal funds, whereby there is a significant increase in the dollars available to them, however it is still only available every fourth year.

Haugen said that another piece of information is that they have launched their interaction Wiki-mapping tool. He pointed out that he did include a snapshot photo of it.

Haugen explained that this tool was launched about a week ago, and as of today there has been a considerable amount of comments inserted on it, and they will continue to promote its use to alert us to things that we aren't aware of, and to get a sense of what people feel are an issue or concern that they would like addressed.

West asked what some of the icons shown on the map represent. Haugen referred to a page illustrating what the different icons represent and went over it briefly. He also explained how to use the site as well.

Haugen commented that he also included a list of previous plans that are true metropolitan plans that cover both the Grand Forks and East Grand Forks areas.

Haugen stated that Kimley-Horn and WSB have submitted a draft existing conditions report, and staff has provided some comments to them to try to rectify some of the issues found before it is released. He added that ATAC has promised that the 2015 Traffic Demand Model report will be available by the end of this week, so that will be distributed. He stated that as part of that, for those of you that might be familiar with the Upper Great Plains GRIT system (Graphic Interactive Mapping Tool), it will be on there as well so you can see how the network is set up and what it is showing for results.

Haugen commented that they have been working with both cities on updating the 2030 and 2045 street network and the socio-economic data base so ATAC will then be able to quickly, once we accept the 2015 base model, give us the results of 2030 and 2045 traffic, assuming no major improvements to the system.

**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

Williams referred to the project area issues map and asked why some areas, such as DeMers and Washington, north of 13<sup>th</sup>, are not designated as critical corridors. Haugen responded that he thinks it is just a mapping issue as they are definitely critical.

**MATTER OF SAFETY PERFORMANCE STATE TARGETS**

Haugen reported that August 31<sup>st</sup> was when both State DOTs had to submit their safety targets. He said that North Dakota submitted theirs on August 29<sup>th</sup> and Minnesota submitted theirs on August 31<sup>st</sup>; so the 180 deadline for us to adopt our targets will be February 23<sup>rd</sup> for North Dakota and February 27<sup>th</sup> for Minnesota.

Haugen referred to a slide illustrating the five measures that they had to submit targets on, and added that these are the five measures that we will consider setting targets on as well.

Haugen briefly went over the differences between the draft targets from March and the final targets for each state. He pointed out that the actual targets submitted are the bottom numbers on the table. He added that on the North Dakota side they had ranges, they did not have a single value in March, now they have come up with single values; and for the most part they were working within the ranges they did identify in March with the one exception being Bike/Ped. He explained that initially they were looking at increased crashes and fatalities increasing, but in the end they decided to not have any increase.

Haugen stated that for us we have the option of adopting the ten targets, or we can adopt just the five individual targets that are specific to the MPO, or a combination of both, but no more than ten.

Haugen reported that what the implications are for these targets for the MPO, individual MPOs aren't reporting specifically to Federal Highways, it is just the States, but if the States don't meet four out of the five targets, the obligation authority gets set only to the safety program, so, again, for the MPO our decision as to whether we establish our own targets or just go with each States individual targets, doesn't overall factor into the State meeting or not meeting their targets.

Grasser asked what would be the advantages or disadvantages of us going with the States versus doing something local. Haugen responded that they are still working that out as part of our contract with our Street and Highway folks. He said that the advantage would be that we are reporting to people what numbers reflect Grand Forks/East Grand Forks instead of these huge numbers that have less value to us locally. He added that we have those numbers readily at hand as well.

Grasser commented that his concern is in setting a number that might be, and this is probably an anomaly in his mind, from a federal level we decided we are going to allow declining levels of service of our corridors and our intersections, to him that translates into also acknowledging there is probably going to be more accidents, and to him increasing accidents goes along with some of those activities, and yet we have tried to show reductions in the performance level, how far are we trying to amortize all these numbers all over, and his first gut reaction is telling him that if we amortize it over the State versus locally, you are getting a lot of the State Highways

**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

and some road miles that should have relatively small accidents; locally we have concentrated pockets of high accidents but our local streets have very low accidents, so when you try to amortize the two, which one is better for us as far as meeting a performance goal, and failing via a performance goal is what he is concerned about. Grasser stated that we don't have to answer all these questions today, but he thinks it is something we need to think about; it seems like that is going to be helpful yet safety will be impacted by the increase in the level of congestion that is kind of being brought to us by the federal playground.

Haugen stated that that, again, is the process between now and February where we try to shake all of that out. Grasser asked if this is something that the consultant can talk about. Haugen said that they should be able to talk about it when they are here at the end of October or first part of November.

Grasser asked Mr. Johnson if he knows what direction the other MPOs are taking with this. Johnson responded that he isn't sure if the other MPOs have gone into as much detail as this, his guess is that all three will handle this differently. He added that from what he has heard from Bismarck/Mandan MPO it sounds like they are most likely going to adopt the State targets, but he isn't sure what FM-COG is planning on doing.

Haugen commented that, again, the MPO individually, whether we meet targets or not doesn't directly affect this obligation authority issue, its only at the State level, so it would be hard to understand how, whether we set our own targets and they aren't met would impact the changing of how safety dollars are obligated to the State. Johnson said that the potential impact it could have is if they are required to use that obligational authority on these types of projects that we are planning to use on some other project, maybe urban regional or urban road, that is where it could potentially become an issue.

Williams asked if adopting a target that is less aggressive, say comparing to Minnesota, would that cause any internal problems within Minnesota, as far as financing and East Grand Forks being able to get financing if they don't adopt a rate that is the same as the State. Haugen responded that that is part of the unknowns, and that is part of what they are trying to flesh out in the next 180 days. He added that, theoretically, East Grand Forks has a City Sub-target awarded every fourth year, and these safety targets are changed every year, so from that point of view it probably wouldn't affect anything much. He explained that for the first time, last year East Grand Forks actually submitted some requests and so that might impact if they are showing a less aggressive target setting, but you have to remember that MnDOT is our partner through our decision process and they should be providing an answer as we look at this for the next 180 days.

Williams asked if we have to have the same targets for the entire street system or can we designate different streets with different targets. Haugen responded that we can do that, but it is a lot more sophisticated than what either State is providing us. He stated that the State did have the option of doing more of that stratification and both States decided not to, they just went with one single statewide number. He said that either you do the State or you do the MPO one, and he has been doing it more in terms of we will support the State numbers but we might want to consider having a number that is more relative and known to us and our public as to what Grand Forks/East Grand Forks is experiencing.

**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

Kuharenko asked what the likelihood might be that down the road these targets will be changing for either DOT, or both DOTs, which would then create the potential for changes being required to our targets as well. Johnson responded that they are re-evaluated every year. Kuharenko said then they can change every year, or they can stay the same, but at that point in time is that something where if we do end up coming in with MPO specific targets, that would be something that if there is a change we would have to go through and re-evaluate and change everything over again, and if that is the case then he would almost say that matching what the two States have will be a lot easier for tracking purposes, and then we don't have to reinvent the wheel every time there is a change. Haugen responded that it would seem that way but we would be working with the States as they do the annual evaluation and they are telling us what our numbers are as part of their State numbers, so all of that work is going to be done, and it is just a matter of how we want to report it. He added that neither Bismarck nor St. Paul will just come up with something a year from now and ask us to react to it, they engage us and then report the number and give us 180 days to react.

Haugen stated that the annual numbers are shown as well. He added that there is also the "Towards Zero Deaths" initiative that is a longer term number, and they are trying to figure out how these short-term numbers are working in with our long range performance values that we will be identifying, so there are still some answers on the table that we need to figure out, which is why they gave us 180 days to do so.

Haugen commented that, as a reminder, there are other targets that are reported out there beside these five that we have to determine if we want to appropriate them or not.

Williams asked Mr. Johnson, on a statewide basis, if you are not meeting targets do you have to take some of your funding and move it, and does that apply at the local level as well, if we don't meet a target do some of our urban funds get moved to HSIP. Johnson responded that, as Mr. Haugen stated, the MPO targets just get reported to the NDDOT, they aren't reported to Federal Highway, so the report that goes to Federal Highway is the statewide target and how it is affected. He said that if they don't meet one of their targets, Federal Highway will say that we need to take the steps to fix our targets, so if one of the major areas of concern that caused us to not meet our target is in Grand Forks, then they would probably have to do a project in Grand Forks to fix it; if it is multiple locations, they would have to look at all of those locations; if it is a Statewide issue, they will have to try to determine which problems need to be solved and it will be very difficult to pin point it unless there are some anomalies that stick out. He explained that those anomalies could be the bike-ped fatalities if there is an isolated location they can concentrate on, but some of the others might be very difficult for them to hone in on.

Haugen reported that he believes the first assessment is made in 2020 and it affects the 2021 program so the real impact on this is still kind of several years out. Kuharenko asked if this is over a three or five year period. Haugen responded that it is a two-year reporting period, that they will review at the State level.

Johnson commented that from the North Dakota side, from the folks that are really involved in this; they are fairly confident that the first four are targets we can meet fairly consistently, but it is the bike/ped one that is going to be difficult, especially with the late decision to go with a flat

**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

rate because we have such a low number, it isn't an insignificant number, but it is such a low number that one fatality can skew our results, and that is a concern and that is why the numbers Mr. Haugen showed before about our March presentation showed us accepting an increase, because if you look at our trend line it hovers right around that 35 to 37 line, but you have to meet four out of five so if we are potentially not hitting that fifth one every year then we have to nail the other four, and we are hopeful we can get it all worked out.

Haugen stated that this was the first on the highway side; on the transit side there already was a target deadline, and it seems a lot more flexible for meeting the deadlines. He explained that throughout our street and highway plan update we have different dates for targets and deadlines, but they should all be done by the end of October 2018, which is right when our preliminary draft is being reviewed and adopted by our respective agencies.

**MATTER OF NEAR SOUTHSIDE NEIGHBORHOOD STUDY WALKABILITY SURVEY**

Haugen reported that we were asked to do a walkability survey, and it was completed on September 7<sup>th</sup>. He explained that getting enough neighborhood volunteers to do the survey was difficult, but they were able to come up with seven people.

Haugen commented that the form used came primarily from the Pedestrian and Bicycle Information Center, which is a joint effort of Federal Highway and Bike Safety Team through the University of North Carolina Highway Safety Research Center. He explained that the survey has several questions engaging people as they walk to use a rating system.

Haugen stated that there were five teams out walking different areas of the Near Southside Neighborhood. He said that all five came back with, not a perfect score, but a rating of celebration, which is very good.

Haugen explained that part of the reason for this high score may be attributed to the investment the City recently did through the MUNI Program.

Haugen said that there are still some individual sheets that are still being reviewed by ATAC. He referred to the survey and pointed out that there are five questions, most of which were yes/no type questions, and there were also places for comments and ratings.

Haugen referred to maps of the areas to be surveyed, and went over those that were done, and pointed out those that were not done.

Williams asked if there were any specific comments made that they need to take a look at right away. Haugen responded that on the maps that did go out a recorder was noting, not just the bad, but also good comments. He said that there will be some individual comments, specific sights identified on the four maps that were covered. Williams asked if there is anything they need to look at now, such as view obstruction concerns, she would ask that they be forwarded to her right away.

**MATTER OF FY2018 WORK PROGRAM**

Haugen reported that this is the time of year that we take a look at our next year's work program. He added that we typically don't announce that we have freed up a stream of revenue to consider; but this year we are announcing that there are some available funds.

Haugen commented that, as he tried to explain in the staff report, last year, if you recall, our work program was very tight because of some de-obligated 2014 funding. He said that in addition to that we have been trying to work with the other two MPOs to change the funding formula, but we have not come to a resolution on that, so what that caused was for NDDOT to not open the 2017 funding yet, which meant that most of our 2017 work program was based on accessing 2017 funds, so the NDDOT allowed us to access the 2014 funds, and that freed up our 2017 dollars to be spent in the future. He stated that we are estimating that to be around \$250,000; so we will be utilizing 2017 dollars for the rest of the year, although not for the full year as anticipated so there is the ability to do more work if desired.

Haugen referred to the current work program, and stated that, again, with the Street and Highway Plan taking up the majority of our resources there weren't a whole lot of other studies available, although we did squeeze in an aerial photo update. He added that in addition, a couple of years ago we were going to look at the U.S.#2/Mill Road/U.S.Bus #2 area, and part of the reason we singled that out was to get some local match help from the NDDOT as they have in the past expressed a willingness, on a case-by-case basis, to consider contributing to the local match if the study is beneficial to their highway system.

Williams asked if the \$250,000 require a local match. Haugen responded it does. Williams asked if it was 10% or 20%. Haugen responded that our basic planning formula is 80/20; 80% federal/9% City of Grand Forks/9% City of East Grand Forks/2% MnDOT; but on studies such as the U.S.#2/U.S.Bus#2 Intersection it might be based more on an 80%/4.5% Grand Forks/4.5% East Grand Forks/10% MnDOT.

Haugen stated that if you have specific things you would like to add, now would be the time to see if you have the ability to help match those dollars, and if you have an agreement to undertake the project. Kuharenko said that they would need to take them to their respective City Councils later one, once the projects have been discussed and determined they are eligible. Haugen responded that that is correct.

Haugen reported that he knows that from a MnDOT and Minnesota Federal Highway perspective, they would love to see us assist our local agencies on ADA transition planning and right-of-way. He added that North Dakota Federal Highway has not pushed this to the same level that Minnesota Federal Highway is pushing it. He explained that what he means by this is that Minnesota Federal Highway is considering freezing T.I.P. projects if a city or the responsible agency for that programmed project can't show that they have an up-to-date transition plan. He added that he knows their Minnesota staff is pushing the Minnesota Agencies to do this, and he knows that other Minnesota MPOs are putting in resources for that.



**PROCEEDINGS OF THE  
TECHNICAL ADVISORY COMMITTEE  
Wednesday, September 13<sup>th</sup>, 2017**

Grasser asked what the transition plan generally consists of. Haugen responded that it is taking your ADA curb ramps and extending them all the way through the right-of-way so all of your right-of-way is assessed for ADA. Ellis explained that you have to have what you currently have, what needs to be done, and your timeline for transitioning what isn't done.

Discussion on ADA compliance issues ensued.

Haugen stated that we need to determine if we still want to include the skewed intersection. He said that it is a troublesome intersection, and it isn't as if it hasn't been studied in the past, but it is one of those big ticket items where it probably needs a major improvement to make any real improvement. Williams commented that she would add that it isn't only the skewed intersection, it is also the railroad as well, which is almost a worse issue than the skewed intersection.

Haugen commented that if you need help determine whether a study is eligible or not, don't hesitate to ask.

**OTHER BUSINESS**

a. 2017 Annual Work Program Project Update

Haugen reported that the updated 2017 Annual Work Program Project Table was included in the packet for review.

b. TIGER Grant

Haugen reported that applications are being solicited for the TIGER Grant program.

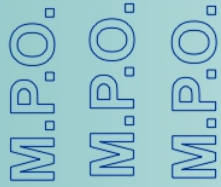
**ADJOURNMENT**

***MOVED BY ELLIS, SECONDED BY GENGLER, TO ADJOURN THE SEPTEMBER 13<sup>TH</sup>,  
2017, TECHNICAL ADVISORY COMMITTEE MEETING AT 2:30 P.M.***

***MOTION CARRIED UNANIMOUSLY***

Respectfully submitted by,

Peggy McNelis,  
Office Manager



## Grand Forks - East Grand Forks Metropolitan Planning Organization

### **MPO Staff Report** **Technical Advisory Committee: October 11, 2017** **MPO Executive Board: October 18, 2017**

**RECOMMENDED ACTION: Update on the Street/Highway Element of 2045 Metropolitan Transportation Plan.**

Matter of Update on 2045 Street/Highway Element.

**Background:** The UPWP identifies that the major undertaking of the MPO for the next two years is to update the Street/Highway Element of our Metropolitan Transportation Plan to the horizon year of 2045. This monthly update will report on three items:

1. Kimley-Horn Report
2. Travel Demand Model 2015 Report
3. Red River Bridge Discussion

The Kimley-Horn report provides some update on the public engagement effort. The report is attached and includes the use of the Wikimapping Tool. In addition, the report is “setting the table” to discuss the Goals/Performance Measures efforts. Kimley-Horn will be in town in November to engage the TAC on this effort. With the Safety Performance Measures done at the state level and our 180 days clock going, some slides are addressing that topic.

The TDM 2015 Base has been presented to us by ATAC. The attached report provides the summary of the calibration/validation of the model. From a variety of different methods on comparison between model results and observed results, the 2015 Base is well calibrated/validated.

Discussion has been held among various council members between the two Cities, as well as the two Councils meeting as the Joint Interconnect Committee (sewage treatment connection sending EGF sewage to be treated at GF plant), concerning agreeing to future crossing of the Red River. Movement is being made to have further discussions take place. At the September MPO Board meeting, staff was directed to develop a scope of work to aid in this discussion.

The current scope of work for updating the MTP was developed with the understanding that two future crossing sites had been identified and approved during the past three update cycles. The scope did not include much time nor effort to actively evaluate this issue. Given this new effort of discussion taking place, staff is seeking assistance from TAC on how to scope this work.

During the late 1990s and early 2000s, considerable energy was spent to have the two future sites identified. Those sites being, referenced by ND side locations, 32<sup>nd</sup> Ave S and Merrifield Road. Many other possible locations were reviewed during that time. Mediation was involved to assist in selection of the two crossings.

Attached are examples of the materials produced and analysis done. The task is to determine whether the same number of potential sites should be scoped; should the same type of analysis done but with updated data; should additional study be done beyond the level of work done by then.

The intent is not to reach a conclusion at the TAC meeting; rather it is to start the TAC in thinking of this. A follow-up meeting will be scheduled in late October to continue this scoping exercise.

**Findings and Analysis:**

- This activity is identified in UPWP.
- The regular 5 year update cycle ends December 2018
- This update is required to be FAST compliant
- This update will need to incorporate require performance measures and targets.
- The consulting team of Kimley-Horn and WSB are under contract and working.
- One of the first activities is to analyze the existing conditions.

**Support Materials:**

- Kimley-Horn Report.
- TDM 2015 Report
- Past Bridge examples.

