NP Avenue and 1st Avenue North Corridor Development Plan

PREPARED FOR

City of Fargo
200 3rd Street North
Fargo, ND 58102

March 2012

Alfred Benesch & Company
(formerly HWS Consulting Group, Inc)

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The Leonard Atelier Group

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Executive Summary

NP and 1st Avenue North Corridor Development Plan

Study Background

The City of Fargo, in conjunction with the Downtown Community Partnership, has recognized the need to preserve and enhance the physical attributes of 1st Avenue North and NP Avenue through a coordinated planning effort. They understand Fargo is an exceptional city with opportunities to improve quality of life for its citizens by enhancing aesthetics and increasing the efficiency of basic infrastructure. These opportunities could also help existing businesses, reduce turnover, and encourage future development along these corridors. The Broadway street improvements and the Main Avenue/Red River bridge replacement are two examples of recent investments that are transforming the downtown into a place where citizens want to work, shop, play, and live.

An important effort in the process of transforming this vital area of the metropolitan area was the completion of the "Fargo – Moorhead Downtown Framework Plan". Updated in 2007, the plan identifies the need to study a Fargo one-way conversion project. In the narrative describing the project it states: "The one-way pair operation of NP Avenue and 1st Ave N moves traffic efficiently, but there is more to consider than only traffic operations. Directness of travel, safety, bicycle and pedestrian movements, and economic vitality are also part of the equation".

The impetus for this statement stems from an ongoing trend that emerged in the 1990s regarding the conversion of downtown one-way pairs (instituted in the 1950s) back to two-way operation. While the one-way pairs did not necessarily suffer poor operations or experience a decrease in traffic volume, two-way streets were thought to increase the appeal of an area. The conversion caused a reduction of speed limits that better suited pedestrians and gave the appearance of a busier street. Some jurisdictions noticed better retail sales, increased property values, a more healthy business climate, and better neighborhoods in general. As a result, the City of Fargo selected Alfred Benesch & Company (formerly HWS Consulting Group) to conduct a study of 1st Avenue North and NP Avenue to determine the best strategies to encourage development and multimodal transportation on these important corridors. This project involves transportation planning, traffic engineering, preliminary engineering and design, streetscape concept development, economic analysis, and public involvement.

Study Review Committee

The Study Review Committee is comprised of the following members:

- City of Fargo: Mark Bittner (Engineering), Kim Citrowske (Planning), Jeremy Gorden (Engineering), Bob Stein (Planning), Mike Williams (City Commission)
- City of Moorhead: Bob Zimmerman
- Fargo Business Community: Dave Anderson (formerly of the Downtown Community Partnership), Mike Hahn (DCP), Randy Thorson
- F-M Metro Area Transit: Julie Bommelman
- Metro COG: Peggy Harter, Justin Kristan
- North Dakota State University: Bruce Frantz, Rob Lynch
- North Dakota Department of Transportation: Bob Walton

Study Team

The study team is comprised of the following members (each firm's role is noted):

- Alfred Benesch & Company (formerly HWS Consulting Group), lead consultant: public participation, roadway concepts, traffic analysis
- Rich Caplan & Associates: economic analysis
- Wilbur Smith Associates: transit analysis
- LA Group: streetscape concepts, local contact

NP and 1st Avenue North Corridor Development Plan Mission Statement

At the beginning of this study, the Study Review Committee and the study team formulated a mission statement to guide this study:

> "This study will recommend a plan that accommodates all travelers: pedestrians, bicyclists, transit users, and drivers. The plan's design and safety features will improve the physical health of individuals, the environmental quality of the community, and further increase opportunities for development."

The mission statement is the yardstick with which to measure the fitness of each alternative to become the preferred alternative. Through Study Review Committee meetings and the public input process, four alternatives were developed (including the No Build option):

- **No Build**. Taking no action; leaving the corridors as they are today: one-way, with three lanes. 1st Avenue North would remain three lanes westbound and NP Avenue would remain three lanes eastbound.
- **Alternative 1: 2+1**. Leaving two lanes in the direction of the existing one-way operations and using the third lane for two-way traffic. 1st Avenue North would be two lanes westbound and one lane eastbound. NP Avenue would be two lanes eastbound and one lane westbound. Parallel parking will be provided on both sides on NP Avenue and 1st Avenue North.

- **Alternative 2: Two-way, Two-lane**. This alternative features two-way traffic, like Alternative 1, but the existing three lane roadways would be converted to one lane in each direction with a center two-way left-turn lane. In this alternative, both NP Avenue and 1st Avenue North would have the same configuration: one lane westbound, one lane eastbound, and a center turn lane. Parallel parking will be provided on both sides on NP Avenue and 1st Avenue North.
- **Alternative 3: One-way, Two-lane**. Leaving the existing one-way operations but reducing the three lanes to two lanes. 1st Avenue North would be two lanes westbound and NP Avenue would be two lanes eastbound. Parallel parking will be provided on both sides on NP Avenue and 1st Avenue North.

Each alternative was analyzed with respect to the tenets identified in the mission statement. The following briefly describes the alternatives in relation to the mission statement.