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# **Streets + Highways Plan Update**

October 11, 2017

# Agenda

- Recap
  - Plan public engagement
  - Plan outcomes
  - August public engagement
  - Existing conditions
- Goals, objectives, performance measures and targets
- Next steps and timeline

# Recap

# Recap: Plan Public Engagement

	Summer 2017	Fall 2017	Winter 2017-2018	Spring 2018	Summer 2018	Fall 2018	December 2018
IN PERSON ENGAGEMENT	PUBLIC MEETING 1 August 30, 2017	PUBLIC MEETING 2 November 2017		PUBLIC MEETING 3 April 2018	PUBLIC MEETING 4 July 2018	EAST GRAND FORKS AND GRAND FORKS CITY COUNCIL MEETINGS October 2018	FINAL STREET AND HIGHWAY PLAN UPDATE
ONLINE ENGAGEMENT	PROJECT WEBSITE						
	WIKIMAP						
PLAN UPDATE PROCESS	DEVELOP GOALS, OBJECTIVES AND PERFORMANCE MEASURES			PREPARE RECOMMENDATIONS AND IMPLEMENTATION REPORT			
	ANALYZE EXISTING AND FUTURE CONDITIONS			IDENTIFY ISSUES AND ALTERNATIVES			

# Recap: Plan Outcomes

1. Update or establish **vision, goals, objectives, performance measures and performance targets**
2. Understand **existing conditions and issues**
3. Identify and evaluate **planned projects and potential alternatives**
  - Apply updated performance measures and targets
4. Establish **financial plan**
5. Identify **future network recommendations**
6. Establish **implementation priorities**



# Recap: Public Engagement – Open House

- Aug. 10, 5 to 7 PM at Empire Arts Center, presentation at 5:45
- 22 attendees
  - 17 completed NDDOT Title VI public participation survey (as of Sept. 15)
  - Sex: 11 male, 6 female (65%, 35%)
  - Disability: None
  - Age
    - 34 and younger: 2 (12%)
    - 35-54: 8 (47%)
    - 55 and older: 7 (41%)
  - Race: 16 white, 1 non-white (94%, 6%)
  - Language: English
  - Income: No public assistance
  - Learned about event via: Internet (35%), Newspaper (29%), Other (47%)
    - Some respondents selected more than one source
- 2 comments: Safety concern; Use federal performance measures

# Recap: Public Engagement – Online Map

- Data through Oct. 5
- 61 respondents completed the demographic survey
  - Age:
    - 18 to 34: 24 (39%)
    - 35 to 44: 18 (30%)
    - 45 to 54: 10 (16%)
    - 55+: 8 (13%)
    - No response: 1 (2%)
  - Gender:
    - Male: 29 (48%)
    - Female: 31 (51%)
    - No response: 1 (2%)
  - Race:
    - Black: 1 (2%)
    - White: 56 (92%)
    - No response: 4 (7%)
  - Ethnicity:
    - Hispanic or Latino: 1 (2%)
    - Not Hispanic or Latino: 54 (89%)
    - No response: 6 (10%)
- 45 respondents recorded comments on the map
  - 145 initial comments with 63 reply comments
  - 208 total comments
- Categories of the 145 initial comments:
  - Access: 28 (19%)
  - Congestion/Driving Conditions: 13 (9%)
  - Pavement Conditions: 20 (14%)
  - Safety: 56 (39%)
  - Signs/Signals: 15 (10%)
  - Other: 13 (9%)
- Comment contents will inform the range of alternatives

# Recap: Existing Conditions

- ATAC
  - Completed final draft of existing conditions model (2015)
  - Working on 2030 and 2045 “existing plus TIP projects” model
  - Reporting traffic volumes, vehicle-miles traveled, vehicle-hours traveled, segment level of service
- Kimley-Horn team
  - Finalizing work presented in July 2017
  - Items remaining (other comments incorporated):
    - Need consolidated data for bridges
    - Resolution on pavement condition data sets
    - Need ATAC model to update “carbon footprint” base calculation
    - Need ATAC 2015 base year model segment LOS

# Goals, Objectives, Performance Measures and Targets



# Update Process

- Review 2040 MTP
- Update goals, objectives, standards, performance measures and targets consistent with:
  - FAST Act
  - Ladders of Opportunity
  - TAC feedback
  - Public and business feedback
    - New priorities within the area
    - New perspectives
  - Best practices
    - Effectiveness of existing performance measures
    - Experiences from other MPOs
    - Ease of implementation by MPO, NDDOT, and MnDOT
  - Other input

# Existing Goals and Federal Direction

National Transportation Performance Goals GF-EGF Goal Areas	Congestion reduction	Freight movement and economic vitality	Reduced project delivery delays	System reliability	Infrastructure condition	Safety	Environmental sustainability
1. Economic Vitality	•	•	•	•		•	
2. Security		•		•	•	•	
3. Accessibility and Mobility	•	•	•	•	•	•	•
4. Environmental/Energy/Quality of Life	•	•		•	•	•	•
5. Integration and Connectivity	•	•	•		•		•
6. Efficient System Management	•	•	•	•	•		•
7. System Preservation	•	•	•	•	•	•	•
8. Safety	•	•	•	•	•	•	
9. Resiliency	•	•		•	•	•	•
10. Tourism		•		•		•	•

# Existing Goals and Performance Measures

MPO Goal Number	MPO Goal Area	MPO Goal Statement	Number of Performance Measures (Total: 19-32 to-date)
1	Economic Vitality	Support the economic vitality through enhancing the economic competitiveness of the metropolitan area by giving people access to jobs, education services as well as giving business access to markets.	2
2	Security	Increase security of the transportation system for motorized and non-motorized uses.	2
3	Accessibility and Mobility	Increase the accessibility and mobility options for people and freight by providing more transportation choices.	3 (3 additional federal requirements)
4	Environmental/ Energy/Quality of Life	Protect and enhance the environment, promote energy conservation, and improve quality of life by valuing the unique qualities of all communities – whether urban, suburban, or rural.	3
5	Integration and Connectivity	Enhance the integration and connectivity of the transportation system, across and between modes for people and freight, and housing, particularly affordable housing located close to transit.	1
6	Efficient System Management	Promote efficient system management and operation by increasing collaboration among federal, state, local government to better target investments and improve accountability.	2
7	System Preservation	Emphasize the preservation of the existing transportation system by first targeting federal funds towards existing infrastructure to spur revitalization, promote urban landscapes and protect rural landscapes.	4 (6 different federal requirements)
8	Safety	Increase safety of the transportation system for motorized and non-motorized uses.	2 (4 additional federal requirements)
9	Resiliency	Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.	0
10	Tourism	Enhance travel and tourism.	0

# Definitions

- Goal
  - Desired 'big picture' future outcome for the metropolitan transportation system, broad statement of aspiration
- Objective
  - Specific outcome desired within a goal area, achievable by 2045/plan timeframe
- Standard
  - Specific technique for achieving an objective; identifies HOW objective will be met
  - Must identify an actor/leader who is responsible for implementing the strategy
- Performance Measure
  - See next slide...



# Definitions

Element	Federal Definition	Plain Language Description
<b>Performance Measure</b>	Expression based on a metric that is used to establish targets and to assess progress toward achieving the established targets.	Things that can be measured to evaluate if a standard is working
<b>Performance Metric</b>	Quantifiable indicator of performance or condition.	Information used in a performance measure
<b>Performance Target</b>	Quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within the time period.	Data point that defines success for a performance measure

# Federal Requirements

- In metropolitan transportation plan
  - Identify performance measures and targets
  - Evaluate system condition and performance in MPO area
  - Report on progress toward the MPO targets
- Coordination
  - Coordinate targets with States
  - Integrate MPO planning process with SHSP, highway asset management plan, and state freight plan
  - Identify how MPO and State(s) will cooperatively implement performance-based planning provisions
- Performance targets are **not** defined because each MPO is unique
  - Different funding streams
  - Different data available
  - Different local priorities

# Findings (Slide 1 of 2)

- Federal rules focus on nationally-significant, near-term measures and performance
- MPOs are not limited to federally-required measures
  - No state statute requirement to adopt North Dakota or Minnesota measures
  - Can integrate measures established in SHSP, highway asset management plan, state freight plan
  - Can develop and adopt additional measures and targets focused on long-term performance and local priorities

# Findings (Slide 2 of 2)

- Focus on implementation when selecting measures and targets
  - Select metrics with readily available data
  - Work cooperatively with authorities on data sources and scope
- Deliver performance reports that are easy to understand and meaningful

	Goal 1. Economic Vitality	Goal 2. Security	Goal 3. Accessibility and Mobility	Goal 4. Environmental /Energy/ Quality of Life	Goal 5. Integration and Connectivity
Goal(s)					
Performance Measure(s)					
Target(s)					
Outcome(s)	●	○	○	○	○

# Example: Safety Target Analysis

Number of Traffic Fatalities	North Dakota	Minnesota	GF-EGF MPO
GF-EGF Performance 2012-2016	2012 – 1 2013 - 2 2014 - 3 2015 - 0 2016 – TBD  INSERT NUMBER (5-year rolling average)	2012 – 0 2013 – 1 2014 - 0 2015 - 0 2016 – TBD  INSERT NUMBER (5-year rolling average)	INSERT NUMBER (5-year rolling average)  DESCRIBE DESIRED TREND (increasing or decreasing by how much per reporting period?)
State Targets	138 traffic fatalities or fewer statewide  0.5% decline	375 traffic fatalities or fewer statewide  3% decline	

# Example: Safety Target Analysis

Number of Crash-related Serious Injuries	North Dakota	Minnesota	GF-EGF MPO
GF-EGF Performance 2012-2016	2012 - 87 2013 - 78 2014 - 96 2015 - 108 2016 - TBD  INSERT NUMBER (5-year rolling average)	2012 - 5 2013 - 4 2014 - 6 2015 - 9 2016 - TBD  INSERT NUMBER (5-year rolling average)	INSERT NUMBER (5-year rolling average)  DESCRIBE DESIRED TREND (increasing or decreasing by how much per reporting period?)
State Targets	516 serious injuries or fewer statewide  No change in trend	1,935 serious injuries or fewer statewide  Decline in trend	

# Example: Safety Target Analysis

Number of non-motorized fatalities and non-motorized serious injuries	North Dakota	Minnesota	GF-EGF MPO
GF-EGF Performance 2012-2016	2012 – 0 2013 – 2 2014 – 1 2015 - 2 2016 - TBD  INSERT NUMBER (5-year rolling average)	2012 – 0 2013 – 1 2014 - 0 2015 – 0 2016 - TBD  INSERT NUMBER (5-year rolling average)	INSERT NUMBER (5-year rolling average)  DESCRIBE DESIRED TREND (increasing or decreasing by how much per reporting period?)
State Targets	34 fatalities and serious injuries or fewer statewide  No change in trend	348 fatalities and serious injuries or fewer statewide  5% decline	

# Discussion

1. Measures
  - After adding federal requirements, refine additional measures? Which ones and why?
2. Metrics/data sources
  - For which measures do we have existing data sources?
  - What is the geographic coverage for existing data sources?
  - Will we merge different data sources for one measure? (e.g., pavement condition)
  - For which measures do we need to develop data sources?
3. Targets
  - What are NDDOT and MnDOT doing? On what timeline?
  - For which measures do we identify or refine targets?
  - How will we use the targets? Will they assist in selecting projects? How?
4. Integrating strategic highway safety plans, highway asset management plans, and state freight plans
  - What other plans, studies, etc.?



# Next Steps with Performance Measures and Targets

- November
  - Review DRAFT recommendations prior to Open House #2
- December
  - Review UPDATED DRAFT recommendations
- January - June
  - MPO adopts safety targets (January-February)
  - Review and discuss other priority targets (February-June)
    - Percentage of pavements in Good condition (Interstate and other NHS)
    - Percentage of pavements in Poor condition (Interstate and other NHS)
    - Percentage of NHS bridges in Good condition
    - Percentage of NHS bridges in Poor condition
    - Travel time reliability (Interstate and other NHS)
    - Freight reliability (Interstate)
    - Greenhouse gas on NHS
    - Other(s)?
  - MTP and TIP compliance with FAST Act after May 27, 2018



GRAND FORKS EAST GRAND FORKS 2015 TRAVEL  
DEMAND MODEL UPDATE

DRAFT REPORT

To the Grand Forks East Grand Forks  
MPO

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October 2017

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## TABLE OF CONTENTS

1.	Introduction .....	1
2.	Improvements to the 2015 TDM .....	2
2.1.	Origin Destination Data Obtained from Airsage .....	2
2.1.1.	Internal-Internal OD Trip Summary .....	3
2.1.2.	Internal-External/External-Internal Origin Destination Data .....	4
2.1.3.	External-External OD Data .....	5
2.1.4.	Use of Airsage OD Data in the TDM.....	6
2.1.5.	Evaluating the OD Data for Major Trip Generators .....	7
2.1.6.	Comparing Peak AM and Peak PM Data to the Traffic Data Analysis Tool .....	11
2.1.7.	Shortcomings of the OD Data .....	12
2.2.	Freight Analysis Framework Data .....	12
2.3.	Traffic Analysis Intersection Data Archival.....	13
3.	Capacity Calculations .....	14
3.1.	Capacity Calculations for Signalized intersections.....	18
3.1.1.	Step 1: Develop Lane Groups for each Link .....	18
3.1.2.	Step 2: Determining saturation flow rate ( $S_i$ ) for each lane group:.....	19
3.1.3.	Step 3: Approach Capacity Calculation .....	21
3.2.	Capacities for Stop Control Intersections .....	22
3.2.1.	Step 1: Calculate the Potential Capacity for each Turning Movement .....	22
3.2.2.	Step 2: Determine Potential Approach Capacity for Shared Lanes .....	23
3.2.3.	Step 3: Calculate Approach Capacity for each Lane Group Type .....	23
3.3.	Freeway Capacity .....	24
3.3.1.	Step 1: Calculate Free Flow Speed.....	24
3.3.2.	Step 2: Calculate Base Freeway Capacity .....	26
3.4.	Ramp Capacity Calculations .....	26
3.4.1.	Step 1: Calculate Free flow Speed .....	26
3.4.2.	Step 2: Calculate Maximum Saturation Flow Capacity.....	26
4.	Model Input Data .....	28

4.1. Transportation Network Data ..... 28

    4.1.1. Distribution of Modeled Network by Functional Classifications ..... 28

4.2. Socioeconomic Data ..... 33

    4.2.1. TAZ Geography files: ..... 33

    4.2.2. Socioeconomic Data TAZ Attributes ..... 33

5. TRIP GENERATION ..... 35

    5.1. Internal-Internal Passenger Vehicle Trip Productions and Attractions ..... 35

        5.1.1. Trip Productions ..... 35

        5.1.2. Trip Attractions ..... 37

        5.1.3. UND Trip Generations ..... 37

    5.2. OD Survey Data ..... 38

    5.3. Freight Data ..... 39

6. TRIP DISTRIBUTION ..... 40

7. TRIP ASSIGNMENT ..... 41

8. validation and calibration ..... 42

    8.1. Trip Length Frequency Calibration and Validation ..... 43

    8.2. Vehicle Miles Traveled (VMT) Calibration and Validation ..... 45

    8.3. Screenline Comparisons ..... 46

    8.4. Modeled ADT Comparison to Observed ADT ..... 47

    8.5. Root Mean Square Error and Percent Root Mean Squared Error ..... 48

    8.6. Scatter Plots, R Squares of Model and Observed Traffic ..... 49

    8.7. Link Travel Time Validation ..... 50

9. Conclusions ..... 51

10. appendix ..... 52

## LIST OF FIGURES

<b>Figure 1 GF-EGF TDM Calibration Flow Chart.....</b>	<b>1</b>
<b>Figure 2 OD TAZs .....</b>	<b>2</b>
<b>Figure 3 Origin Percent of Trips Attracted to UND for 18-24 Year Olds from Airsage OD Data .</b>	<b>8</b>
<b>Figure 4 Origin Percent of Trips Attracted to the Columbia Mall from Airsage OD Data.....</b>	<b>9</b>
<b>Figure 5 Origin Percent of Trips Attracted to the Altru Hospital TAZ from Airsage OD Data ...</b>	<b>10</b>
<b>Figure 6 Comparison of Temporal Airsage OD Data and Traffic Analysis Intersection Data ....</b>	<b>11</b>
<b>Figure 7 Capacity Comparisons to Grand Forks East Grand Forks MPO 2010 Base Year Model .....</b>	<b>17</b>
<b>Figure 8 Centermile Distribution of Links in Network by Functional Class .....</b>	<b>29</b>
<b>Figure 9 Lanemile Distribution of Links in Network by Functional Class .....</b>	<b>30</b>
<b>Figure 10 GF-EGF 2015 Model Network.....</b>	<b>31</b>
<b>Figure 11 Intersection Data Used in Mode .....</b>	<b>32</b>
<b>Figure 12 Calibration Flow Chart .....</b>	<b>42</b>
<b>Figure 13 Friction Factors.....</b>	<b>44</b>
<b>Figure 14 Comparison of Observed to Model Trip Length Frequency .....</b>	<b>45</b>
<b>Figure 15 Modeled Trip Length Frequencies for All Trip Purposes .....</b>	<b>45</b>
<b>Figure 16 Scatter Plot of Modeled and Observed ADTS.....</b>	<b>50</b>

## LIST OF TABLES

Table 1 Summary of Internal-Internal OD Data from Airsage .....	4
Table 2 IE and EI Trips from OD Data for the GF-EGF MPO Area .....	4
Table 3 EE Trips from OD Data .....	6
Table 4 Comparison of Temporal Airsage OD Data and Traffic Analysis Intersection Data .....	11
Table 5 Summary of Capacity Calculations for MPO Planning Models .....	15
Table 6 Lane Group Classification (Linkgroup 1) .....	18
Table 7 Default values for calculating potential capacities (Cp,x) of stop sign-controlled highways .....	23
Table 8 Default Values for Conflicting Flow Rates .....	23
Table 9 Stop Sign Control Intersection Capacity Equations for Different Lane Groups .....	24
Table 10 Adjustment Factors Lane Width .....	25
Table 11 Right Shoulder Clearance Adjustment Factor .....	25
Table 12 Adjustments for Interchange Density .....	25
Table 13 Adjustments for Number of Lanes .....	26
Table 14 Centerline Miles Distribution by Functional Classification .....	28
Table 15 LaneMiles Distribution by Functional Classification .....	29
Table 16 Internal-Internal Passenger Trip Generation Equations .....	36
Table 17 Total Households per Household Type for the 2015 GF-EGF TDM .....	36
Table 18 Total Trips Produced by Purpose for the 2010 TDM .....	36
Table 19 Trip Attraction Rates .....	37
Table 20 School Trip Attraction Rates .....	37
Table 21 Freight Trip Productions and Attractions .....	39
Table 22 Modeled VMTs compared to Observed VMTs .....	46
Table 23 Observed Screenlines Compared to Modeled Screenlines .....	47
Table 24 Comparison of Modeled and Observed ADTS by Functional Classification .....	47
Table 25 Comparison of Modeled and Observed ADT by Volume Range .....	48
Table 26 RMSE Comparison by Volume Range .....	49
Table 27 Travel Time Validation .....	50
Table 28 Calculated Capacities for Signalized Intersections for Different Functional Classifications .....	52
Table 29 Calculated Capacities for Ramps .....	0

Model validation compares base year calibrated models output to observed data. Ideally, model estimation and calibration data should not be used for validation but this is not always feasible. The two processes, calibration and validation typically go hand in hand in an iterative process. The next sections describe the different model parameters that were used for model calibration and validation.

### 8.1. Trip Length Frequency Calibration and Validation

Trip length frequency distributions describe the travelers sensitivity to travel time by trip purpose. Steeper curves mean more sensitive travel times. Friction factors are calibrated until a desired trip length frequency is validated against observed data. The friction factors are the main dependent variable in the gravity model. The gamma function was used to develop the friction factor for this model and are shown in Figure 13.

#### Equation 14 Friction Factor Equation

$$F_{ij}^p = a * t_{ij}^b * \exp(c * t_{ij})$$

Where,

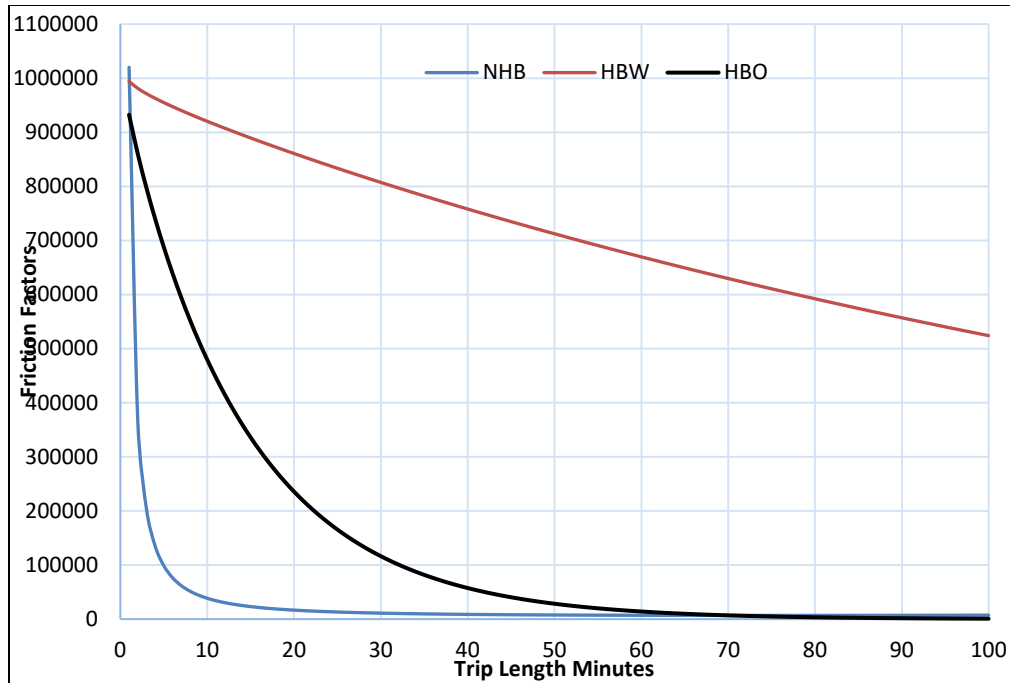
$F_{ij}^p$  = Friction factor for purpose p (HBW, HBO, NHB)

$t_{ij}^b$  = travel impedance between zone i and j,

a, b and c are gamma function scaling factors.

The friction factors were calibrated by adjusting the b and c parameters until the desirable trip length frequency distribution for Home Based Work Travel times were reached. Observed trip length frequency data for the home-based work trips were obtained from the census journey to work database for the metropolitan area. Only trips lower than 35 minutes were considered with the assumption that 35 minutes was the highest possible travel time between any two points within the metro area.

The average trip length for the observed data was calculated as 11.85 compared to the average trip length of 11.76 produced by the model for HBW trips. The desired average trip lengths for HBO and NHB trips were 88% and 82% of the average trip length for HBO and NHB trips. The average trip length for the models HBO and NHB trips were 10.4 and 9.77 minutes respectively.