Accommodation of all travelers

Accommodation of Pedestrians

There is no doubt that one-way roadways efficiently move motorized vehicular traffic. The elimination of conflicting turning movements enables unparalleled progression of traffic due to the coordinability of the traffic signals. However, a result of such well-timed signals is increased vehicle speeds. Such speeds can be dangerous to pedestrians and cyclists attempting to use the roadway facilities. Two-way traffic has the effect of slowing overall vehicle speeds due to drivers simply seeing cars heading in the opposite direction, as well as losing the level of progression of a one-way facility. Granted, pedestrians crossing two-way traffic must negotiate traffic flow from two directions instead of one (on a one-way street) but if the number of lanes is kept the same, there will be the same number of conflict points with vehicles. In the unfortunate event of pedestrian-involved crash, the reduced speed of a two-way street can translate to increased survivability of pedestrians.

Each of the alternatives feature pedestrian amenities such as intersection and midblock curb extensions to provide better crossing locations for pedestrians.

Accommodation of Bicyclists

Each alternative features a bike lane on both NP Avenue and 1st Avenue North. Due to roadway width restrictions, there can only be one bike lane on each of NP Avenue and 1st Avenue North. To have a shared bike lane or a striped bike lane led to interesting discussions with the cycling community in Fargo-Moorhead. In order to be consistent with bicycle facilities elsewhere in Fargo, it was determined that separate, striped bike lanes will be included in this study.

Each alternative includes the addition of a striped bike lane to both NP Avenue and 1st Avenue North. In Alternative 1, the bike lanes are on the single lane of the 2+1 (an eastbound bike lane on the south side of 1st Avenue North and a westbound bike lane on the north side of NP Avenue). The bike lane was placed there to enable the cyclists to only have to maneuver through one lane of traffic (in the same direction) to make a left turn and to keep cyclists on the opposite side of the street from transit buses. Metro Area Transit, the bus agency in Fargo-Moorhead, has determined that a conversion to two-way traffic would not alter their existing route structure; buses will be on the two-lane side of 2+1. Additionally, having the bike lane on the single lane side of the 2+1 enables bikes to make right turns to access the block between NP Avenue and 1st Avenue North.

In Alternative 2, the bike lanes will be in the same location as Alternative 1: an eastbound bike lane on the south side of 1st Avenue North and a westbound bike lane on the north side of NP Avenue. As discussed under Alternative 1, the bike lane on this side keeps bikes and buses on opposite sides of the street and allows for right turns to access the block between NP Avenue and 1st Avenue North.

Alternative 3 features bike lanes on the right side of each one-way street, in the prevailing direction of traffic: a westbound bike lane on the north side of 1st Avenue North and an eastbound bike lane on the south side of NP Avenue. The bike lanes were placed on the right side of the one-way pairs to provide a smooth transition at the eastern and western ends of the project. If placed on the left side of the one-way streets, the bike lanes would terminate against oncoming traffic at the eastern and western ends of the project. The right-side bike lanes provide the opportunity for the rider continue with the flow of traffic.

With the addition of the bike lane, each of the improvement alternatives provides an opportunity for the bicyclist to use the bike lane a mode of transportation.