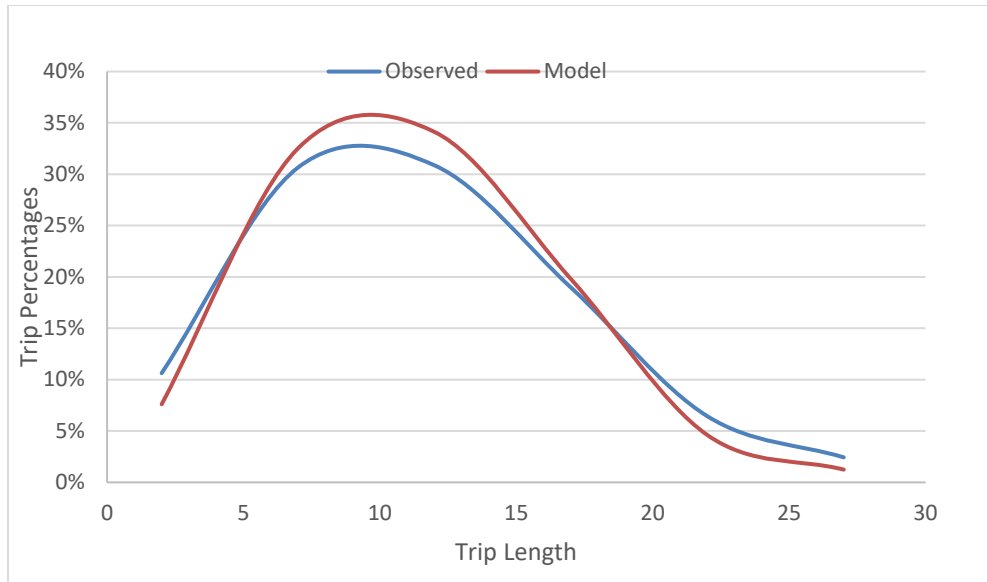
**Figure 13 Friction Factors**

Figure 14 shows the comparison between observed trip length frequencies and the modeled trip length frequencies for HBW trips. The comparison was done for only HBW trips since that's the only observed data available. The two graphs are very similar to each other.

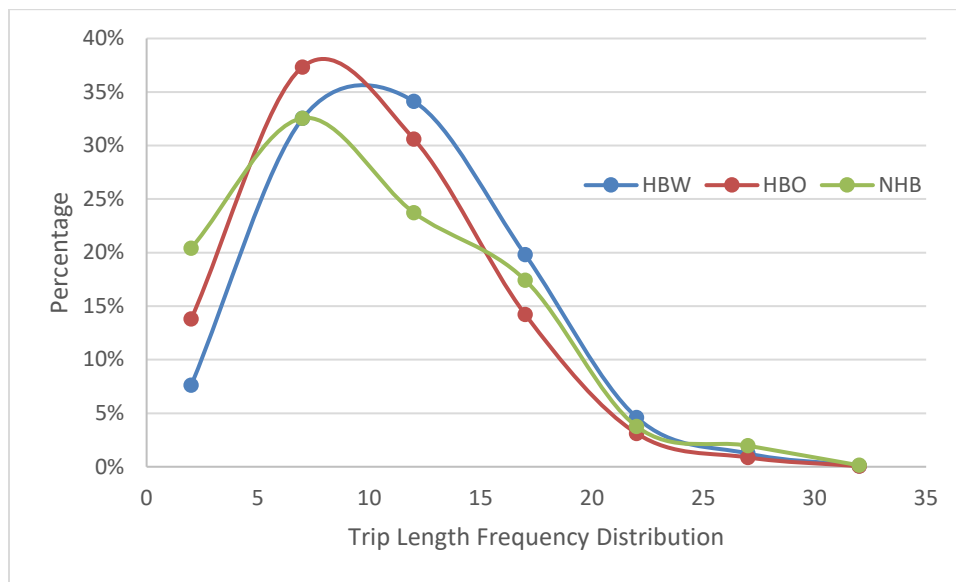
Coincidence ratios were also calculated to verify the fit between the observed and modeled trip lengths. The coincidence ratio is the area under both curves divided by the area under at least one of the curves when both curves are plotted together. It measures how the percent of area between that coincides between two curves. Mathematically, the sum of the lower value of the two distributions for each time increment is divided by the sum of the higher value of the two distributions at each increment. Coincidence ratios lie between 0 and 1.0 with a ratio of 1.0 indicating identical distributions. The coincidence ratio calculated between the modeled and observed data was 0.89 showing a strong coincidence between modeled and observed trip lengths.

Given Figure 14 and the coincidence ratio calculations, the trip length frequency and average trip lengths were reasonably calibrated and validated. , it is reasonable to assume that trip length frequencies had been reasonably validated with observed data. Figure 15 shows the modeled trip length frequencies for all purposes.





**Figure 14 Comparison of Observed to Model Trip Length Frequency**



**Figure 15 Modeled Trip Length Frequencies for All Trip Purposes**

**8.2. Vehicle Miles Traveled (VMT) Calibration and Validation**

The modeled vehicle miles traveled are a function of trips generated by the model and the length of those trips in miles. VMTs summaries provide an indication of the overall reasonableness of the travel demand in the study area. To calibrate the VMT values, ATAC first calibrated the total VMT for the entire model area. If the modeled VMT values were different

from the values calculated by multiplying the counted ADTs by length (observed VMTs), ATAC adjusted the trip generation and vehicle occupancy rates until the modeled and reported VMT values were similar. Adjusting the trip generation and occupancy rates changes the total number of trips that are generated within the transportation model. This in turn increases or decreases the total number of vehicle miles traveled.

Once the total VMT was reasonable, ATAC checked the VMT distribution according to the functional class. VMT summaries by functional classification provide an indication of how well the model's assignment procedures perform. They will indicate if the model handles free flow speeds, capacities or whether the trip assignment function has any issues. To calibrate the VMT by facility type, if functional class VMT distribution was off target, global speeds by facility type were adjusted.

Table 22 shows the VMT comparison between modeled and observed VMTs and their various distributions as a percentage of total VMT. The model performs very well in replicating the VMTs for Interstates and Major arterials with VMT differences of less than 2% and had similar distributions to the observed VMTs. The VMTs for Local and rural roads of 5% and -6% respectively which is an acceptable deviation. Collectors had a -12% VMT difference which was the most difference between the modeled and observed VMTs. Overall, the model performs within reasonable deviations in replicating VMTs by functional class.

**Table 22 Modeled VMTs compared to Observed VMTs**

	Observed VMT	Modeled VMT	Difference	% Difference	Observed Distribution	Modeled Distribution
<b>Interstate</b>	101,054	103,024	1,970	2%	21%	21%
<b>Major Arterial</b>	207,238	212,044	4,806	2%	43%	44%
<b>Minor Arterial</b>	95,705	95,741	36	0%	20%	20%
<b>Collectors</b>	61,287	54,706	(6,581)	-12%	13%	11%
<b>Local</b>	5,079	5,320	241	5%	1%	1%
<b>Rural</b>	11,340	10,726	(614)	-6%	2%	2%
<b>Total</b>	481,703	481,561	(142)	0%	100%	100%

### 8.3. Screenline Comparisons

Screenlines are barriers to travel between two areas in a travel demand model including natural barriers such as rivers, mountains, etc. and man-made barriers such as interstates and major arterials, railroads etc. Five screenlines were used for the model: BNSF railroad, the Red River, 32nd Ave S., Columbia Rd and I-29. Table 23 lists the Screenlines that were used in the GF EGF model.

The 23rd avenue south had the highest Screenline difference between observed and Modeled screenlines. However, it still falls within a reasonable difference between modeled and observed volumes of  $\pm 10\%$ . Based on Travel Model Validation and Reasonableness Checking Manual the values fall within stated reasonable deviation limits.

**Table 23 Observed Screenlines Compared to Modeled Screenlines**

	Observed	Modeled	Difference	% Difference
<b>Red River</b>	41,100	42,104	1,004	2.44%
<b>BNSF Rail Road</b>	79,195	81,781	2,586	3.27%
<b>I-29</b>	52,585	52,641	56	0.11%
<b>32nd Ave S</b>	63,423	57,800	-5,623	-8.87%

#### 8.4. Modeled ADT Comparison to Observed ADT

Comparing the modeled ADTs to the Observed ADTs is the ultimate test of how well the model can replicate ground truths. The MP provided traffic counts for several links that were compared to the Model ADTs. Two comparisons are made, one for the different functionally classifications and one by volume ranges.

Table 24 shows the comparison of the modeled and observed ADTs by functional classification. Overall, the model performs reasonably replicating over 86 of observed counts. Local roads have the lowest replication of observed counts at 83%.

**Table 24 Comparison of Modeled and Observed ADTS by Functional Classification**

Functional Class	Above Criteria	Meets Criteria	Below Criteria	Within Criteria
<b>Freeway</b>	0	10	0	100%
<b>Major Arterials</b>	9	81	6	84%
<b>Minor Arterials</b>	9	120	12	85%
<b>Rural Paved</b>	0	20	0	100%
<b>Collector</b>	3	119	17	86%
<b>Local Roads</b>	4	30	2	83%
<b>Total</b>	25	380	37	86%

Table 25 shows the comparison of modeled and Observed ADTs by volume range. The FHWA criterion sets limits to the deviations between observed and modeled ADTs. Overall the model

meets all deviation criterion for all the volume ranges and replicates 86% of the observed traffic.

**Table 25 Comparison of Modeled and Observed ADT by Volume Range**

Volume Range	Above Criteria	Meets Criteria	Below Criteria	Within Criteria	Criteria Deviation
AA DT > 25,000	0	9	0	100%	±15%
25,000 to 10,000	4	56	8	82%	±20%
10,000 to 5,000	8	63	19	70%	±25%
5,000 to 2,500	4	100	8	89%	±50%
2,500 to 1,000	5	94	0	95%	±100%
AA DT < 1000	6	58	0	91%	±100%
<b>Total</b>	<b>27</b>	<b>380</b>	<b>35</b>	<b>86%</b>	

### 8.5. Root Mean Square Error and Percent Root Mean Squared Error

The comparison between the modeled and observed ADTS give a good indication of a how well the model replicates real life. However, they do not provide statistical measures of goodness of fit test for the models replication of ground truths. Root Mean Squared Error (RMSE) and Percent Root Mean Squared Errors %RMSE were used to calculate the accuracy of the model. RMSE compares the error between the modeled and observed traffic volumes for the entire network, giving a statistical measure of the accuracy of the model. RMSE and % RMSE were found by squaring the error (difference between modeled and counted ADTs) for each link and then taking the square root of the averages as shown in Equation 15.

#### Equation 15 RMSE and % RMSE Calculations

$$RMSE = \sqrt{\frac{\sum_{i=1}^N [(Count_i - Model_i)^2]}{N}}$$

and

$$\%RMSE = \left[ \frac{RMSE}{\sum_{i=1}^N Count_i / N} \right] * 100$$

Where:

Count<sub>i</sub> = Observed traffic count on link *i*;

Model<sub>i</sub> = Modeled traffic volume for link *i*; and

N = The number of links in the group of links including link *i*, (*number of links with counts*)

Table 26 shows the %RMSE by volume range. The %RMSE is below the typical deviation limits for all the volume ranges shown indicating a good fit between the modeled and observed traffic volumes. This is an indication that the model is performing reasonably in replicating observed traffic.

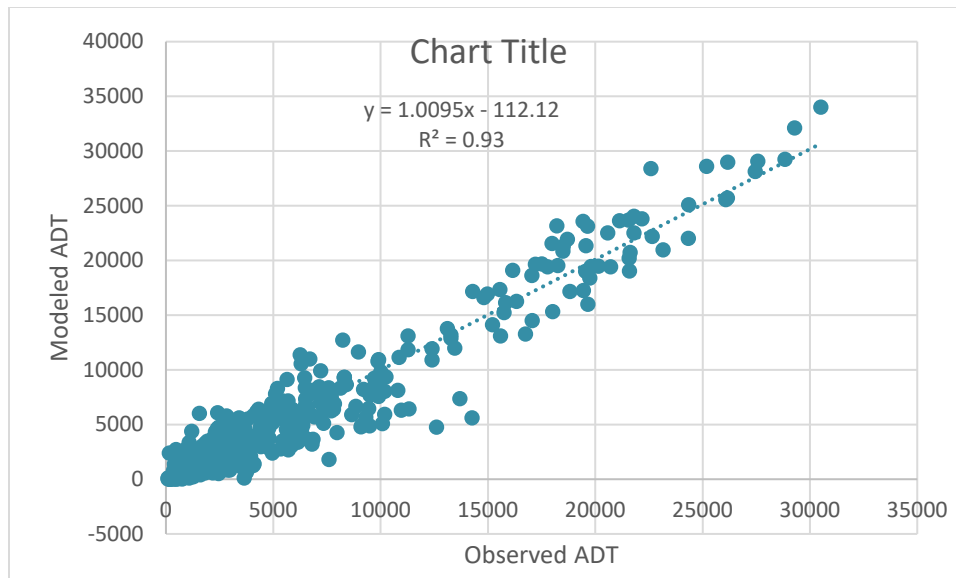
**Table 26 RMSE Comparison by Volume Range**

Volume Range	RMSE (%)	Typical Limits (%)
<b>AADT&gt;25,000</b>	0.0543	15-20 %
<b>25,000 to 10,000</b>	0.1556	25-30 %
<b>10,000 to 5,000</b>	0.2502	35-45 %
<b>5,000 to 2,500</b>	0.342	45-100 %
<b>2,500 to 1,000</b>	0.5291	45-100 %
<b>AADT&lt;1000</b>	0.9871	>100 %

### 8.6. Scatter Plots, R Squares of Model and Observed Traffic

Scatter plots of the modeled traffic volumes against the observed traffic volumes are a good indicator of the model's fit. Figure 16 shows the scatter plot of modeled traffic volumes versus observed counts. The scatter plot suggests that the amount of error in the modeled volumes is proportional to the observed traffic count which is an indication of a good fit between the model and the observed traffic counts.

The R-square (coefficient of determination) is the proportion of the variance in a dependent variable that is attributable to the variance of the independent variable. They typically measure the strength of the relationships between the assigned volumes and the traffic counts. It measures the amount of variation in traffic counts explained by the model. The modeled R-square of 0.93 shows a strong linear relationship between modeled and observed traffic counts.



**Figure 16 Scatter Plot of Modeled and Observed ADTs**

### 8.7. Link Travel Time Validation

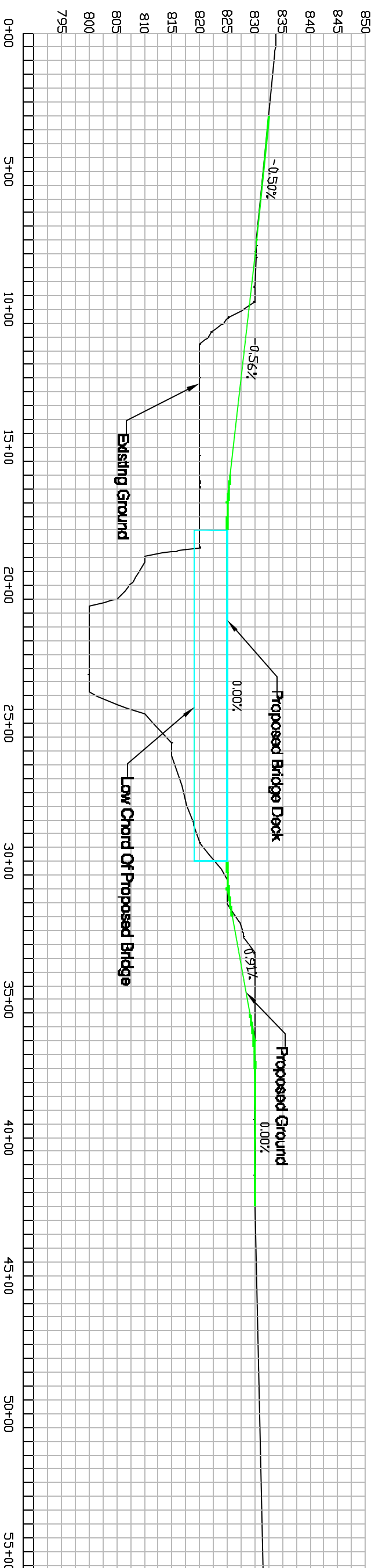
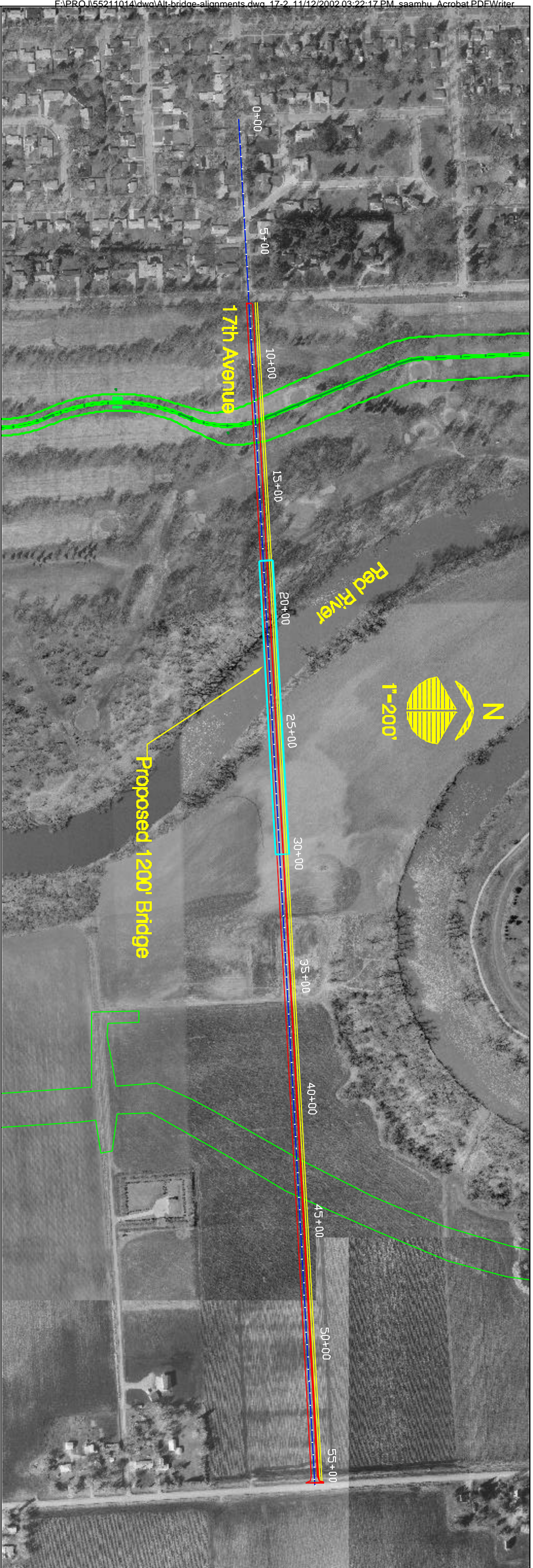
To evaluate how well the assignment algorithms and the intersection control data performed in the model assignment, sample travel times from the model were compared to average travel times that were obtained using online mapping tools. An online API was developed to collect the data for AM, PM and Off-peak travel times for the average weekdays. Table 27 shows the comparison of the modeled travel times and the average travel times collected. The modeled travel times are within plus or minus one minute for the different peak periods for the group of selected roadways. This is an indication that the model's assignment algorithms are performing very well in terms of replicating real time travel time data.

**Table 27 Travel Time Validation**

Link Type/Location	Distance (Miles)	Observed Travel Time (Min)			Modeled Travel Time (Min)		
		AM	PM	OFF	AM	PM	OFF
<b>Principal Arterials</b>							
Gateway Drive - 16th St to N 55th St	2.8	3	3	3	3.52	3.69	3.39
Gateway Drive - N Columbia Rd to 5th Ave NE	2.9	6	7.5	6	6.53	7.37	5.48
Demers Ave - I-29 to Washington St	2.3	6	7	6	5.79	6.84	4.77
Washington St - Gateway Drive to 24th Ave S	2.6	9	10	8	8.11	9.35	6.43
32nd Ave S - I-29 Ramp W to Washington St	2.1	7	7.5	7	6.78	7.99	6.16
<b>Minor Arterials</b>							
32nd Ave S - Washington St to Belmont RD	0.7	3	3	3	1.89	2.22	1.85
N 42nd St - 27th Ave N to University Ave	1.7	5	5	5	3.76	3.92	3.57
17th Ave S - Columbia RD to Belmont Rd	1.7	6	7	6	5.29	5.97	4.65
Belmond Rd - 13th Ave S to 62nd Ave S	3.3	7	8	7	7.09	8.07	6.5
<b>Collectors</b>							
40th Ave S - to Washington St	1.3	4	4	4	3.77	3.86	3.71
40th Ave S - Washington to Belmont Rd	0.8	3	3	3	1.99	2.28	1.96
13th Ave S - S Columbia to Washington	1	4	5	4	2.98	3.65	2.61
20th St S - 20th Ave S to 36th Ave S	1	4	4	4	4.25	4.67	3.44

## 9. CONCLUSIONS

This document describes the development, calibration and validation of the GF-EGF MPO base 2015 TDM. Several improvements were made to previous modeling efforts including the addition of Freight movements and better representation of capacities. Overall the model replicates observed travel demand within typically accepted deviation limits.



GRANDFORKS / EAST GRANDFORKS TRANSPORTATION PLAN UPDATE  
 GRANDFORKS / EAST GRANDFORKS MPO  
**HMS**  
Quality First

**17TH AVENUE RIVER CROSSING  
 ALTERNATIVE 2**

**LEGEND:**  
 BACK OF CURB  
 SIDEWALK  
 BRIDGE STRUCTURE  
 PROPOSED LENSES  
 BRIDGE RAIL  
 ROADWAY CENTERLINE PROFILE  
 BRIDGE CENTERLINE PROFILE  
 RELICQUATIONS  
 FIGURE X

HORIZONTAL SCALE 1"=400'  
 VERTICAL SCALE 1"=40'



## MERRIFIELD RIVER CROSSING

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,683	(189)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,496,748	(3,177)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$11.6 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	1.46	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	0	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A

## ELKS DRIVE RIVER CROSSING

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,633	(239)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,490,118	(9,807)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$8.6 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	3.16	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	0	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A

## 17TH AVENUE RIVER CROSSING

### Alternative #1

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,672	(200)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,493,016	(6,909)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$30.2 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	0.93	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	0	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A

### Alternative #2

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,672	(200)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,493,016	(6,909)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$15.1 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	1.73	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	0	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A

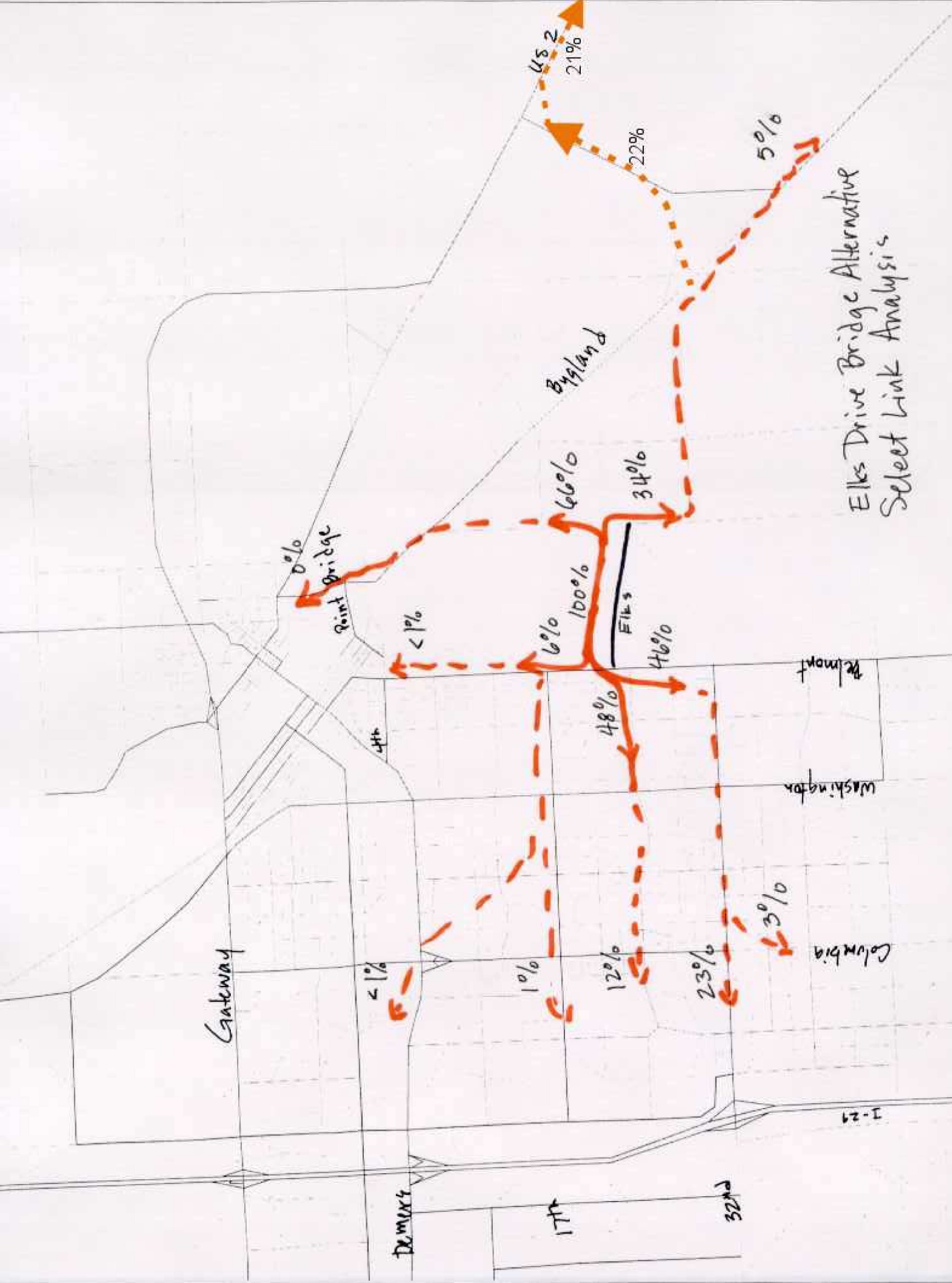
## 32ND AVENUE RIVER CROSSING

### Alternative #1

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,501	(371)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,489,150	(10,775)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$27.1 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	1.45	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	4	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A

### Alternative #2

ID#	ISSUES	METHOD OF MEASUREMENT	UNITS	VALUE	CHANGE FROM BASE CONDITIONS
<b>T.0</b>	<b>TRAFFIC OPERATION FACTORS</b>				
T.1	Traffic Flow and Congestion	VHT statistics from travel demand model	Daily vehicle hours traveled	46,501	(371)
T.2	Reduced Trip Length	VMT statistics from travel demand model	Daily vehicle miles traveled	1,489,150	(10,775)
<b>C.0</b>	<b>PROJECT COSTS</b>				
C.1	Construction Costs	Estimated cost of construction in 2002 dollars	Dollars	\$14.6 Million	N/A
<b>S.0</b>	<b>SOCIO ECONOMIC FACTORS</b>				
S.1	Roadway User Economic Analysis	Use VMT and VHT statistics to determine benefits compared to construction costs	B/C ratio	2.55	N/A
S.2	Number of Houses Purchased	Number of houses within 25' of new right-of-way	Houses	3	N/A
S.3	Number of Business Purchased	Number of businesses within 25' of new right-of-way	Businesses	0	N/A



Elks Drive Bridge Alternative  
 Select Link Analysis

I-21

To: Earl Haugen, Executive Director; Grand Forks – East Grand Forks MPO	
From: Craig N. Rasmussen, P.E., PTOE Michael J. Corbett	Project: Merrifield Road Feasibility Study
Date: September 7, 2005	Job No: 13817

**RE: Mn/DOT Update to Benefit-Cost Analysis**

**Summary**

Upon meeting with Mn/DOT in Spring 2005, Mn/DOT’s Central Office noted a difference in the methodologies used between the Merrifield Road Feasibility Study and the preferences of the Office of Investment Management. Using the updated Mn/DOT values and methodologies (most recently updated in June 2005), the overall project carries a Benefit-Cost ratio of 2.2. In other words, this project benefits the public approximately twice as much as the costs to construct and maintain the new infrastructure.

**Background from MPO Feasibility Study**

The benefit-cost analysis of the Merrifield Road Red River Bridge Feasibility Study yielded a benefit-cost ratio of 3.3, which was based on values and methodologies used previously on NDDOT projects. Mn/DOT requested the analysis be repeated using their preferred methodology and values of time for passenger cars and commercial trucks, the discount rate, and inflation costs.

The initial analysis assumed an inflation and discount rate of 4.5% per year. Values of time for passenger cars and commercial trucks were \$11.50 and \$25.00 per hour, respectively. In July 2005, Mn/DOT updated their recommended values of time to \$10.46 per hour for passenger cars and \$19.39 per hour for commercial trucks, with a discount rate of 3.4%. Mn/DOT asked that no savings be attributed to American Crystal Sugar, despite the in-depth analysis prepared by the carrier in support of this study. Rather, the savings to American Crystal Sugar are a part of the total savings already accounted for from the Grand Forks – East Grand Forks Long Range Travel Demand Model.

It is important to note that Mn/DOT’s methodology does not allow for the annual benefits to increase by the inflation rate when calculating benefits for future years. The annual benefits in the initial feasibility study analysis increased by approximately 5.5% per year: 4.5% due to the inflation rate, and 1% due to the annual increase in traffic. It is also important to note that Mn/DOT asked that the base year (2004) be used as the present-worth period, versus 2012 used in the previous analysis (based on the necessary funding date of the project). Using Mn/DOT’s values and methodology, the benefit-cost ratio documented in the Feasibility Study would decrease from 3.3 to 2.2, as documented in this memorandum.

**Roadway Safety**

The Merrifield Bridge is expected to change the Average Daily Traffic (ADT) along many arterial routes, thereby reducing the crash frequency on each arterial. The expected number of crashes along road segments was calculated using Mn/DOT’s *Traffic Safety Fundamentals Handbook*:

$$\text{Rate per Million Vehicle Miles} = \frac{(\text{number of crashes}) (1 \text{ million})}{(\text{segment length}) (\text{number of years}) (\text{ADT}) (365)}$$

For the purposes of this analysis, all road types were assumed to be in urban areas. The number of crashes for each road segment in the study area was then determined using ADT, segment length, and facility type data as documented for the build and no-build scenarios in **Table 1**.

**Table 1: Number of Crashes by Road Segment for Baseline (no-build) & Merrifield Bridge Scenarios**

Road Segment	Approx. Length (ft)	Typical Section <sup>1</sup>	Expected Crash Rate <sup>3</sup>	No-Build		With Merrifield Bridge	
				AADT <sup>2</sup>	Crashes/Year	AADT <sup>2</sup>	Crashes/Year
I-29 between US2 & DeMers Ave	5280	4 lane divided	1.1	32600	13.09	32250	12.95
I-29 between DeMers & 32nd Ave	10560	4 lane divided	1.1	34150	27.42	33700	27.06
I-29 between 32nd Ave & Merrifield Rd	15840	4 lane divided	1.1	23200	27.94	23650	28.49
Columbia Rd between US2 & University Ave	3750	5 lanes	4.7	18750	22.84	18600	22.66
Columbia Rd btw University Ave & 17th Ave	6500	5 lanes	4.7	35100	74.13	35000	73.92
Columbia Rd btw 17th Ave & 32nd Ave	5280	5 lanes	4.7	37900	65.02	37800	64.85
Columbia Rd btw 32nd Ave & 47th Ave	5280	5 lanes	4.7	24600	42.20	24800	42.54
Columbia Rd btw 47th Ave & Merrifield Rd	10560	2 lanes	3	10150	22.23	10400	22.78
Washington St btw US2 & DeMers Ave	6500	5 lanes	4.7	22200	46.88	22050	46.57
Washington St btw DeMers Ave & 17th Ave	4500	5 lanes	4.7	33200	48.54	33150	48.47
Washington St btw 17th Ave & 32nd Ave	5280	4 lane divided	4	25050	36.57	24800	36.21
Washington St btw 32nd Ave & 47th Ave	5280	4 lane divided	4	19400	28.32	19400	28.32
Washington St btw 47th Ave & Merrifield Rd	10560	2 lanes	3	9150	20.04	9450	20.70
1st St SE to Point Bridge	1000	2 lanes	3	11200	2.32	10300	2.14
Point Bridge	800	2 lanes	3	11500	1.91	10600	1.76
Belmont Rd btw Point Bridge & 17th Ave	7200	2 lanes	3	9700	14.48	9050	13.51
Belmont Rd btw 17th Ave & 32nd Ave	5280	2 lanes	3	7750	8.49	7450	8.16
Belmont Rd btw 32nd Ave & 47th Ave	5280	2 lanes	3	4500	4.93	4400	4.82
Belmont Rd btw 47th Ave & 62nd Ave	5280	2 lanes	3	2250	2.46	2200	2.41
US 2 btw I-29 & Columbia Rd	6800	4 lane divided	4	28050	52.74	27200	51.14
US 2 btw Columbia Rd & Washington St	4000	5 lanes	4.7	29950	38.92	29000	37.69
US 2 btw Washington St & Kennedy Bridge	2750	5 lanes	4.7	28700	25.64	27550	24.62
US 2 on the Kennedy Bridge	1100	4 lanes	5.9	24700	11.08	24200	10.86
US 2 btw Kennedy Bridge & 4th St SW	600	4 lanes	5.9	15000	3.67	14000	3.43
US 2 btw 4th St SW & Hwy 220	2750	4 lane divided	4	19750	15.02	18800	14.30
DeMers btw I-29 & Washington St	10560	4 lane divided	4	23450	68.47	23000	67.16
DeMers btw Washington St & Sorlie Bridge	5280	4 lanes	5.9	22250	47.92	22250	47.92
DeMers on the Sorlie Bridge	600	2 lanes	3	15700	1.95	15800	1.97
DeMers btw Sorlie Bridge & 4th St SW	1100	4 lanes	5.9	12850	5.77	13100	5.88
17th Ave btw Columbia Rd & Washington St	5280	2 lanes	3	9750	10.68	9750	10.68
17th Ave btw Washington St & Belmont Rd	4000	2 lanes	3	5250	4.36	5250	4.36
32nd Ave btw I-29 & Columbia Rd	5280	4 lane divided	4	35150	51.32	35050	51.17
32nd Ave btw Columbia Rd & Washington St	5280	4 lane divided	4	24350	35.55	24100	35.19
32nd Ave btw Washington St & Belmont Rd	4000	2 lanes	3	6800	5.64	6750	5.60
47th Ave btw Columbia Rd & Washington St	5280	2 lanes	3	7050	7.72	7150	7.83
47th Ave btw Washington St & Belmont Rd	4000	2 lanes	3	7900	6.55	7900	6.55
Merrifield Rd btw I-29 & Columbia Rd	3800	2 lanes	3	7750	6.11	8900	7.01
Merrifield Rd btw Columbia Rd & Washington St	5280	2 lanes	3	5950	6.52	6250	6.84
Merrifield Rd btw Washington St & Merrifield Bridge	10560	2 lanes	3	800	1.75	3100	6.79
Merrifield Rd Bridge	800	2 lanes	3			2600	0.43
Total Annual Crashes					917.21		908.47

Notes: 1. Google Maps: <http://maps.google.com>  
2. Grand Forks-East Grand Forks MPO  
3. Minnesota Department of Transportation – Traffic Safety Fundamentals Handbook, 2001

The results from **Table 1** document the construction of a Merrifield Bridge (Red River Crossing) leads to a reduction of nearly 9 crashes (8.73) per year, including the increase in crashes along Merrifield Road where traffic volumes would increase (neglecting modification in geometry). These benefits can be monetized using values from Mn/DOT that are based on severity (**Table 2**).

**Table 2: Crash Costs (2004 dollars)**

Mn/DOT Crash Values	Dollars per crash
Fatal	\$3,600,000
Injury Type A only	\$280,000
Injury Type B only	\$61,000
Injury Type C only	\$30,000
Property Damage Only (PDO)	\$4,400

Source: Mn/DOT Benefit Cost Analysis Guidance (June 2005)

The distribution of the types of crashes are not known, however Mn/DOT's *Traffic Safety Fundamentals Handbook* documents that on average, fatal, injury, and property damage only crashes account for an average of 0.6%, 34% and 65.4% of all crashes at intersections. These proportions were used in calculating the total annual crash benefits (**Table 3**).

**Table 3: Values used in Annual Cost Savings (Annual Benefits)**

Crash type	percent of crashes	Average Cost	Annual number of crashes	Annual Cost Savings
Fatal	0.6%	\$3,600,000	0.052	\$187,200
Injury (A-C)	34.0%	\$123,667	2.97	\$367,291
PDO	65.4%	\$4,400	5.71	\$25,124
Total Annual Cost Savings (Benefit)				\$581,055

Source: HDR Engineering Inc. using *Mn/DOT Traffic Safety Fundamentals Handbook*

The values used in the re-analysis were converted to 2004 dollars as documented in **Table 4**.

**Table 4: Comparison of Values Used in the Benefit-Cost Analysis**

	Initial Analysis	Mn/DOT Analysis (September 2005)
Traffic Growth Factor:	1%	1%
Discount Rate	4.5%	3.4%
Year of Analysis	2012	2004
Year Constructed	2012	2012
car value of time	\$11.50/hr	\$10.46/hr
truck value of time	\$25.00/hr	\$19.39/hr
Travel Time Savings	\$ 1,070,000	\$ 669,687
American Crystal Sugar	\$ 240,335	\$ -
Roadway Safety	\$ 71,105	\$ 581,055
Flood Protection	\$ 89,116	\$ 62,665
<b>Total Benefits</b>	<b>\$ 1,470,556</b>	<b>\$ 1,313,407</b>

Similar to Table 7-3 on pages 61-62 of the Merrifield Road Red River Bridge Feasibility Study, an amortization table for the 50 year analysis period is documented on the following pages (**Table 5**).



**Table 5: 50-Year Amortization Table**

<b>Year</b>	<b>Annual Society Benefits (2004\$)</b>	<b>Present Worth Benefits (2004\$)</b>	<b>Annual Project Costs (2004\$)</b>	<b>Present Worth Costs (2004\$)</b>	<b>Notes</b>
2012	\$ -	\$ -	\$ 14,500,000	\$ 11,096,952	1
2013	\$ 1,313,407	\$ 972,108	\$ 2,000	\$ 1,480	
2014	\$ 1,325,914	\$ 949,096	\$ 2,000	\$ 1,432	
2015	\$ 1,338,547	\$ 926,633	\$ 2,000	\$ 1,385	
2016	\$ 1,351,305	\$ 904,705	\$ 2,000	\$ 1,339	
2017	\$ 1,364,192	\$ 883,300	\$ 2,000	\$ 1,295	
2018	\$ 1,377,207	\$ 862,406	\$ 2,000	\$ 1,252	
2019	\$ 1,390,352	\$ 842,009	\$ 2,000	\$ 1,211	
2020	\$ 1,403,629	\$ 822,098	\$ 2,000	\$ 1,171	
2021	\$ 1,417,039	\$ 802,662	\$ 2,000	\$ 1,133	
2022	\$ 1,430,583	\$ 783,688	\$ 2,000	\$ 1,096	
2023	\$ 1,444,262	\$ 765,166	\$ 2,000	\$ 1,060	
2024	\$ 1,458,078	\$ 747,085	\$ 2,000	\$ 1,025	
2025	\$ 1,472,032	\$ 729,434	\$ 2,000	\$ 991	
2026	\$ 1,486,126	\$ 712,203	\$ 2,000	\$ 958	
2027	\$ 1,500,360	\$ 695,382	\$ 746,000	\$ 345,753	2
2028	\$ 1,514,737	\$ 678,960	\$ 2,000	\$ 896	
2029	\$ 1,529,258	\$ 662,929	\$ 2,000	\$ 867	
2030	\$ 1,543,924	\$ 647,280	\$ 2,000	\$ 838	
2031	\$ 1,558,736	\$ 632,002	\$ 2,000	\$ 811	
2032	\$ 1,573,697	\$ 617,087	\$ 2,000	\$ 784	
2033	\$ 1,588,807	\$ 602,526	\$ 2,000	\$ 758	
2034	\$ 1,604,069	\$ 588,311	\$ 2,000	\$ 734	
2035	\$ 1,619,483	\$ 574,433	\$ 2,000	\$ 709	
2036	\$ 1,635,051	\$ 560,885	\$ 2,000	\$ 686	
2037	\$ 1,650,775	\$ 547,659	\$ 2,000	\$ 664	
2038	\$ 1,666,656	\$ 534,746	\$ 2,000	\$ 642	
2039	\$ 1,682,696	\$ 522,140	\$ 2,000	\$ 621	
2040	\$ 1,698,896	\$ 509,832	\$ 2,000	\$ 600	
2041	\$ 1,715,259	\$ 497,817	\$ 2,000	\$ 580	
2042	\$ 1,731,785	\$ 486,086	\$ 5,101,000	\$ 1,431,775	3
2043	\$ 1,748,476	\$ 474,634	\$ 2,000	\$ 543	
2044	\$ 1,765,334	\$ 463,453	\$ 2,000	\$ 525	
2045	\$ 1,782,360	\$ 452,536	\$ 2,000	\$ 508	
2046	\$ 1,799,557	\$ 441,879	\$ 2,000	\$ 491	
2047	\$ 1,816,926	\$ 431,474	\$ 2,000	\$ 475	
2048	\$ 1,834,469	\$ 421,315	\$ 2,000	\$ 459	
2049	\$ 1,852,187	\$ 411,397	\$ 2,000	\$ 444	
2050	\$ 1,870,082	\$ 401,713	\$ 2,000	\$ 430	
2051	\$ 1,888,156	\$ 392,259	\$ 2,000	\$ 415	
	CONTINUED	CONTINUED	CONTINUED	CONTINUED	