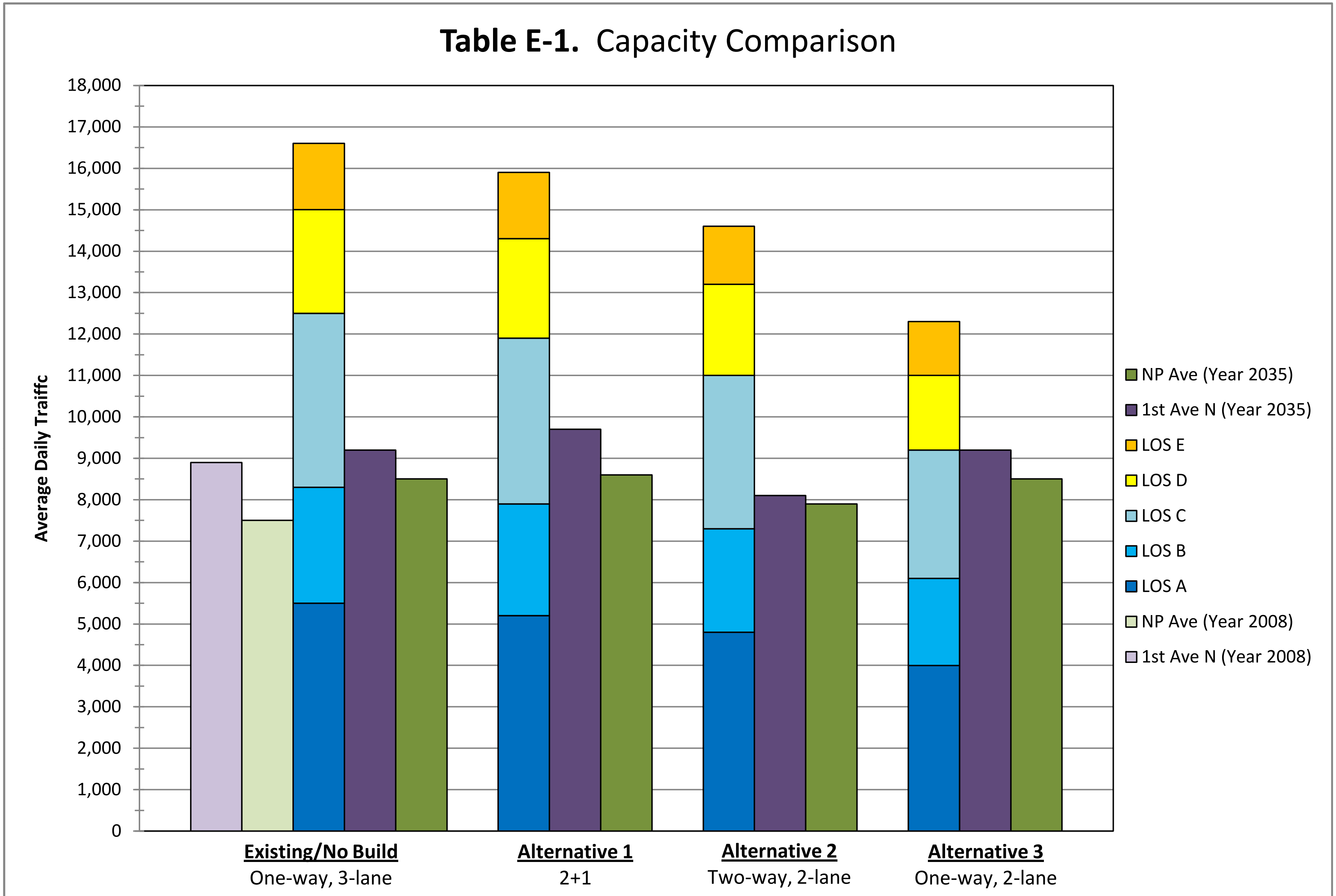
Accommodation of Transit Users

MAT Bus has determined that a two-way conversion will not alter their existing bus routes in downtown Fargo, as previously stated. Since transit users are typically also pedestrian or bicycle travelers, the two-way alternatives, Alternatives 1 and 2 would better accommodate them, as stated previously. However, Alternative 1 has a clear advantage over Alternative 2 because the 2+1 provides a travel lane to allow vehicles to legally pass around a bus stopping to embark/debark riders. Alternative 2, having only one travel lane in each direction, would mean that a bus stopping would temporarily halt the flow of traffic in that lane.

Alternative 1 accommodates transit users better than the other alternatives.

Accommodation of Drivers

None of the alternatives can move traffic as efficiently as the existing, one-way, three-lane system. In fact, the existing configuration is underutilized. Each of the corridors has a well-timed coordinated signal system that provides excess capacity resulting in very good levels of service. Each alternative proposes a reduction in capacity on NP Avenue and 1st Avenue North; however, reducing the capacity of those streets only slightly worsens the overall traffic operation. Capacity of a roadway section is based on studies and research completed by the Transportation Research Board (TRB) and the National Cooperative Highway Research Program (NCHRP). **Table E-1** provides a summary of the existing capacity for a 3- lane one-way roadway section compared the proposed alternatives. As illustrated in the table, each of the alternatives, including the no build option, are expected to operate with a Level of Service C or better based on the amount of available capacity for the roadway section type. **Chapter 2,** the Alternatives Development and Analysis section, provides a summary of the detailed capacity analysis of the corridors during the peak commuter traffic periods. The capacity analyses revealed that each of the study intersections, in each alternative, are expected to operate with a Level of Service C or better during the peak morning and afternoon commuter periods.



Source: Alfred Benesch & Company, calculations from *NCHRP 365*, Chapter 10.
Capacities based on signalization set to high priority with high turns, parking on both sides.
Existing and future ADT volumes provided by Metro COG.

As opposed to comparing intangible concepts like level of service and delay, perhaps a more fruitful basis of comparison of the alternatives would be travel time, i.e., the length of time it would take a driver to go from 2nd Street to University Drive (or vice versa) on each of the arterials: 1st Avenue North, NP Avenue, and Main Avenue. Using SimTraffic simulation software, the future year PM peak hour scenarios were simulated in order to compare arterial travel time. The result is that, for any alternative, there is no significant change in travel time. The travel times computed in SimTraffic for each arterial under the future No Build conditions are approximately 4 minutes; the travel times for any alternative will not increase (i.e., worsen) more than one minute. There will be slight increases in travel times on Main Avenue due to traffic volumes shifting south to utilize Main Avenue, but again, the increase in travel time is slight, approximately 30 seconds.

Any disadvantage in increased delay and travel time for converting NP Avenue and 1st Avenue North to two-way traffic is made up by decreasing the amount of indirect travel experienced in a one-way system. For example, consider destination of the parking lot on the south side of NP Avenue between Broadway and 8th Street North. If one is traveling from south of downtown on 6th Street South and wishes to park in that parking lot, there are two routes today: first, to take Main Avenue to 8th Street to NP Avenue, or second, to take Broadway to 1st Avenue North to Roberts Street to NP Avenue. In either case, there are at least two blocks of indirect travel. If NP Avenue was two-way, however, the shortest available trip is possible: Broadway to NP Avenue. Two-way traffic on NP Avenue and 1st Avenue North is more advantageous to drivers than a one-way system.

Comparing the two-way alternatives, Alternative 1 is much better than Alternative 2. Keeping two lanes of the existing three lanes in either direction enable the prevailing flow to remain on NP Avenue and 1st Avenue North. While the goals of this study are not exclusive to traffic operations, a consideration of traffic operations into the whole study would suggest that Alternative 1 is the best alternative for drivers.

In terms of accommodating all travelers, each alternative has its own strengths and weaknesses. Overall, the alternative with the potential to best accommodate all travelers is Alternative 1, the 2+1.