	CONTINUED	CONTINUED	CONTINUED	CONTINUED	
2052	\$ 1,906,411	\$ 383,028	\$ 2,000	\$ 402	
2053	\$ 1,924,849	\$ 374,016	\$ 2,000	\$ 389	
2054	\$ 1,943,471	\$ 365,217	\$ 2,000	\$ 376	
2055	\$ 1,962,279	\$ 356,626	\$ 2,000	\$ 363	
2056	\$ 1,981,275	\$ 348,238	\$ 2,000	\$ 352	
2057	\$ 2,000,461	\$ 340,049	\$ 746,000	\$ 126,809	2
2058	\$ 2,019,839	\$ 332,053	\$ 2,000	\$ 329	
2059	\$ 2,039,411	\$ 324,246	\$ 2,000	\$ 318	
2060	\$ 2,059,178	\$ 316,624	\$ 2,000	\$ 308	
2061	\$ 2,079,143	\$ 309,182	\$ 2,000	\$ 297	
2062	\$ 2,099,308	\$ 301,915	\$ 2,000	\$ 288	4

**Totals = \$ 28,702,520 (B) \$13,036,019 (C)**

**B/C = 2.2**

- Notes: 1. Assumes Combined Project at 840.0, Alignment 1 (\$14,500,000 in 2004 US\$)  
2. Assumes Overlay of Deck at cost of \$15/SF  
3. Assumes reconstruction of roadway & bridge redecking (\$5.1M in 2004 US\$)  
4. Assumes no salvage value to bridge, highway, or other elements  
5. Does not assume impact of 32nd Avenue South bridge

The reanalysis concluded the project is expected to have a benefit-cost ratio of approximately 2.2. This ratio indicates that this project can provide benefits to society and could compete well with other potentially earmark projects. This value is based on an assumed 50-year life cycle with the following parameters:

- ❖ A combined diversion project / roadway project / bridge project is pursued using the most cost-effective means of each element (i.e. lowest cost alignments)
- ❖ Construction would be complete in 2012
- ❖ Bridge redecking is performed in 2027 and 2057 with roadway reconstructed in 2042 – including bridge deck reconstruction
- ❖ No salvage value of any elements are assumed
- ❖ No impacts of the 32<sup>nd</sup> Avenue South bridge are included in the analysis
- ❖ All benefits and costs are discounted to the present (2004) assuming a discount rate of 3.4% per year, at Mn/DOT’s request
- ❖ No accounting for environmental documentation, design, or construction observation was assumed in the analysis – these values combined are typically near 30% of the initial construction cost

# Merrifield Road Red River Bridge Feasibility Study



Prepared For:

Grand Forks / East Grand Forks  
Metropolitan Planning Organization

2005

Prepared  
By:

**HDR**

**CPS**  
LLC

## Executive Summary

The Merrifield Road Corridor is located approximately six miles south of the urban core of Grand Forks, North Dakota and East Grand Forks, Minnesota. This existing county road is part of a larger bypass route selected through a series of planning studies over the past nine years. This bypass route largely uses existing county roadways, with a new interchange with I-29 and a new crossing of the Red River of the North – with the latter being the subject of this study.

Bridging the Red River of the North requires consideration of many other elements than simply a bridge. First, a new bridge would create a hydraulic impediment into an extremely flood-sensitive river. Secondly, the roadway approaches would require new construction section lines between North Dakota and Minnesota do not directly align, as well as a connection to Polk County Road 58. Since a river crossing would require a large volume of fill material, there is added synergy with constructing a new diversion for Cole Creek and Drain #4, which parallels Merrifield Road. This diversion channel creates flood protection for the Grand Forks Country Club, which is particularly prone to flood damage from Cole Creek, but would require acquisition of new right-of-way, in addition to a bridge over the diversion for the existing north-south township road (8<sup>th</sup> Street NE).

### **Merrifield Road Red River Bridge**

Two alignments were considered for the potential Red River of the North crossing. Since bridge costs are often a function of size, the most cost effective bridge alignment is a perpendicular crossing of the river. Within the study area, the shortest crossing of the river is approximately 800 feet in length (from bank to bank) and generally aligns with the existing Merrifield Road (extended). Use of prestressed concrete or steel plate beam girders would be the most cost effective measures, with an anticipated construction cost of approximately \$7,000,000.

Due to the flood sensitivity of the Red River of the North, any stage increase due to a new bridge is closely regulated. In order to provide sufficient clearance for 100-year flooding events, the low-chord elevation of the bridge must be at least 838.0. This corresponds to a deck elevation of approximately 845.0. With an eight-span perpendicular crossing, the anticipated stage increase for the 100-year event is less than 0.2 feet. This is considerably less than the allowable stage

increase of 0.75 feet for this project type. Therefore, construction of a river crossing at this location should satisfy the regulatory requirements for hydraulics.

### **Roadway Alignment**

A road elevation of 840.0 would be above the 100-year flood event within the study area. At the east and west areas of the study area, the existing roadways are at approximately this elevation. This indicates that a dry crossing during a 100-year event is possible with the replacement of the bridge over Cole Creek and use of fill between Cole Creek and the connection to Polk County Road 58. In addition, a roadway at this elevation would nearly balance with the material excavated from a Cole Creek diversion located 1,100 feet south of Merrifield Road.

A road elevation of 845.0 was also considered, equivalent to the Grand Forks Flood Protection project. Although this is possible to construct, the connection to Polk County 58 is located at approximately 841.0, meaning that either significant improvements to County 58 would be required or the eastern connection would be under water when the west approach was passable. Therefore, a roadway elevation of 840.0 was determined to be the most feasible.

The costs for roadway construction are anticipated to be approximately \$2,500,000 for the North Dakota side and between \$2,100,000 and \$3,000,000 on the Minnesota side – depending on the preferred alternative. The most cost effective alignment is Alternative 1, which is the northern alignment along the section line road (Township 810).

### **Cole Creek Diversion**

The diversion of Cole Creek benefits the Country Club by managing flooding events, as well as reducing road construction costs by providing fill material and eliminating the need for a new bridge over Cole Creek. This channel is anticipated to have approximately 5:1 sideslopes with an 80-ft bottom. Specific features, such as a pilot channel, could be added depending on consideration of other cost benefits. If a road elevation of 840.0 is selected, using the most cost effective alignment, the most feasible alignment is located approximately 1,100 feet south of Merrifield Road. The cost of constructing this diversion channel is estimated to be approximately \$2,200,000.

Maintaining connectivity of the existing north-south township road (8<sup>th</sup> Street NE) could be accomplished by two types of crossings. The first is a crossing at an elevation of 820.5, which is the same elevation as the existing elevation of the Merrifield bridge over Cole Creek. The second alternative is at 840.0, similar to Merrifield Road. Due to the anticipated frequency of high water events over 820.5, in addition to the other connections of township roads, a connection of 840.0 is not considered feasible. The anticipated cost of a crossing of 820.5 is approximately \$700,000.

### **Next Steps**

- ❖ Due to the size of this project, an Environmental Impact Statement (EIS) will need to be prepared. The most likely impacts anticipated are wetland, riparian area, and fisheries, however, these impacts are anticipated to be independent of roadway or diversion channel alignment. Therefore, a tiered approach could be utilized to first identify the preferred alignment alternative and then quantify environmental impacts. Based on the environmental review performed as part of this study, there do not appear to be any impacts that would prevent this project from moving forward.
  
- ❖ The most feasible combination of project elements is anticipated to cost approximately \$14,500,000 in construction costs in 2004, or about \$20,000,000 by 2012. This level of funding is more than local agencies typically can budget and preset State programs do not have a bridge crossings budgeted at this time. However, this project is anticipated to have a Benefit : Cost ratio of 3.3, which should allow this project to compete well with others to receive a Federal earmark.
  
- ❖ EIS documents require a lead agency to initiate the process; therefore a project champion needs to be determined. Once decided, this agency should apply for funding to start the EIS process to identify a preferred alternative, which could take between two and five years to complete. This lead local agency also needs to determine how to fund the environmental documentation process. If federal monies are anticipated to be used for this process, the earmark procedure should begin as soon as possible.

## Table of Contents

1.0	Introduction.....	1
1.1	History of Bypass Corridor Studies .....	1
1.2	Study Process .....	4
2.0	Environmental Impact Assessment.....	6
2.1	Agency Coordination .....	6
2.1.1	SHPO .....	6
2.1.2	Mn/DNR .....	7
2.1.3	ND Parks & Recreation .....	7
2.1.4	USFWS .....	7
2.1.5	US Army Corps of Engineers and Coast Guard .....	8
2.2	Environmental Impact Representation with the Public .....	8
2.2.1	Environmental Justice and Local Zoning .....	9
2.3	Review of Prior Environmental Work in the Project Area .....	9
2.3.1	Cumulative Impacts .....	10
2.4	Summary of Impact Considerations for Project Advancement .....	10
3.0	Hydraulics and Hydrology.....	14
3.1	Hydraulic Modeling.....	15
3.2	Agency Requirements.....	18
3.2.1	Minnesota Department of Natural Resources (Mn/DNR) .....	18
3.2.2	North Dakota State Water Commission (ND-SWC) .....	18
3.2.3	Minnesota – North Dakota Boundary Waters.....	18
3.2.4	FEMA Floodway .....	18
3.3	Hydraulic Alternatives.....	18
3.3.1	Red River Crossing Alternatives .....	18
3.3.2	Cole Creek Drainage Alternatives .....	19
3.4	Hydraulics Observations and Summary.....	20
3.4.1	Red River of the North.....	20
3.4.2	Cole Creek / Cole Creek Diversion .....	21
3.4.3	Project Summary.....	21
4.0	Traffic and Travel Demand.....	22
4.1	Procedure for Estimating Future Traffic Volume .....	22
4.2	Forecast ADT in Corridor.....	22

4.2.1	Impact of I-29 Interchange.....	23
4.2.2	Impact of a New Intra-City Red River Crossing .....	23
4.3	Roadway Section .....	24
4.3.1	Capacity Analysis .....	24
4.3.2	Access Management .....	26
4.3.3	Right of Way Preservation.....	29
4.3.4	FEMA Flood Plain Impacts .....	29
5.0	Roadway Design and Earthwork .....	30
5.1	Roadway Alignment Alternatives.....	30
5.1.1	Roadway Design Criteria.....	31
5.1.2	Roadway Profile.....	31
5.2	Cole Creek Diversion Channel Alternatives.....	32
5.3	Earthwork Calculations.....	32
5.3.1	Earthwork Quantities: North Dakota Roadway Alignment.....	32
5.3.2	Earthwork Quantities: Minnesota Roadway Alignment.....	33
5.3.3	Earthwork Quantities: Cole Creek Diversion .....	33
5.3.4	Earthwork Summary .....	33
6.0	Bridge Type Analysis .....	46
6.1	Merrifield Road Red River Bridge .....	46
6.1.1	Vertical Alignment Analysis.....	46
6.1.2	Bridge Alignment and Length .....	47
6.1.3	Span Length and Structure Type Analysis.....	47
6.1.4	Typical Section .....	48
6.1.5	Concept Cost Estimate.....	50
6.2	Merrifield Road Cole Creek Bridge.....	50
6.2.1	Vertical Alignment Analysis.....	50
6.2.2	Bridge Alignment and Length .....	51
6.2.3	Span Length and Structure Type Analysis.....	51
6.2.4	Typical Section .....	51
6.2.5	Concept Cost Estimate.....	51
6.3	Township Road Crossing of Potential Cole Creek Diversion .....	52
6.3.1	Vertical Alignment Analysis.....	52
6.3.2	Bridge Alignment and Length .....	52
6.3.3	Span Length and Structure Type Analysis.....	52



6.3.4	Typical Section .....	53
6.3.5	Concept Cost Estimate .....	53
7.0	Benefits and Costs Analyses .....	54
7.1	Project Parameters – B:C Analyses .....	54
7.2	Project Costs .....	55
7.2.1	Estimate of Probable Construction Costs .....	55
7.2.2	Estimate of Probable Life-Cycle Costs.....	56
7.3	Project Benefits.....	57
7.3.1	Travel Time Savings .....	57
7.3.2	Truck Savings: American Crystal Sugar.....	58
7.3.3	Truck Savings: Potato Growers .....	59
7.3.4	Flood Protection: Grand Forks Country Club.....	59
7.4	Benefit : Cost Results.....	59
8.0	Funding Source Identification.....	63
8.1	Contacts With Roadway Agencies.....	63
8.1.1	Grand Forks County.....	63
8.1.2	Polk County .....	64
8.1.3	Mn/DOT.....	64
8.1.4	NDDOT.....	65
8.1.5	City of Grand Forks .....	66
8.1.6	City of East Grand Forks .....	66
8.2	Contacts With Regulatory Agencies.....	66
8.2.1	North Dakota State Water Commission.....	66
8.3	Assessment for Funding.....	67
8.3.1	Recommendations to MPO.....	70
9.0	Summary and Conclusions .....	73
10.0	Recommendations.....	78

**List of Tables**

Table 1-1	Summary of South Bypass Alternatives and Conclusions .....	2
Table 3-1	Red River of the North Flow Rates at Red Lake River Confluence.....	14
Table 3-2	Cole Creek Flows Near Merrifield Road.....	15
Table 3-3	Pre- and Post-Flood Protection Project Water Service Elevations .....	15
Table 3-4	Cole Creek Existing Conditions at Section 504.....	17
Table 3-5	Merrifield Road / Red River Crossing: Computed Stage Increases .....	19
Table 3-6	Cole Creek and Red River of the North Water Surface Elevations.....	20
Table 4-1	Summary of Access Management Criteria .....	27
Table 5-1	Assumed Roadway Design Criteria .....	31
Table 5-2	Estimated Earthwork Quantities .....	34
Table 7-1	Estimated Probable Construction Cost of Combination of Projects.....	56
Table 7-2	Estimated Costs to Society per Vehicle Hour of Travel.....	58
Table 7-3	Benefit:Cost Analysis for 50 Year Life Cycle.....	61
Table 8-1	Estimated Project Cost for Local Funding Only for Construction Costs.....	69
Table 8-2	Package Construction Cost Estimates with No Direct Federal Funding .....	70

**List of Figures**

Figure 1-1 Site Vicinity Map.....3

Figure 2-1 Site Location Map.....12

Figure 3-1 HEC-RAS Model: Confluence of Cole Creek and RRN.....16

Figure 3-2 HEC-RAS Cross Sections Along Merrifield Road.....17

Figure 5-1 Roadway Alignment Alternatives.....36

Figure 5-2 Roadway Alternative 1 Profile.....37

Figure 5-3 Roadway Alternative 2 Profile.....38

Figure 5-4 Roadway Alternative 3 Profile.....39

Figure 5-5 Diversion Channel Alternative 1 Plan .....40

Figure 5-6 Diversion Channel Alternative 1 Profile.....41

Figure 5-7 Diversion Channel Alternative 1 Typical Section .....42

Figure 5-8 Diversion Channel Alternative 2 Plan .....43

Figure 5-9 Diversion Channel Alternative 2 Profile.....44

Figure 5-10 Diversion Channel Alternative 2 Typical Section .....45

Figure 6-1 LRTP Typical Bridge Section for Merrifield Road Bridge over Red River..49

**Appendices**

Appendix A Hydraulic Analysis for Merrifield Road Feasibility Study

Appendix B Agency Letters (Solicitation of Views)

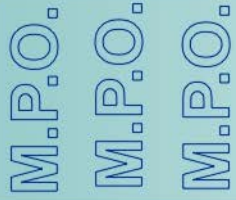
Appendix C Public Meeting Sign-In Sheets

Appendix D Summaries of Public Meetings

Appendix E GEOPAK Earthwork Criteria

Appendix F Construction Cost Estimates

Appendix G Grand Forks County Hazardous Materials Flow Update



# Grand Forks - East Grand Forks Metropolitan Planning Organization

## **MPO Staff Report** **Technical Advisory Committee: October 11, 2017** **MPO Executive Board: October 18, 2017**

**RECOMMENDED ACTION: Solicitation of FY2019-2022 TIP.**

Matter of Solicitation of FY2019-2022 TIP.

**Background:** Annually, the MPO, working in cooperation with the state dots and transit operators, develop a Transportation Improvement Program (TIP), which also serves as the transit operators' Program of Projects (POP). The TIP covers a four period and identifies all transportation projects scheduled to have federal transportation funding during the four year period. The process runs over an eleven month period with several public meetings ranging from solicitation of projects for specific programs and comments on listed projects. This point in the process is the soliciting for projects.

The solicitation of many federal funding programs will soon be opened. A presentation will be provided highlighting the programs and their respective deadlines. FAST has caused many unknowns; therefore, the process may have changes are we proceed.

NDDOT has submitted a final STIP to FHWA. MPO staff was caught off guard by this action. NDOT is advising the MPO not adopt a 2018-2021 TIP; rather, make amendments to the 2017-2020 document. There are several projects that need to incorporated in a TIP. MPO staff has requested additional information and clarification on why not adopt a 2019-2021 TIP. As we have discussed, NDDOT is not making awards in the Regional nor Urban Program for 2021.

As identified on the agenda, NDDOT is proposing a new program – Main Street Initiative Program. The current proposed revenue source for this program is from the current NDDOT Urban Roads Program. A comment period ended on Oct 6<sup>th</sup> and attached is the MPO staff concerns about the funding source. NDDOT has indicated their desire to make a decision on this program very soon. Obviously, the impact could be considerable for the Urban Roads solicitation, not just for this next TIP cycle but also currently programmed projects.

**Findings and Analysis: NONE**

**Support Materials: Presentation provided at TAC; Letter of Concern**



6 October, 2017

Ben Ehreth  
Administrative Transportation Planner  
NDDOT – Planning and Asset Management  
608 E Boulevard Ave  
Bismarck, ND 58505-0700

Re: Proposed Main Street Initiative Grant Program

Dear Mr. Ehreth:

Thank you for the opportunity to provide comment on this proposed program. It is an excellent example of a program providing transportation choices to residents of the State. I greatly appreciated the briefing provided which clarified much of the intent and purpose behind the program.

My comments focus on the proposed funding source and how problematic it appears to be to the MPO's planning and programming requirements. As you well know, these plans and programs are based upon a fiscally constrained financial plan. This fiscal constraint applies to a 20+ year planning document that prioritizes the federal transportation investments. Demand far outpaces the revenue available; further, inflation erodes the purchasing power each year a needed project is delayed. Through the MPO process, the detailed discussion and analysis that occurs to finalize the list of projects prioritized for funding achieves the list of investments that will be pursued through programming. The fiscal constraint is based upon a certain level of Urban Roads Program funding that would be reasonably forecasted to be available; this level was cooperatively developed with NDDOT. The proposed funding source for the Main Street Initiative cuts this specific revenue source in half and that significant reduction would seem to invalidate our constrained financial plan. Without this, our entire MPO planning and programming responsibilities (which we share with you) are likely in jeopardy to be found non-compliant. Being a bi-state MPO, this issue may also have serious impact on our Minnesota side TIP projects if our MTP is not valid.

Further, we have an adopted TIP document that programs projects into 2020. As stated at the briefing, if this Initiative proceeds with this funding source, our currently programmed projects will likely be impacted. This gravely harms the 3C planning and programming partnership we enjoy with the NDDOT. The projects were vetted through the process and met all requirements to be programmed. While its known that projects programmed in the outer years of the TIP are not 100% assured to be funded, the establishment of estimates of funding available during the TIP years are to be cooperatively developed with the MPO.

My last concern is that, when the Main Street Initiative (as presented) solicits for projects, the MPO will have difficulty in vetting any project as being consistent with its MTP. The current

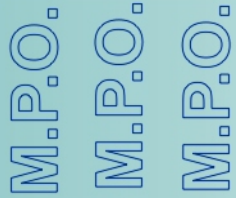
projects, as prioritized in the MTP, do not have scope elements that included the transportation choice facilities nor were evaluated as to being done in a specific geography. Therefore, it would be near impossible to state any project that would be competitive in this program as being consistent with our current MTP.