Freight Deliveries

Alfred Benesch & Company hosted a Freight Workshop May 25, 2010. Due to the lack of turn out, the study teamed reached to the members willing to meet in person. From the meetings with business owners, there were no freight issues that could not be resolved with a potential solution. A summary of the freight meetings will be located in the appendix of the study.

Design and Safety Features

Improving the Physical Health of Individuals

Creating more walkable, complete streets, which permits safe movement of all travelers, can increase the physical health of individuals. Features such as improved sidewalks and bike lanes allow people to not have to rely so heavily on a personally-owned vehicle for transportation. Slowing speeds of automobiles can reduce the severity of crashes, particularly automobile-pedestrian or automobile-bicycle crashes.

Alternatives 1 and 2 can better improve the physical health of individuals by providing a reduction of travel speeds along NP Avenue and 1st Avenue North.

Improving the Environmental Quality of the Community

More green space, especially in a downtown location, can greatly improve the environmental quality of a community. Generally speaking, streetscaping features would be part of the final design of any alternative. Particularly with the two-way alternatives, changing the geometry of the NP Avenue & Roberts Street/8th Street intersection allows for enlargement of Ole Tangen Triangle Park.

Each of the alternatives provide an improvement to the environmental quality of the community when compared the existing conditions.

Further Increasing Opportunities for Development

As shown in the corridor economics analysis, two-way traffic will provide a significant, positive economic impact to the Downtown Fargo area that will provide for more opportunities for development compared to the existing configuration. This is the main factor that differentiates the two-way alternatives from the one-way alternatives.

Economic Analysis

Richard Caplan and Associates provided a very detailed study of the economic analysis. The analysis included review of other cities across the United States that have recently converted from one way streets to two way streets. Cities included in the analysis were Des Moines, IA, Fort Collins, CO, Lafayette, IN, Vancouver, WA, and Austin, TX. The economic analysis provided a comparison of the two way streets versus the one way streets and the benefits that can be provided. The increase in revenue for the two way traffic is estimated to be about $15.7 million over 10 years and $92.9 million over 25 years. The one-way alternative is estimated to provide an increase of $5.7 million over 10 years and $33.5 million of 25 years.

Consultant's Recommendation

The traffic operations analysis of each alternative indicates that each alternative will operate with acceptable levels of service. There is no doubt there will be an increase in congestion through the downtown area when compared to the existing condition. As stated before, the purpose of this study was to assess the best alternative to improve access to all modes of travel and encourage development growth. The results of the engineering analyses in the study indicate that one specific alternative does not separate itself from the other two alternatives. The ultimate separating factor is the economic benefit that will develop with the addition of two-way access to each of these corridors.

It is the recommendation of the study team that Alternative 1, the 2+1 configuration, be carried forward for more detailed analysis as the preferred alternative.

Questions Requiring Additional Examination

The study has provided answers to many of the high level planning questions but several specific questions remain unanswered. Typically, a corridor study provides the level of effort to determine possible alternatives to study and how they will compare with each other. The areas of focus for the project have been traffic operation, pedestrian access, bicycle access, economic analysis, and freight access. Given the unique nature of this study and the ramifications of converting a roadway system from one-way to two-way traffic, it is desirable that the following questions be examined and resolved as part of the corridor study:

1. *Disruption to Businesses During Construction*
   The conversion to two-way traffic could be accomplished by modifying the traffic signals, pavement marking, and signage, coupled with a mill and overlay and minimal curb work for the curb extensions. However, the underground utilities downtown are in need of repair and portions of the streets will be fully reconstructed. This underground utility work will happen regardless of the roadway configuration. The level of streetscaping will affect amount of disruption to business. Construction concerns: how will construction be phased? How will business be impacted? How will deliveries be made? How much of the existing sidewalk will be replaced?

2. *Freight and Delivery*
   At the public meeting, members of the public made some comments about how two-way traffic would affect freight operations. The study team met with businesses (identified by the City) that receive freight on 1st Avenue North or NP Avenue. From the meetings with business owners, there were no freight issues that could not be resolved with a potential solution. To expand the discussion of freight delivery impact, should the delivery companies be contacted directly to obtain their input? Can the freight be accommodated with additional loading zones, revised alleys, and modified freight delivery schedules?

3. *Snow Clearance*
   Currently, snow is plowed to the center lane for immediate pick-up or plowed to the right lane for later pick-up. Given a conversion to two-way streets, how can traffic be accommodated during heavy snow events?

4. *Two-way Traffic on NP Avenue at University Drive*
   Some members of the Study Review Committee are concerned with the safety of the westbound left turn at NP Avenue & University Drive, specifically because the intersection is stop-controlled. Should the westbound left turn be restricted during the peak hours or all day or not at all? Should NP between University and 12th be one-way during peak hours or all day? What is the available intersection sight distance?

5. *Bike Lanes vs. Shared Lanes*
   Some public comments questioned the proposal of the bike lane as opposed to a shared lane. The rationale behind the decision to show bike lanes was based on public input from the cyclist user group at the second public meeting. The avid cyclist may prefer a shared lane but the leisure cyclist would prefer a bike lane. Would providing a shared lane only allow for the removal of the bike lane to increase the lane width of the travel lanes? One reason to use shared lanes would be to maximize the width of the lane

without having to reduce sidewalk widths, in an effort to make the lanes more accommodating for the busses and large trucks to make turning movements. Regardless of which lane configuration is ultimately decided upon, an education piece to the public will be necessary to make sure people understand how the lanes are to be used.

6. *Downtown Circulator*

   All of the proposed alternatives would slightly decrease on-street parking. If MAT Bus starts a downtown circulator route, how can downtown employees be encouraged to use transit to/from the fringe parking lots?

7. *Streetscaping*

   The Study Review Committee has yet to decide what kind of streetscaping and to what extent. The general consensus is to extend the theme of Broadway but there are many options available. To help identify the level of disruption to businesses, the exact amount of streetscaping will need to be determined: will the sidewalks be replaced entirely or just in areas of repair, how will drainage be affected, etc.

8. *Left turns onto Broadway and onto University Drive*

   More traffic analysis will need to be completed to assess the impact (and subsequent mitigation) of left turns onto Broadway from the single lane of the 2+1 on each of 1st and NP. Additionally, the impacts of the NP & University intersection will need to be addressed. Should railroad preemption be used at the intersections along NP Avenue to help traffic flow during railroad crossing blockage?

9. *Lane Widths*

   MAT Bus drivers have expressed concerns about 11ft lanes and being able to pass stopped freight trucks. The 11ft lanes will have to remain one block either side of Broadway (54ft section) but the roadway section could be a little wider outside of that zone, both east and west of Broadway. Are there areas located along the corridor where the lanes can be widened? The roadway widths to date have been examined at a study level. No topographic survey has been completed to date. Survey and preliminary design will help answer the question the roadway widths and how can they be accommodated.

These questions need to be addressed prior to final selection of the preferred alternative by the Study Review Committee. These questions can be answered with more detailed analysis and preliminary design.

Table of Contents

List of Tables

List of Figures

List of Exhibits

Chapter 1: Corridor Needs and Issues

1.1 Introduction

This technical memorandum summarizes the existing configuration analysis performed for the NP Avenue and 1st Avenue North corridor between 2nd Street North and University Drive in Fargo, North Dakota. The existing configuration analysis is comprised of the following elements:

- Traffic analysis
- Safety analysis
- Economic conditions assessment
- Transit conditions assessment
- Streetscape assessment

The characteristics of each element were analyzed according the existing one-way pair configuration. The purpose of conducting existing configuration analyses and assessments for the one-way pair system is two-fold. First, needs and issues are identified which drive the development of alternatives (e.g., two-way conversion) and second, the existing conditions provide a benchmark with which to compare the alternatives. These two points will be expanded upon in later sections of this memorandum. The following section describes the development of the project and its background.

1.1.1 Background

The City of Fargo, in partnership with the Downtown Community Partnership, has recognized the need to preserve and enhance the physical attributes of 1st Avenue North and NP Avenue through a coordinated planning effort. They understand Fargo is an exceptional city with opportunities to improve quality of life for its citizens by enhancing aesthetics and increasing the efficiency of basic infrastructure. These opportunities could also help existing businesses, reduce turnover, and encourage future development along these corridors. The Broadway street improvements and the Main Avenue/Red River bridge replacement are two examples of recent investments that are transforming the downtown into a place where citizens want to work, shop, play, and live.

An important effort in the process of transforming this vital area of the metropolitan area was the completion of the "Fargo – Moorhead Downtown Framework Plan". Updated in 2007, the plan identifies the need to study a Fargo one-way conversion project. In the narrative describing the project it states: "The one-way pair operation of NP Avenue and 1st Ave N moves traffic efficiently, but there is more to consider than only traffic operations. Directness of travel, safety, bicycle and pedestrian movements, and economic vitality are also part of the equation".

The impetus for this statement stems from an ongoing trend that emerged in the 1990s regarding the conversion of downtown one-way pairs (instituted in the 1950s) back to two-way operation. While the one-way pairs did not necessarily suffer poor operations or experience a decrease in traffic volume, two-way streets were thought to increase the appeal of an area. The conversion caused a reduction of speed limits that better suited pedestrians and gave the appearance of a busier street. As a result, some jurisdictions noticed better retail sales, increased property values, a more healthy business climate, and better neighborhoods in general. As a result, the City of

Fargo selected Alfred Benesch & Company (formerly HWS Consulting Group) to conduct a study of 1st Avenue North and NP Avenue to determine the best strategies to encourage development and multimodal transportation on these important corridors. This project will involve transportation planning, traffic engineering, preliminary engineering and design, streetscape concept development, economic analysis (both road user and business development) and public involvement. This technical memorandum is the first of several which will document the study process, subsequent analysis results, public input, and recommendations.