A solution to the concerns I raise could be to hold harmless the existing TIP programmed projects that are funded from the current Urban Roads Program. This would appear to eliminate my concerns about invalidating our constrained financial plans for both the MTP and TIP. You are well aware that the MPO is updating its MTP. This updating would work this new Main Street Initiative as a critical criteria in prioritizing projects to be within the constrained financial plan. Prior to us having our plans and program updated, I could conceive of processing any Main Street Initiative application similar to national TIGER grants that we regularly vet as being supported and if awarded funds would consider amending our MTP and TIP to reflect this new funding source. The key to this last statement is that these are truly new funding sources instead of eliminating half of an existing funding source.

These comments reflect the views of the MPO staff and do not necessarily reflect an official position of the MPO Executive Board. I look forward to continuing our great working partnership in planning and programming transportation choices for North Dakota citizens, freight, and tourist.

Sincerely,

Earl Haugen  
Executive Director



## Grand Forks - East Grand Forks Metropolitan Planning Organization

### **MPO Staff Report** **Technical Advisory Committee: October 11, 2017** **MPO Executive Board: October 18, 2017**

#### **RECOMMENDED ACTION: Matter of NDDOT Freight Plan Update**

Matter of the NDDOT Freight Plan Update.

**Background:** With passage of FAST, the Freight Program was authorized and appropriated funds. As part of developing the Program, each state was tasked with identifying routes of the state and local street network that would be included in the National Freight Network. The state and local street segments would be identified as Rural Critical Freight Corridors or Urban Critical Freight Corridors. We are most interested in the Urban side; yet we have Study Area responsibilities that include the possible Rural designations.

NDDOT has submitted a draft plan document to FHWA. Attached are the cover page to the document, the two maps showing the GF area designated segments and the draft chapter on potential projects that could be funded from the Freight Program.

Just a reminder, MnDOT has decided to first solicit projects for the new Freight Program and then have the projects awarded funding to define the corridors.

#### **Findings and Analysis:**

- None

#### **Support Materials:**

- Maps of Urban Critical Freight and ND Strategic Freight Networks and support materials

# North Dakota State Freight Plan Amendment for Compliance with the 2015 FAST Act

North Dakota Department of Transportation





September 2017

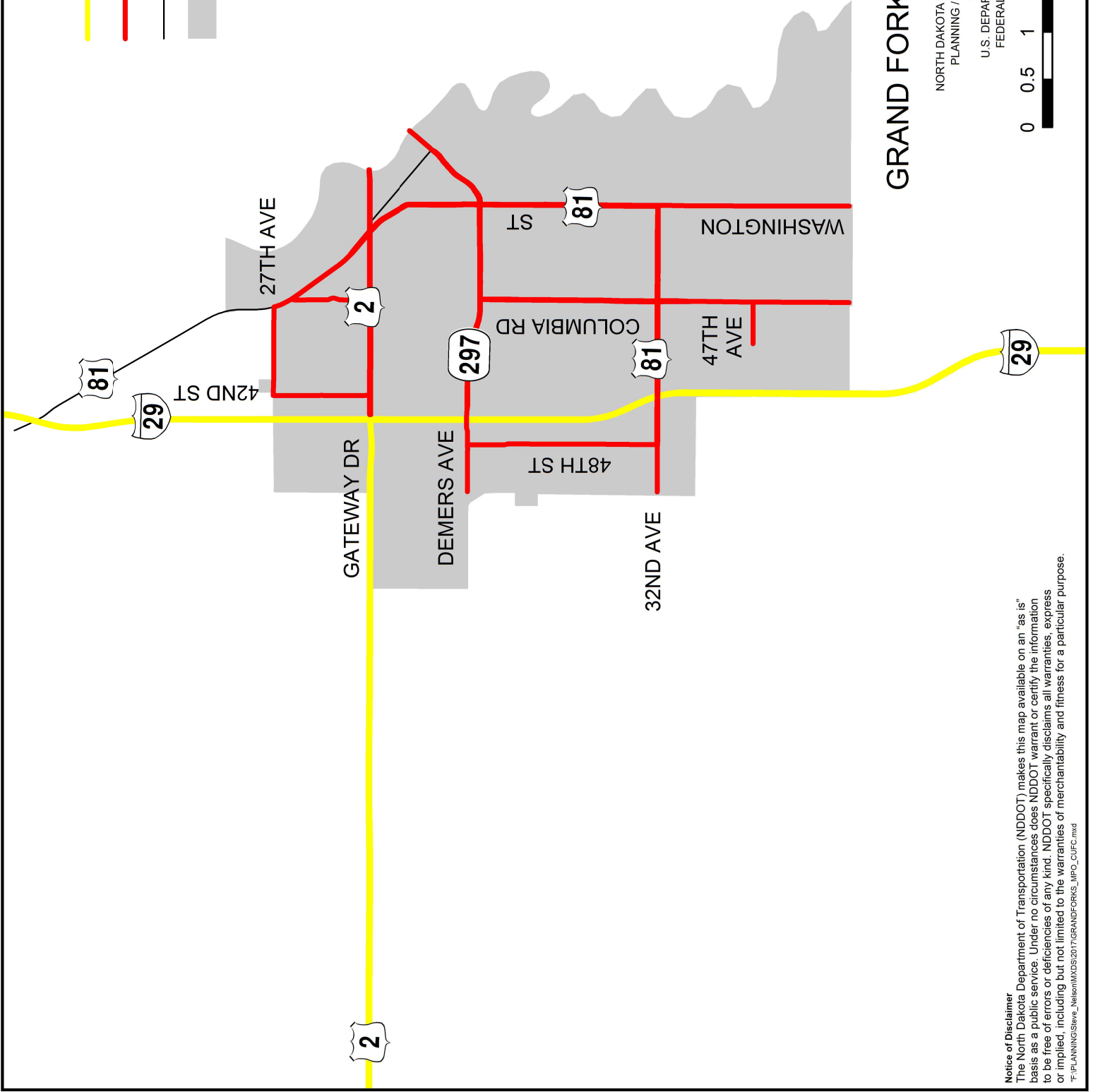
## North Dakota State Freight Plan



## Fixing America's Surface Transportation Act (FAST Act)



-  Primary Highway Freight System
-  Critical Urban Freight Corridors
-  State Roads
-  Urbanized Area



# GRAND FORKS URBANIZED AREA

PREPARED BY THE  
 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION  
 PLANNING / ASSET MANAGEMENT DIVISION  
 IN COOPERATION WITH THE  
 U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION



2017

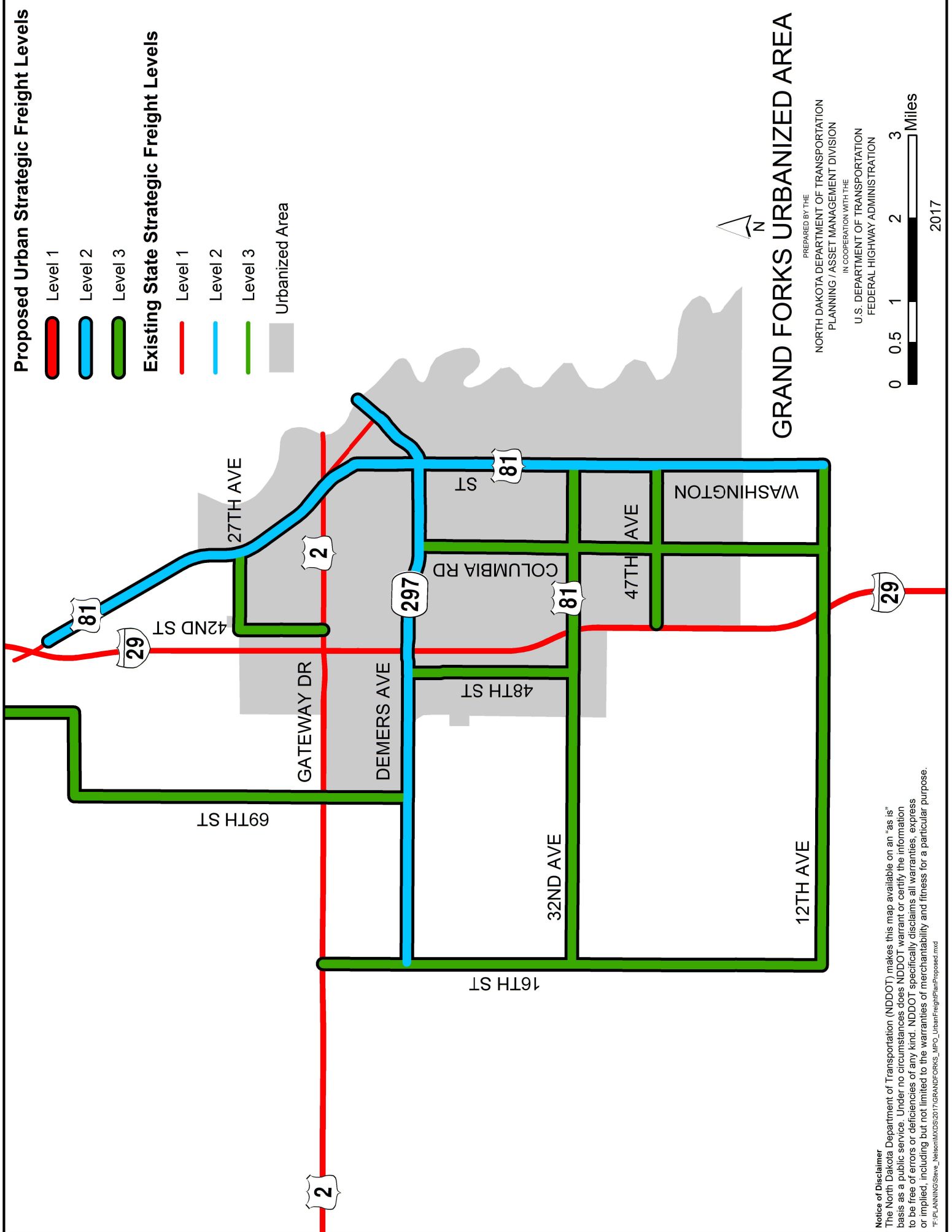
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### Proposed Urban Strategic Freight Levels

- Level 1
- Level 2
- Level 3

### Existing State Strategic Freight Levels

- Level 1
- Level 2
- Level 3
- Urbanized Area



## GRAND FORKS URBANIZED AREA

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## 6. NORTH DAKOTA INVESTMENT PLAN

### 6.1. Background Information

North Dakota develops its Statewide Transportation Investment Program (STIP) under a concept of financial constraint by way of building a program under the objective of using all available obligational authority. Projects listed in this amendment are eligible for National Highway Freight Program (NHFP) funding and are also part of the adopted 2017-2020 STIP. All of the listed projects are intended to be funded through 2020 and all of these projects are considered fiscally constrained within the State Freight Plan (SFP) and the STIP. Section 4.2 of this report provides additional details of how freight is considered in the planning and project programming (STIP) processes.

The following projects are listed in the adopted 2017-2020 STIP and are candidates for NHFP funding. The project highlighted in yellow in the table below is the primary project selected to receive 2018 NHFP funding. Should that project not be financed with freight funding, any of the others on the list may be designated to receive NHFP funds.

**NORTH DAKOTA STATE FREIGHT PLAN PROJECTS**

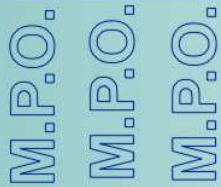
Program Heading	PCN	Project Id	Hwy	Dir	Location	Length	Types of Work	Total Cost
Bridge			94	E	JCT. ND 30	0.0	Struct Replace	\$2,812,160
Bridge			52	E	WEST OF JUNCTION US 281	0.0	Struct/Incid	\$31,200
Bridge			52	E	JCT US 52 & ND 200	0.0	Struct/Incid	\$31,200
Bridge			281	N	NEW ROCKFORD SOUTH	0.0	Approach Slabs, Struct/Incid	\$52,000
Bridge			85	N	2 NORTH S.D. BORDER	0.0	Deck Replacment	\$393,702
Bridge			85	N	2 SOUTH OF JCT. ND 21	0.0	Deck Overlay	\$156,000
Bridge			29	N	7 SOUTH ND 17	0.0	Deck Overlay	\$282,880
Bridge			29	S	8 SOUTH OF ND 5	0.0	Deck Overlay	\$281,216
Bridge	20298	SIM-8-029(157)053	29	N	6 NORTH OF ND 46	0.0	Structur Repair, Struct/Incid	\$104,000
Bridge	20299	SIM-8-029(158)053	29	S	6 NORTH OF ND 46	0.0	Structur Repair, Struct/Incid	\$104,000
Bridge			29	N	6 NORTH OF ND 13	0.0	Structur Repair	\$270,400
Bridge			94	E	5 EAST OF US 83 NORTH	0.0	Struct Replace	\$1,988,760
Bridge	21287	IM-5-094(117)070	94	E	13 WEST OF ND 8	0.0	Deck Overlay	\$351,408
Bridge	21287	IM-5-094(117)070	94	W	9 EAST OF JCT. 22	0.0	Deck Overlay	\$364,906
Bridge			29	N	4 NORTH OF 200 SOUTH	0.0	Deck Overlay, Struct/Incid	\$378,560
Bridge			94	W	6 EAST OF ND 18	0.0	Struct Replace	\$2,339,717
Bridge			83	N	SOUTH OF U.S. HWY 2	0.0	Struct Replace	\$1,169,859
Bridge			94	E	4 MILES WEST OF ND 8	0.0	Structur Repair, Pipe Replacemt	\$146,857
Bridge			94	E	4 MILES WEST OF ND 8	0.0	Struct/Incid, Pipe Replacemt	\$154,753
Bridge			29	N	4 NORTH ND 17	0.0	Deck Overlay	\$314,962
Bridge			29	N	6 SOUTH OF ND 46	0.0	Structure Paint	\$186,002
Bridge			29	N	3 NORTH OF ND 200	0.0	Struct Replace	\$2,690,674
Bridge			94	E	6 EAST OF ND 18	0.0	Struct Replace	\$2,433,306
Illust	18882	SNH-3-281(110)174	281	N	1 NORTH US 2	0.0	Struct Replace	\$11,704,202
ND St	20808	NH-1-083(121)025	83	N	LINTON - S OF 6TH ST TO HICKORY AVE	0.2	Aggr Base, Hot Bit Pave, Lighting	\$374,375
ND St	21503	NH-3-281(127)125	281	N	NEW ROCKFORD - US 281 FRONTAGE RDS	0.3	Aggr Base, Hot Bit Pave, Curb & Gutter	\$1,967,000
Rural			94	E	E ND 25 E TO GRANT MARSH BRIDGE	8.8	CPR, Mill/OI 2" Max	\$3,245,856
Rural			94	E	GRANT MARSH BRIDGE TO E BIS INTR E	5.6	Microsurfacing	\$468,150
Rural			94	W	E ND 25 E TO GRANT MARSH BRIDGE	8.8	CPR, Mill/OI 2" Max	\$3,233,315
Rural			94	W	GRANT MARSH BR E TO E BIS INTR	5.6	Microsurfacing	\$463,224
Rural	21509	NH-1-003(048)134	3	N	W JCT 200 E TO HURDSFIELD	2.0	Asp Ol>2"<Or=3", Riprap, Sliver Grading	\$1,730,000
Rural	18810	NH-1-003(049)093	3	N	STEELE N TO TUTTLE	20.2	Asp Ol>2"<Or=3", Pipe Repair, Sliver Grading	\$12,993,000
Rural	21508	NH-1-200(073)236	200	E	JCT 14 E TO W JCT 3	15.8	Intersect Imp, Mill/Ol>2<Or=3", Pipe Replacemt, Sliver Grading	\$8,469,001
Rural	21511	IM-2-094(145)275	94	E	W ECKELSON E TO E ND 1-OAKES	12.8	Median X-Overs, Ramp Conn	\$1,272,000
Rural			94	E	W LIPPERT E TO EAST BLOOM INTER	14.8	Microsurfacing	\$1,227,500
Rural			94	E	E OAKES INTR TO E VALLEY CITY	6.6	CPR	\$960,480
Rural			94	W	E OAKES INTR TO E VALLEY CITY	6.6	CPR	\$961,775
Rural			94	W	W OF TOWER CITY E TO BUFFALO	9.8	CPR, Grinding	\$1,429,879
Rural			13	E	LAMOURE E TO N JCT 1-VERONA	10.0	Mill/OI 2" Max	\$6,781,040
Rural	21667	NH-3-001(027)161	1	N	1 MI S JCT 2-LAKOTA-N TO JCT 2	1.0	Asp Ol>2"<Or=3"	\$308,472
Rural			57	E	JCT US 281 E TO FT TOTTEN	6.2	Selectiv Subcut, Thin Overlay	\$2,282,000
Rural	21520	NH-4-002(119)151	2	E	55TH ST E TO 1.7 MI E GRANVILLE	21.2	Microsurfacing	\$1,811,740
Rural	21524	NH-4-052(084)047	52	E	NE INSLOPE OF US 52 AT RP 47.2	0.0	Slide Repair	\$2,000,000
Rural	21502	NH-4-083(135)182	83	N	0.5 MI S JCT 23 TO URBAN LIMIT	15.1	Mill/Ol>2<Or=3"	\$6,267,000
Rural			5	E	E JCT 83 E TO JCT 14	14.0	Thin Overlay	\$2,626,060
Rural			83	N	N OF ND 37 TO S OF JCT 23	22.6	Microsurfacing	\$1,765,546
Rural			83	N	W JCT 5 E TO E JCT 5-WESTHOPE	16.6	Microsurfacing	\$1,295,104
Rural	21640	IM-5-094(120)087	94	W	YOUNGMANS BUTTE- 2 MI W EAGLES NEST	13.0	Median X-Overs, Ramp Conn	\$924,000
Rural	21642	IM-5-094(121)087	94	W	YOUNGMANS BUTTE- 2 MI W EAGLES NEST	13.0	Deck Overlay, HBP on Ramps, PCC Pave	\$30,810,000
Rural			94	E	LITTLE MISSOURI RIVER TO FRYBURG	10.9	Microsurfacing	\$905,715
Rural			94	E	TAYLOR E TO YOUNGMANS BUTTE	8.0	Microsurfacing	\$667,772
Rural			94	W	LITTLE MISSOURI RIVER TO FRYBURG	10.9	Microsurfacing	\$908,136
Rural	21501	NH-5-085(073)051	85	N	9.7 MI N AMIDON TO 0.25 MI S CO LN	6.0	Full Depth Rec, Hot Bit Pave, Widening	\$9,909,000
Rural	21663	IM-6-029(134)152	29	N	MANVEL N TO JCT ND 54	9.4	CPR, Grinding	\$1,628,291
Rural	14798	BC-NH-7-002(061)065	2	N	NEAR JCT ND 40-TIOGA-E 12 MI-4 LANE	101.0	Bonding Repayment	\$5,313,500
Rural			52	E	N JCT 8 S TO E JCT 52 & 5	16.5	Thin Overlay	\$3,087,302
Rural	21496	IM-8-029(170)033	29	S	RP 33.5 TO CHRISTINE INTERCHANGE	10.6	PCC Pave	\$20,998,000
Rural	21570	IM-8-094(092)346	94	E	HORACE ROAD INTERCHANGE	0.1	Median X-Overs, PCC Pave, Ramp Revisions, Struct Replace	\$14,000,000