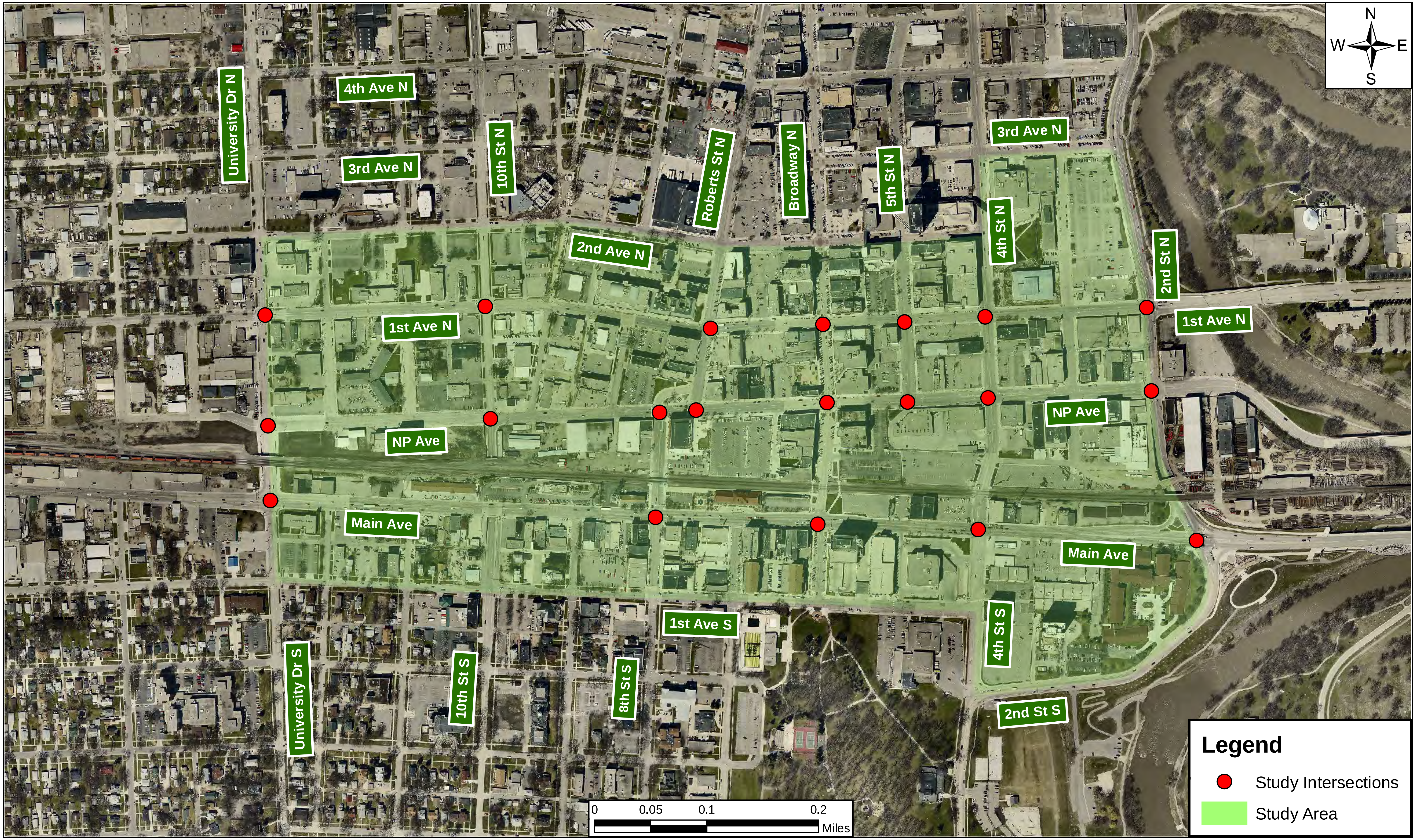
1.2 Traffic Analysis

The traffic analysis evaluated the existing year (year 2008) and year 2035 AM and PM peak hour traffic operations using the existing lane configurations. The purpose of the analysis was to benchmark current and predicted future traffic operations within the study area using the existing one-way pair system. These results will be a portion of the information used to identify potential roadway conversion alternatives within the study area. Eventually, the alternatives that are identified will undergo similar traffic analyses performed for this memorandum. The results of all the analyses will be used to compare the benefits and drawbacks for each roadway configuration.

Table 1 displays the 20 intersections in downtown Fargo that were identified for the traffic analysis (referred to as the "study intersections"). The study area and study intersections are also shown in **Figure 1.**

Table 1. Study Intersections

1st Avenue North & 2nd Street North	NP Avenue & 2nd Street North	Main Avenue & 2nd Street
1st Avenue North & 4th Street North	NP Avenue & 4th Street North	Main Avenue & 4th Street
1st Avenue North & 5th Street North	NP Avenue & 5th Street North	Main Avenue & Broadway
1st Avenue North & Broadway North	NP Avenue & Broadway North	Main Avenue & 8th Street North
1st Avenue North & Roberts Street North	NP Avenue & Roberts Street North	Main Avenue & University Drive
1st Avenue North & 10th Street North	NP Avenue & 8th Street North	
1st Avenue North & University Drive	NP Avenue & 10th Street North	
	NP Avenue & University Drive*	* - unsignalized



NP Ave and 1st Ave North Corridor Development Plan

Fargo, North Dakota

Study Area

Figure 1

1.2.1 Existing Conditions

1.2.1.1 Existing Traffic Volumes

Year 2005 average daily traffic (ADT) volume counts were obtained from the Fargo-Moorhead Metropolitan Council of Governments (Metro COG). Intersection traffic count data and existing traffic signal timings were obtained from the City of Fargo. **Figure 2** displays the existing AM and PM peak hour turning movement volumes, year 2005 ADT, and traffic control. Also displayed in **Figure 2** are "screen lines". Screen lines are a tool used in the study of one-way streets to establish the total amount traffic (in both directions) moving across the screen. The screen line analysis will be used in the development of traffic volumes for two-way alternatives. The screen line in the existing conditions is another method to benchmark the current traffic operations.

Please note, no traffic counts were available for NP Avenue & 5th Street North. The traffic volumes shown in **Figure 2** at this intersection were developed based on the volume distribution at the adjacent intersections.

1.2.1.2 Existing Capacity Analysis

A level of service (LOS) analysis was performed using Synchro Studio 7 software to benchmark the traffic operations at the study intersections with existing lane configurations, existing signal timings, and year 2008 traffic volumes. The levels of service for the study intersections were determined as described in the *2000 Highway Capacity Manual* (HCM). Level of service is a qualitative system of ranking intersection performance using average stop delay per vehicle as the evaluation criteria (expressed as seconds of delay per vehicle, or sec/veh). The HCM LOS rankings are displayed in **Table 2**. For this report, acceptable levels of service were considered LOS C or better for intersections and LOS D or better for individual movements. The HCM reports along with the signal phasing and timing plans are displayed in the **Appendix**.

Table 2. HCM Level of Service

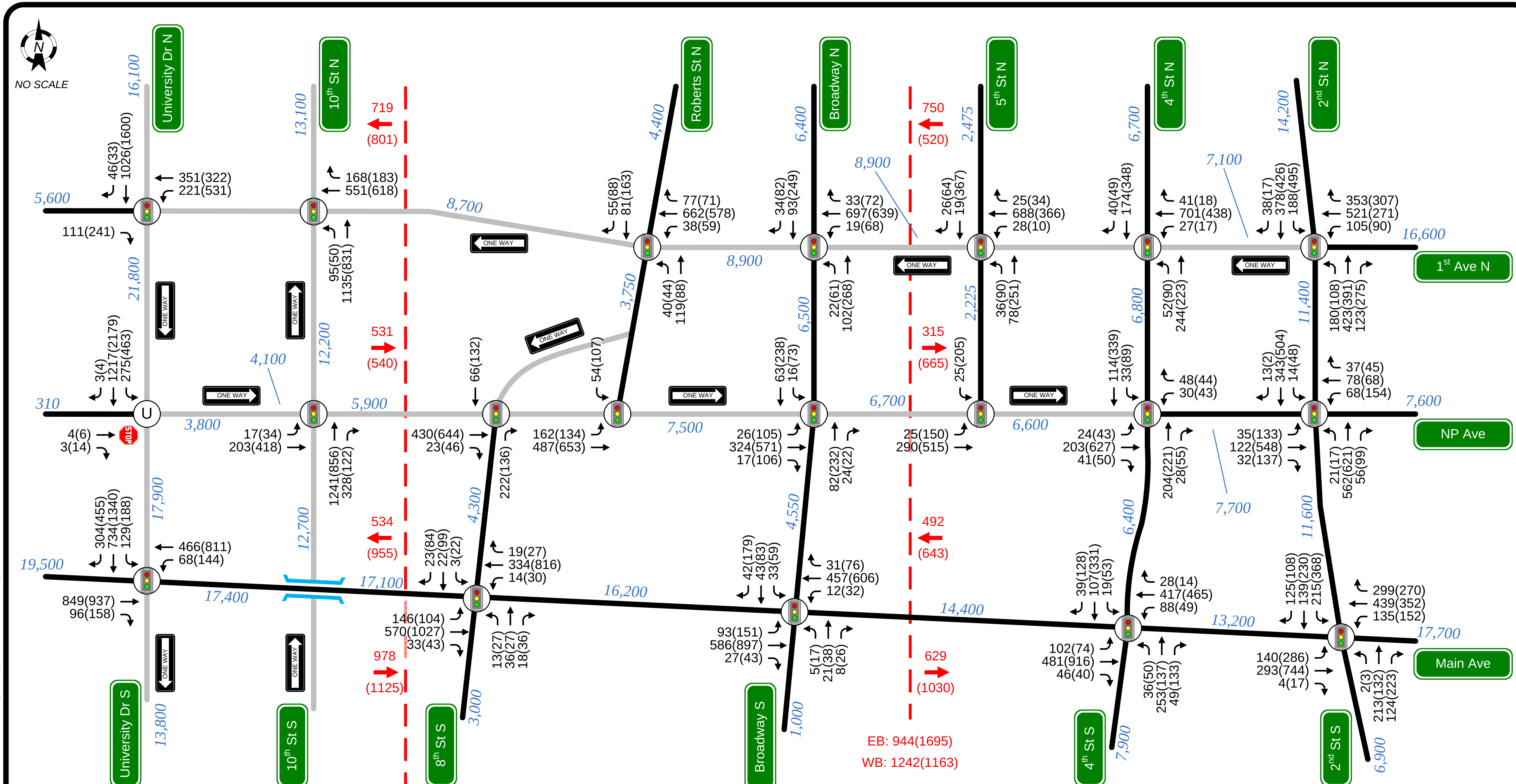
LOS	Average Delay [s/veh]	
	Signalized	Unsignalized
A	≤10	≤10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

The results of the year 2008 LOS analysis are displayed in **Figure 3** and **Figure 4**. The following deficiencies were noted:

- Year 2008 AM
  - NP Avenue & University Drive – eastbound through LOS E
- Year 2008 PM
  - 1st Avenue North & 5th Street North –northbound through/left LOS F
  - NP Avenue & University Drive – eastbound through LOS F
  - Main Avenue & Broadway – southbound right LOS F

At NP Avenue & University Drive, the eastbound through is stop-controlled to cross University Drive, a heavy-volume, southbound one-way street. The eastbound through movement is extremely minor: 4 vehicles in the AM peak hour and 6 vehicles in the PM peak hour. While this situation is not typical, is not uncommon for a minor street approach of an unsignalized intersection to experience poor levels of service during the peak periods due to the limited number of acceptable gaps.