**NORTH DAKOTA STATE FREIGHT PLAN PROJECTS**

Rural		29	S	CHRISTINE INTR N TO WILD RICE RIVER	9.7	Microsurfacing	\$807,548
Rural		94	E	E BIS INTR E TO STERLING	20.1	Struct/Incid, Subcut	\$500,000
Rural		94	W	E BIS INTR E TO STERLING	20.1	Struct/Incid, Subcut	\$500,000
Rural	21510 NH-1-200(074)213	200	E	E JCT 41-MERCER-E TO MCCLUSKY	13.2	Mill/OI>2<Or=3", Riprap, Sliver Grading	\$9,628,000
Rural	17378 NH-NHU-1-083(098)089	83	N	BIS-57TH AVE NW N TO WILTON	19.8	Mill/OI>2<Or=3", Turn Lanes	\$10,487,000
Rural	21627 NH-NHU-1-083(125)089	83	S	BIS-57TH AVE NW N TO WILTON	19.8	Mill/OI>2<Or=3", Turn Lanes	\$7,929,000
Rural		200	E	JCT 200A N TO JCT 1806	12.2	Asp Ol>2"<Or=3", Sliver Grading	\$6,784,619
Rural	21512 IM-2-094(146)275	94	E	W ECKELSON E TO E ND 1-OAKES	12.8	HBP on Ramps, PCC Pave	\$27,399,000
Rural		94	E	E DAWSON INTR TO CRYSTAL SPRINGS	11.9	Thin Overlay	\$2,309,642
Rural	21701 NH-2-013(060)243	13	E	JCT 30-LEHR E TO E JCT 56-KULM	19.8	Mill/OI>2<Or=3", Sliver Grading	\$11,415,000
Rural	21503 NH-3-281(127)125	281	N	S JCT 15 N THRU NEW ROCKFORD	2.6	Widening	\$2,327,000
Rural		1	N	JCT 65 N TO PEKIN	16.7	Microsurfacing	\$1,352,424
Rural		1	N	2 MI SOUTH SHEYENNE RIVER	0.5	Slope Flatten, Widening	\$356,279
Rural		2	E	RUGBY EAST HIGH WATER AREA	1.1	Grade Raise, Hot Bit Pave	\$811,200
Rural		2	W	RUGBY EAST HIGH WATER AREA	1.1	Grade Raise, Hot Bit Pave	\$811,200
Rural		2	W	1/4 WEST OF 79TH ST	0.0	Selectiv Subcut	\$300,000
Rural		3	N	RUGBY - JCT US 2 TO CITY LIMITS	1.5	Mill/OI 2" Max	\$421,824
Rural		3	N	CITY OF RUGBY - NORTH CITY LIMITS	0.2	Intersect Imp, Signing, Turn Lanes	\$467,944
Rural		3	N	RUGBY - 2ND ST SW TO 1ST ST NW	0.1	Sewer	\$1,354,163
Rural	19748 SNH-4-052(073)112	281	N	JCT 5 ROCK LAKE NW TO ROLLA	18.4	Microsurfacing	\$1,488,657
Rural		52	E	CO LN-SAWYER-SE TO 1 MI W BERGEN	14.3	Thin Overlay	\$3,627,113
Rural		2	W	55TH ST E TO E GRANVILLE	19.6	Microsurfacing	\$1,593,814
Rural		3	N	E JCT 200 NORTH TO 8 MI S-HARVEY	13.4	Thin Overlay	\$2,558,687
Rural		3	N	APPROX 8 MI S-HARVEY NORTH TO JCT 52	7.6	Thin Overlay	\$1,476,630
Rural		83	N	SNAKE CREEK EMBANKMENT	2.9	Microsurfacing	\$232,319
Rural		83	N	MINOT TO AFB	10.1	Microsurfacing	\$821,202
Rural		83	S	SNAKE CREEK EMBANKMENT	2.9	Microsurfacing	\$232,142
Rural		83	S	MINOT TO AFB	9.9	Microsurfacing	\$804,004
Rural		94	E	STATE LINE TO RP 11.7	11.7	Microsurfacing	\$1,012,758
Rural		94	W	STATE LINE TO RP 11.7	11.7	Microsurfacing	\$1,012,360
Rural		12	E	COUNTY LINE TO HETTINGER	19.4	Gravel Shldrs, Thin Overlay	\$3,778,193
Rural		2	W	MICHIGAN BYPASS E TO CO LN	10.2	Mill/OI 2" Max	\$2,204,279
Rural		2	W	NEAR ARVILLA TO W OF GF AFB	5.5	Mill/OI>2<Or=3"	\$2,631,000
Rural		2	W	W OF GF AFB TO 69TH ST	11.0	Milling, Structural Ol>3, Struct Replace	\$9,069,000
Rural		17	E	GRAFTON MUNICIPAL STA 0 TO 61+00	1.2	CPR, Microsurfacing	\$376,376
Rural	14798 BC-NH-7-002(061)065	2	N	NEAR JCT ND 40-TIOGA-E 12 MI-4 LANE	101.0	Bonding Repayment	\$5,314,000
Rural	20030 SNH-7-085(084)248	85	N	W JCT 5-FORTUNA N TO STATE LINE	6.4	Hot Bit Pave, Turn Lanes	\$3,887,593
Rural	21570 IM-8-094(092)346	94	W	HORACE ROAD INTERCHANGE	0.0	PCC Pave, Ramp Revisions, Struct Replace	\$11,000,000
Rural		29	N	NEAR BLANCHARD TO JCT 200	10.7	Guardrail, Lighting	\$102,752
Rural		94	W	WHEATLAND E TO E CASSELTON	7.2	CPR	\$1,354,943
Rural		13	E	W JCT ND 32 E TO ND 18	25.1	Mill/OI 2" Max	\$5,436,814
Rural		13	E	W OF I-29 JCT TO 1 MI W OF WAHPETON	9.6	CPR	\$1,447,946
Rural		13	W	W JCT I-29 TO E JCT I-29	0.6	CPR	\$91,067
Rural		13	W	E JCT I-29 TO JCT OLD US 81	4.1	Microsurfacing	\$331,254
Rural		13	W	JCT OLD US-81 TO 2.1 M W WAHPETON	4.1	CPR	\$625,441
Rural		94	E	E ND 25 E TO GRANT MARSH BRIDGE	8.8	Microsurfacing	\$794,279
Rural		94	W	E ND 25 E TO GRANT MARSH BRIDGE	8.8	Microsurfacing	\$791,211
Rural	18811 NH-1-003(050)113	3	N	TUTTLE N TO W JCT 200	21.1	Asp Ol>2"<Or=3", Pipe Repair, Sliver Grading	\$12,679,000
Rural	17415 NH-1-006(017)042	6	N	JCT 21 N TO HEART RIVER-MANDAN	24.5	Thin Overlay	\$3,386,000
Rural		83	N	JCT ND 34 N TO JCT I-94	24.3	Microsurfacing	\$2,050,192
Rural		94	E	E VALLEY CITY E TO HILL INTR	14.0	Median X-Overs, Ramp Conn	\$879,840
Rural		94	W	E DAWSON INTR TO CRYSTAL SPRINGS	11.9	CPR, Mill/OI 2" Max	\$3,594,483
Rural		94	W	CRYSTAL SPRINGS TO ND 30-STREETER	6.1	CPR	\$962,350
Rural	21581 NH-3-200(025)254	200	E	E JCT 3-HURDSFIELD-E TO W JCT 52	14.4	Mill/OI>2<Or=3", Pipe Replacem, Selectiv Subcut, Sliver Grading	\$9,331,000
Rural	21505 NH-3-281(129)139	281	N	N OF SHEYENNE TO NEAR JCT 57	9.7	Full Depth Rec, Hot Bit Pave, Subcut, Widening	\$11,059,000
Rural	17775 NH-S-NHU-3-002(113)252	2	W	MAUVAIS COULEE TO W CITY LIMIT	14.8	Hot Bit Pave, Mine And Blend, Widening	\$10,078,013
Rural		1	N	NEKOMA SPUR N TO JCT 5 LANGDON	13.4	Thin Overlay, Mill/OI>2<Or=3", Selectiv Subcut	\$6,260,800

### NORTH DAKOTA STATE FREIGHT PLAN PROJECTS

Rural		2	E	BERWICK TO 1 MI W OF RUGBY	9.7	CPR, Grinding	\$924,986
Rural		2	E	W LEEDS E TO CHURCHES FERRY	12.2	CPR, Grinding	\$1,376,788
Rural		2	E	2 MI E CHURCHES FERRY TO NEAR PENN	4.3	CPR, Grinding	\$675,074
Rural		2	E	PENN GRADE RAISE TO CHANNEL A	3.0	CPR, Grinding	\$479,955
Rural		2	E	CHANNEL A TO DEVILS LAKE	4.0	CPR, Grinding	\$446,954
Rural		2	W	RP 201 TO 1 MI W OF RUGBY	8.2	CPR, Grinding	\$1,463,459
Rural		200	E	JCT 52-CARRINGTON E TO JCT 20	25.9	Mill/OI 2" Max	\$5,832,083
Rural		281	N	JCT 200 CARRINGTON TO SJCT ND 15	13.1	Thin Overlay	\$2,662,007
Rural	21666 NH-4-005(035)099	5	E	E JCT 52-KENMARE TO W JCT 28	18.0	Asp OI>2"<OI=3", Sliver Grading	\$13,146,000
Rural		2	E	2 MI W JCT 14 TO 1.5 MI E TOWNER	7.7	Microsurfacing	\$647,989
Rural		2	W	2 MI W JCT 14 TO 1.5 MI E TOWNER	7.7	Microsurfacing	\$647,391
Rural		83	N	MINOT AFB TO W JCT 5-RENVILLE COR	23.0	Asp OI>2"<OI=3"	\$13,765,000
Rural		83	S	0.6 MI N MAX TO 0.9 MI S JCT 23	8.9	Thin Overlay	\$1,869,333
Rural	18244 NH-5-021(016)000	21	E	JCT 85 TO N JCT 22-NEW ENGLAND	15.7	Grading	\$9,627,000
Rural		21	E	E JCT 8 TO W JCT 49	17.0	Thin Overlay	\$3,451,478
Rural		29	N	N OF BATHGATE TO CANADIAN LINE	10.9	Asp OI>2"<OI=3"	\$3,790,419
Rural		81	N	S OF 40TH AVE N TO N OF 40TH AVE N	0.3	CPR, Grinding	\$100,000
Rural	14798 BC-NH-7-002(061)065	2		NEAR JCT ND 40-TIOGA-E 12 MI-4 LANE	101.0	Bonding Repayment	\$5,313,000
Rural	18988 IM-8-029(135)088	29	N	HUNTER SEP TO NEAR BLANCHARD	12.2	PCC Pave	\$30,712,297
Rural	19017 SIM-8-029(141)088	29	N	HUNTER SEP TO NEAR BLANCHARD	12.2	Median X-Overs, Ramp Conn	\$1,265,319
Rural		94	E	W WHEATLAND TO E OF CASSELTON	8.0	CPR	\$1,488,096
Rural		94	E	I-29 TO 25TH ST. INTERCHANGE	1.0	PCC Pave, Ramp Conn, Ramp Revisions, Widening	\$5,849,293
Rural		94	W	E CASSELTON E TO NEAR W FARGO	10.9	Thin Overlay	\$2,198,924
Safety	21685 HEN-4-052(085)103	52	E	US 52 LOGAN INTERSECTION	0.0	Turn Lanes, Lighting	\$408,000
Safety	21684 HEN-4-083(138)253	83	N	US 83 & ND 5	0.0	Turn Lanes	\$368,000
Urban	21173 NHU-1-094(182)915	94	E	MAIN ST (ND 6 - ND 1806)	1.1	Signals	\$1,500,000
Urban				INTERSECTION OF 66TH ST & HWY 10	0.0	Intersect Imp	\$825,000
Urban	21174 NHU-4-002(116)149	2	E	US 2 & 42ND ST/14TH AVE SE	0.3	Intersect Imp	\$4,205,000
Urban		2	E	BURDICK EXPWY (42ND ST-W OF 55TH ST)	0.3	Chip Seal Coat	\$23,182
Urban		2	E	1 MI W JCT 83-W OF 55TH ST (EB/WB )	5.3	Chip Seal Coat	\$426,818
Urban	21175 NHU-5-094(114)907	94	E	E BUSINESS LOOP (10TH AV E-EXIT 64)	1.7	Widening, Asp OI>2"<OI=3"	\$9,400,000
Urban	20845 NH-NHU-7-002(156)022	2	E	US 2 & 58TH ST/FRONTAGE RD	0.4	Intersect Imp, Signals, Lighting	\$1,500,000
Urban	21170 NHU-8-010(041)939	10	E	MAIN AVE (UNIV DR TO 2ND ST)	1.0	Reconstruction	\$9,651,333
Urban	21168 NHU-8-081(038)927	81	N	10TH ST (4TH AVE N TO 12TH AVE N)	0.7	Reconstruction	\$6,256,638
Urban	17378 NH-NHU-1-083(098)089	83	N	US 83 (CALGARY AVE TO 57TH AVE)-NB	1.5	Asp OI>2"<OI=3"	\$1,200,000
Urban	21627 NH-NHU-1-083(125)089	83	S	US 83 (CALGARY AVE TO 57TH AVE)-SB	1.5	Asp OI>2"<OI=3"	\$1,250,000
Urban		987	W	17TH ST (WB I-94 - US 281)	0.0	Reconstruction	\$5,000,000
Urban		987	W	17TH ST (WB I-94 - US 281)	0.0	Reconstruction	\$5,000,000
Urban		2	E	US 2 (ND 19 TO URBAN LIMITS)	2.1	Intersect Imp, CPR, Structur Repair	\$2,800,000
Urban		2	E	DEMERS AVE (RED RIVER TO 5TH ST)	0.2	Reconstruction	\$3,290,000
Urban				DEMERS AV AT 30TH ST/COLUMBIA W			
Urban		297	E	RAMP	0.2	Signals, Turn Lanes	\$600,000
Urban		297	E	DEMERS AVE (6TH ST TO 5TH ST)	0.1	Reconstruction	\$1,000,000
Urban		13	E	1 MI W OF WAHPETON TO ND 210	0.7	CPR	\$60,000
Urban		1806	N	ND 1806 (I-94 RAMPS-27TH ST NW)	4.2	Reconstruction	\$7,500,000
Urban		52	E	5TH ST NW OVER JAMES RIVER	0.2	Approach Slabs, Expan Joint Mod	\$125,000
Urban		94	E	MAIN ST W (WB I-94 RAMP-3RD ST SW)	1.2	Mill/OI>2<OI=3"	\$900,000
Urban		2	E	US 2 & 55TH ST INTERSECTION	0.1	Signals, Turn Lanes	\$600,000
Urban		81	N	US 81(S OF 8TH AV N-0.4 MI N OF US2)	1.0	CPR, Grinding, Dowel Retrofit	\$1,323,000
Urban		10	E	MAIN AV (UNIVERSITY TO 25TH ST)	1.0	Reconstruction	\$15,412,522



# Grand Forks - East Grand Forks Metropolitan Planning Organization

## **MPO Staff Report** **Technical Advisory Committee: October 11, 2017** **MPO Executive Board: October 18, 2017**

**RECOMMENDED ACTION: Adoption of the Limited English Proficiency Plan and Environmental Justice Maps Update.**

Matter of Adoption of the Limited English Proficiency Plan and Environmental Justice Maps Update.

### **Background:**

Earlier this year the NDDOT did a review of the MPO's Title VI policies. In this review it was found that the numbers in the document Limited English Proficiency (LEP) Plan and the data for the Environmental Justice (EJ) maps needed to be update. The last numbers available at the time was from the 2008-2012 American Community Survey (ACS) data. The most current available numbers are the 2011-2015 ACS data.

The LEP Plan includes a four factor analysis. As part of the analysis the percent of individuals that speak English less than "very well" is then broken down to the main language types spoken. In the MPO area only 6.6% of the population doesn't speak English well. This means that, although we are prepared as best we can be, the likelihood that someone will need assistance is very low. The data format used was for the Cities of Grand Forks and East Grand Forks.

The EJ Map update followed the methodology established in the EJ Manual. The low income and minority areas were looked at separately. The number of Minority EJ areas is the same but one area changed location. The number of Low Income EJ areas has increase from 7 block groups to 10 block groups, with two block groups that are the same from last time.

### **Findings and Analysis:**

- Review requiring updated data.
- Changes in population requiring the update.
- Staff recommends Approval

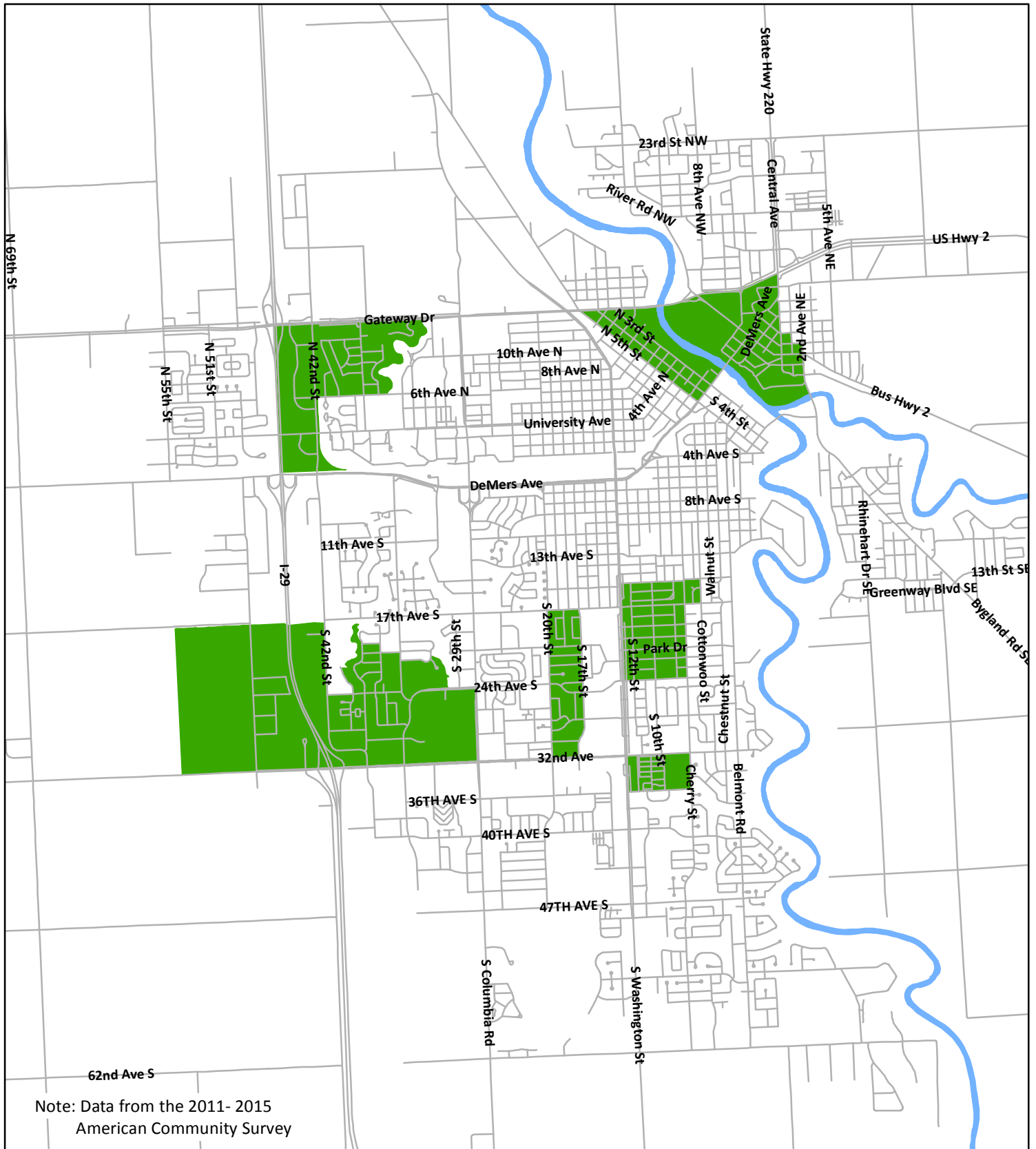
### **Support Materials:**

- Table of LEP data
- Maps of new EJ area, new Low Income areas, new Minority areas, comparison of new & old Low Income areas, and comparison of new & old Minority areas.
- Table of Low Income area comparisons and the methodology data used.
- Table of Minority area comparisons and the methodology data used.


Individuals that speak another language	3,955
Percent speak another language	6.6%
# with limited english proficiency	1,441
% with LEP in MPO area	2.4%
% Spanish	0.24%
% Indo-European	0.69%
% Asian & Pacific Island	0.48%
% Other Languages	1.01%
Percent that speak English Only	93.4%

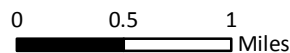


# High Concentrations of Low Income Populations



**Low Income**

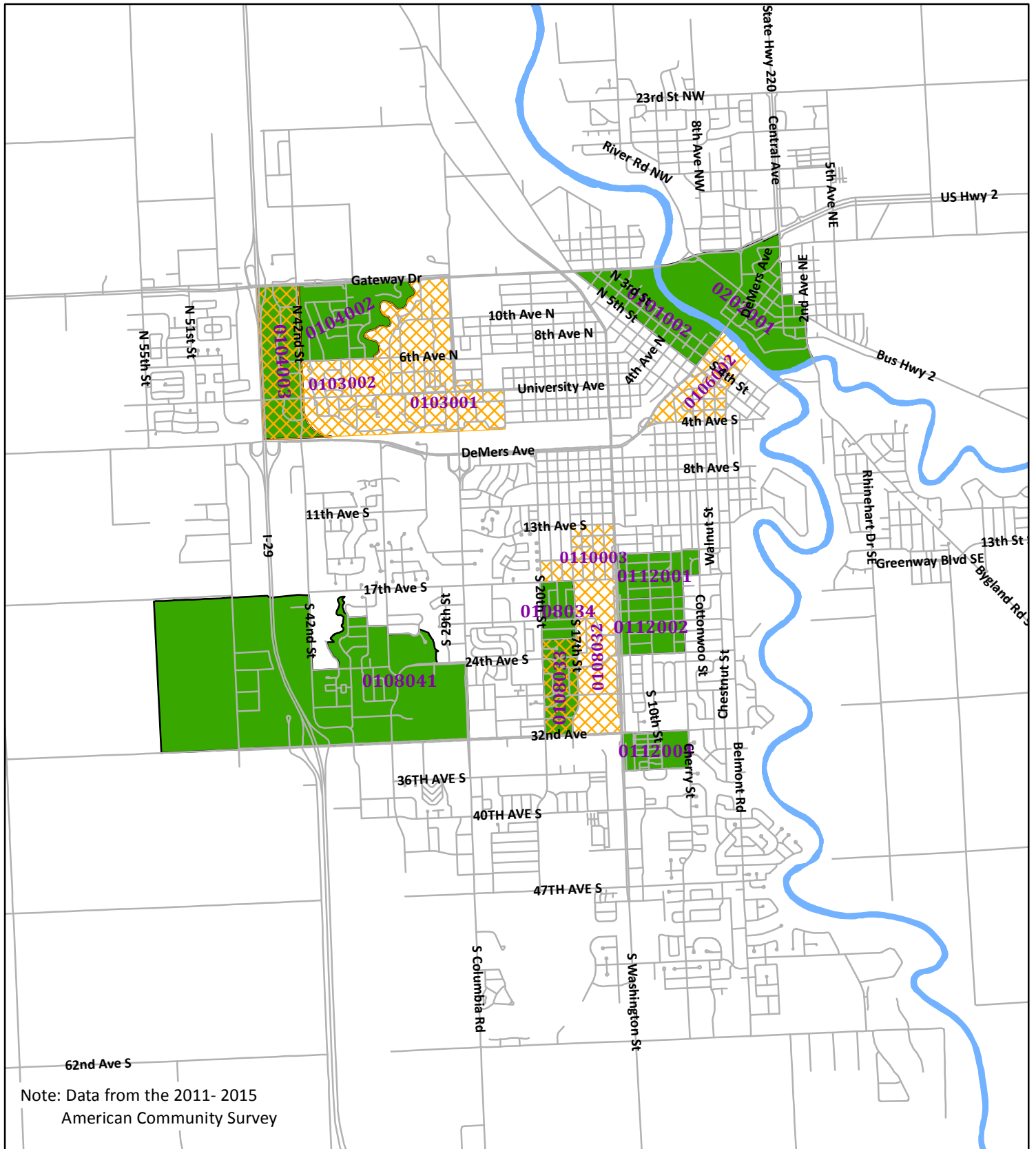
 **50% and Greater**



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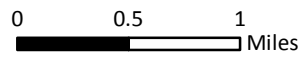
# High Concentrations of Low Income Populations



Note: Data from the 2011- 2015 American Community Survey

**Low Income**

- 2012 Low Income Areas
- 2015 Low Income Areas



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### High Concentrations of Low Income Populations

	BG 0104002		BG 0112001		BG 0108033		BG 0101002		BG 0112002	
	2012	2015	2012	2015	2012	2015	2012	2015	2012	2015
Total BG Population	1962	1510	770	671	1337	1359	1021	1206	757	797
Total BG Low Income Population	874	763	220	349	681	871	462	658	203	456
% Low Income Population	44.55%	50.53%	28.57%	52.01%	50.93%	64.09%	45.25%	54.56%	26.82%	57.21%

	BG 0108034		BG 0108041		BG 0112004		BG 0104003		BG 0110003	
	2012	2015	2012	2015	2012	2015	2012	2015	2012	2015
Total BG Population	420	544	2609	3207	765	784	1205	1407	744	862
Total BG Low Income Population	31	283	917	1663	227	410	1029	911	416	389
% Low Income Population	7.38%	52.02%	35.15%	51.86%	29.67%	52.30%	85.39%	64.75%	55.91%	45.13%

	BG 0106002		BG 0103001		BG 0108032		BG 0103002		BG 0202001	
	2012	2015	2012	2015	2012	2015	2012	2015	2012	2015
Total BG Population	1097	1033	984	3137	972	1159	1243	2394	705	597
Total BG Low Income Population	745	515	841	903	592	468	988	879	287	300
% Low Income Population	67.91%	49.85%	85.47%	28.79%	60.91%	40.38%	79.49%	36.72%	40.71%	50.25%

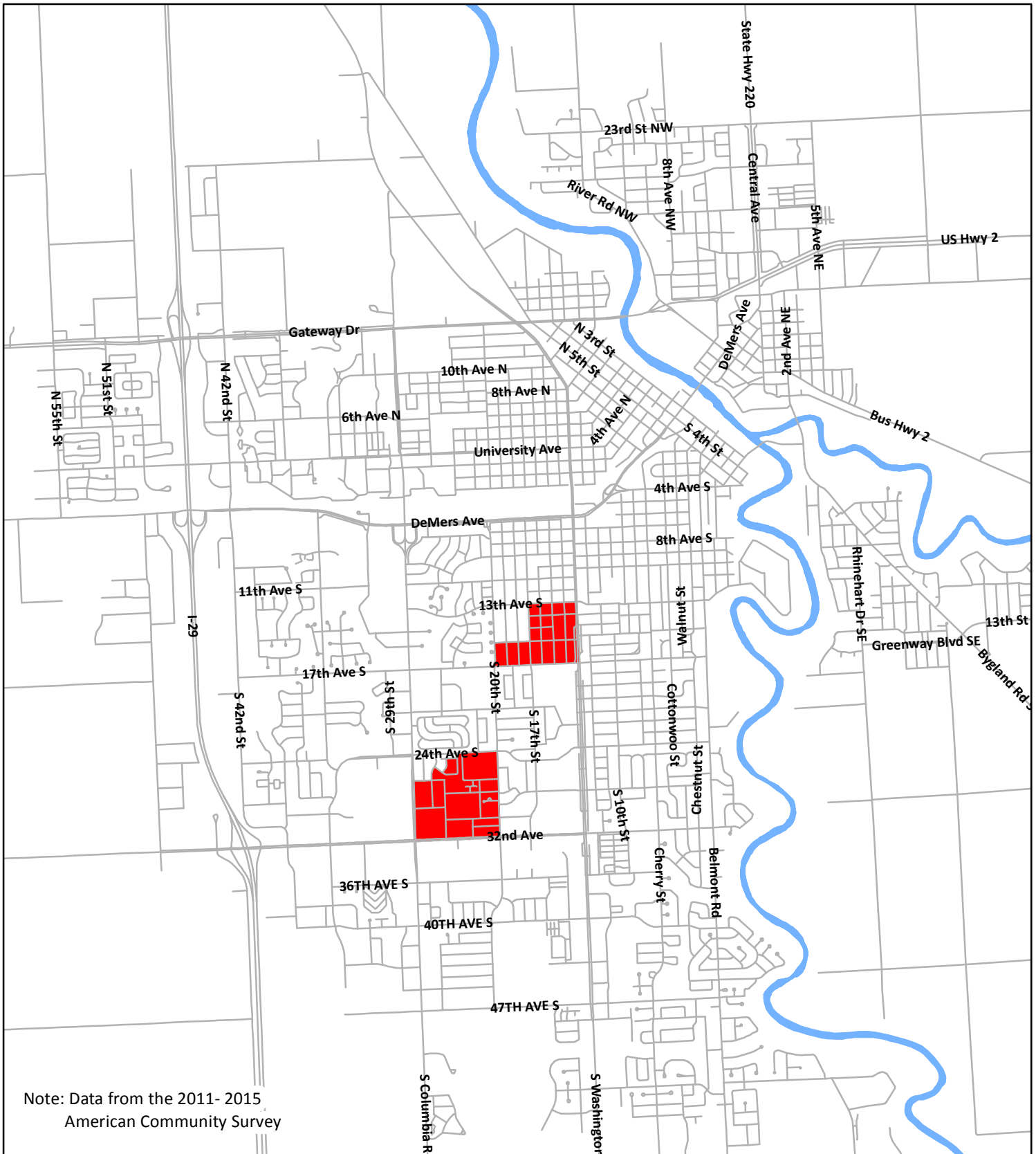
BGs that had high concentrations of low income populations

BG= Block Group

#### Numbers Used in Methodology


Total MPO Population	69,270
Total MPO Low Income Population	20,226
Percent Low Income in MPO	29.20%
3 times the Percent	87.60%
% used for High Concentrations	50%

# High Concentrations of Minority Populations

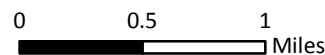


Note: Data from the 2011- 2015 American Community Survey

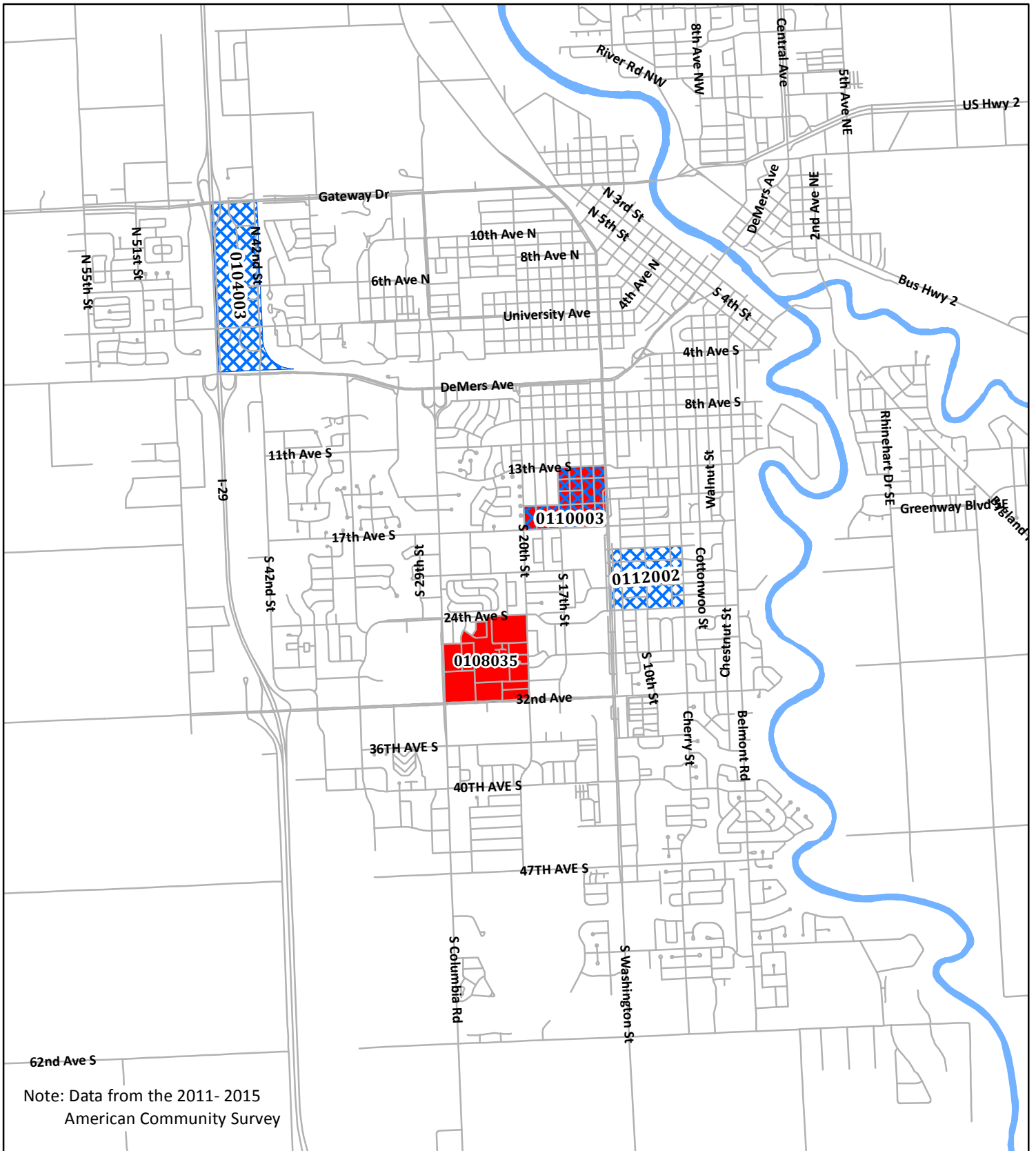
**Minority**

 **32.5% and Greater**

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# High Concentrations of Minority Populations

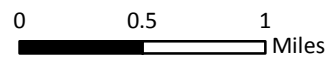


Note: Data from the 2011- 2015 American Community Survey

**Minority**

-  2012 Minority Areas
-  2015 Minority Areas

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### High Concentrations of Minority Populations

	BG 0112002		BG 0108035		BG 104003		BG 0110003	
	2012	2015	2012	2015	2012	2015	2012	2015
Total BG Population	757	797	1264	1785	1205	1407	744	862
BG White Population	574	638	1122	1160	738	1092	508	531
BG Non-White Population	183	159	142	625	467	315	236	331
% Non-White Population	24.17%	19.95%	11.23%	35.01%	38.76%	22.39%	31.72%	38.40%

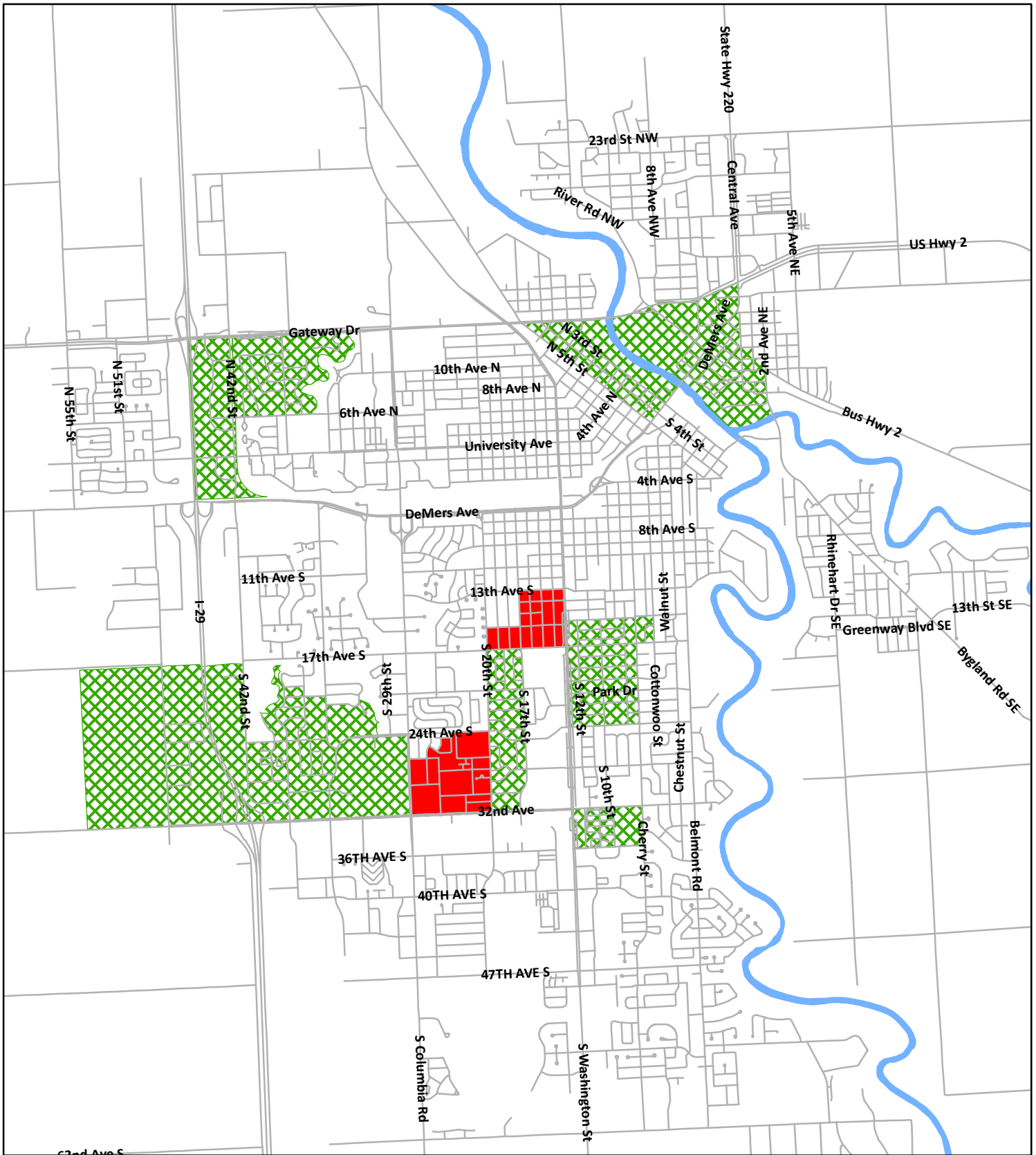
BGs that had high concentrations of minority populations.


BG= Block Group

#### Numbers Used in Methodology

Total MPO Population	69,270
Total MPO Non-White Population	7,502
Percent Non-White in MPO	10.83%
3 times the Percent	32.49%
% used for High Concentrations	33%

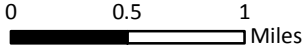
# Combined Environmental Justice Areas




**Low Income**  
 **50% and Greater**



Note: Data from the 2011- 2015 American Community Survey



Grand Forks - East Grand Forks Metropolitan Planning Organization

**Minority**  
 **32.5% and Greater**

**TABLE OF CONTENTS\* UPDATE OCTOBER, 2017**

CODE	AREA	PROJECT SCHEDULE/TIMELINE		% COMPLETED	FISCAL YEAR	COMPLETION DATE
	Introduction	Task(s)	ACTIVITY			
300	<b>PLANNING AND IMPLEMENTATION</b>		<b>ACTIVITIES</b>			
	<b>2045 Street &amp; Highway Plan NEW</b>	1	The existing conditions report is nearly completed. Items pending are related to pavement and bridge existing conditions. Consultant is resolving related data formatting and analysis based on 2015 Travel Demand Model issues. Some of existing conditions data presented may also be influenced by the performance measures. Consultant team is working on context-related Goals, Objectives and Performance Measures. There will be an update on the MPO 2045 Street and Highway Plan provided by staff at the 10/11 TAC meeting. Consultant will be back to review Goals, Objectives, and Performance measures at the TAC meeting on 11/8. The next steps in the process are to develop a 2045 "No-Build" transportation network and associated issues as well as finalizing performance measures and associated metrics that will be used to assist community leaders in making short, medium and long-term investment decisions. Consultant is also planning on having another public meeting mid-November or early December.	35%		
300	<b>Plan Update (Travel Demand Model)</b>	1	The model development is in the data collection and methodology development stage. Cleaning up & formatting data obtained to represent the employment centers. The data shows the type of employment and the number of employees by NAICS code.	40%	2106	16-Dec
300	<b>Bicycle &amp; Pedestrian Planning Element (Update)</b>	2-3-4-5	Submitted Goals, Objectives and Standards for consideration of Advisory Committee. Received and incorporated related comments. Organized a meeting of the Advisory Committee to discuss Goals, Objectives and Standards and attained their favourable consensus and support to move on the update process. Completed Existing Conditions Report. Currently preparing responses to requests made by stakeholders.	75%	2016	Sep-17
300	<b>Transit Development Planning Element (Update)</b>		<b>STUDY COMPLETED IN JULY, 2017</b>	99%	2016	Feb-17
300	<b>CORRIDOR PLANNING</b>					
300	<b>Traffic Count Program</b>	Ongoing	Resumed data collection setup for the rest of the intersections. Approx.	70%	2015	Ongoing
300	<b>Corridor Preservation</b>	Ongoing	Ongoing		2015	Ongoing
	<b>Near South Neighborhood NEW</b>	Task(s) 1	Walkability Draft report being submitted to MPO. Approx. work completed 75% Pilot Traffic Calming impacts the data for after the permanent installation was collected Oct 4-5th: Additional data (from PDF) being added to shapefile previously received from MPO. Approx. 20% complete	55%	2017	2017
300	<b>TRANSPORTATION IMPROVEMENT PROGRAM (TIP) ANNUAL</b>				2016	



UNIFIE	300	LAND USE PLAN		ACTIVITIES			
	301	SPECIAL STUDIES		ACTIVITIES			
	301	MAP-21/FAST (2015)		Ongoing		2015	Ongoing
	301	I-29 Traffic Operations Study	1	<b>STUDY COMPLETED IN JUNE, 2017</b>	100%	2015	7/30/2016 (Work extended to 2017)
	301	PLAN MONITORING, REVIEW AND EVALUATION		ACTIVITIES			
	301	GEOGRAPHIC INFORMATION SYSTEMS (GIS) DEVELOPMENT					
		Geographic Information Systems (GIS) Development	Ongoing	Ongoing in-house			2015

Note: Brief project update review for information only. It does not replace Project Reports.