A queue length analysis was also performed for the year 2008 AM and PM peak hours. The 95th percentile queue lengths from Synchro 7 were rounded up to the nearest 25 feet to determine the queue lengths. The AM and PM peak periods were both analyzed; however, only the higher of the two peak period queue lengths was reported. **Figure 3** and **Figure 4** display these queue lengths. The queue length analyses results can be found in the **Appendix**.



Legend

XX	AM Peak Hour Traffic Volume (vph)	------	Screen Line	←	Lane Group		Overpass
(XX)	PM Peak Hour Traffic Volume (vph)	XX	AM Peak Hour Screen Line Volume (vph)		Signalized Intersection		Two-way Roadway
XX,XXX	Year 2005 Average Daily Traffic (vpd) (Obtained from FM COG)	(XX)	PM Peak Hour Screen Line Volume (vph)	U	Unsignalized Intersection		One-way Roadway

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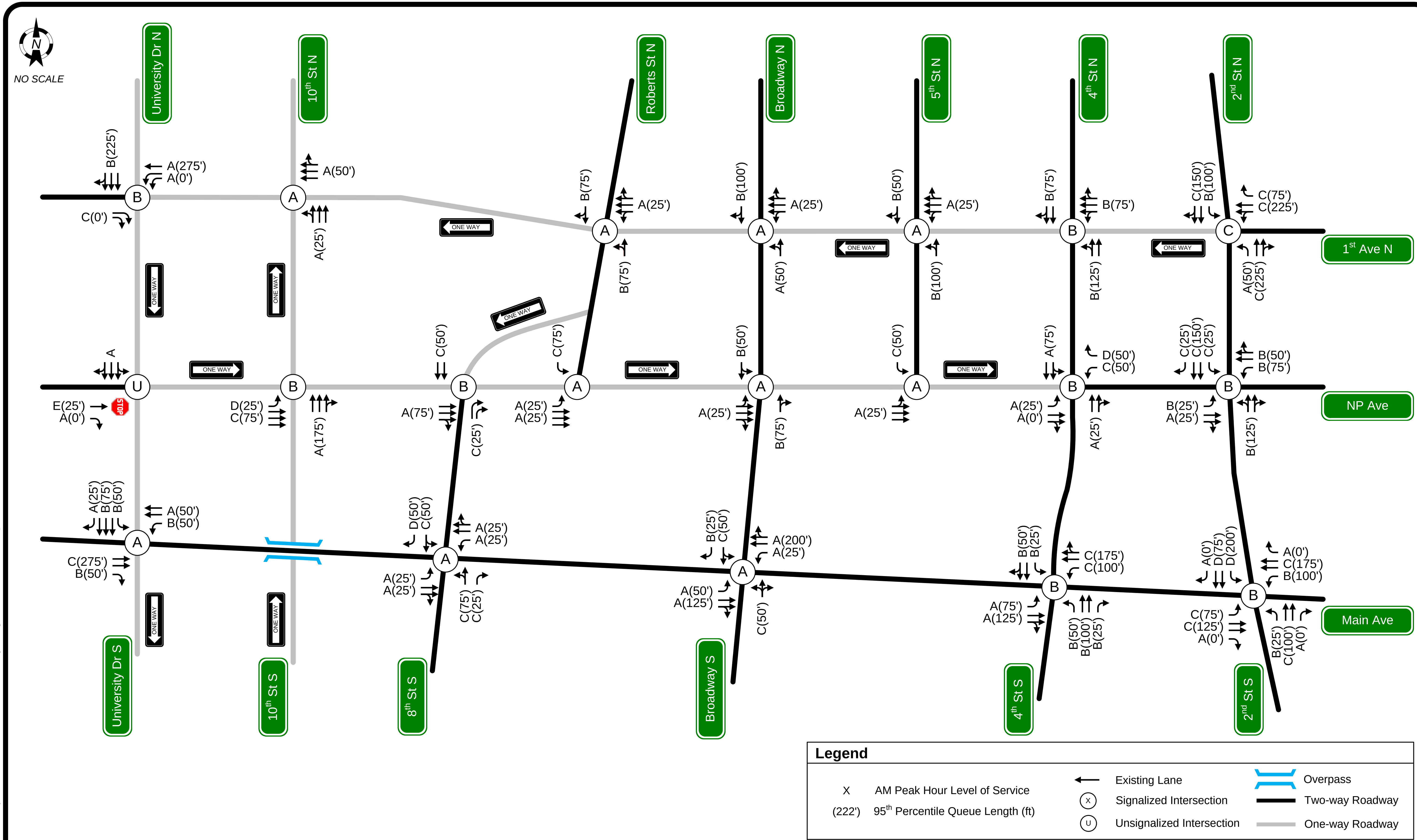
Year 2008

Existing Traffic Volumes

Figure 2



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Year 2008

Existing AM Level of Service and Queue Length

Figure 3

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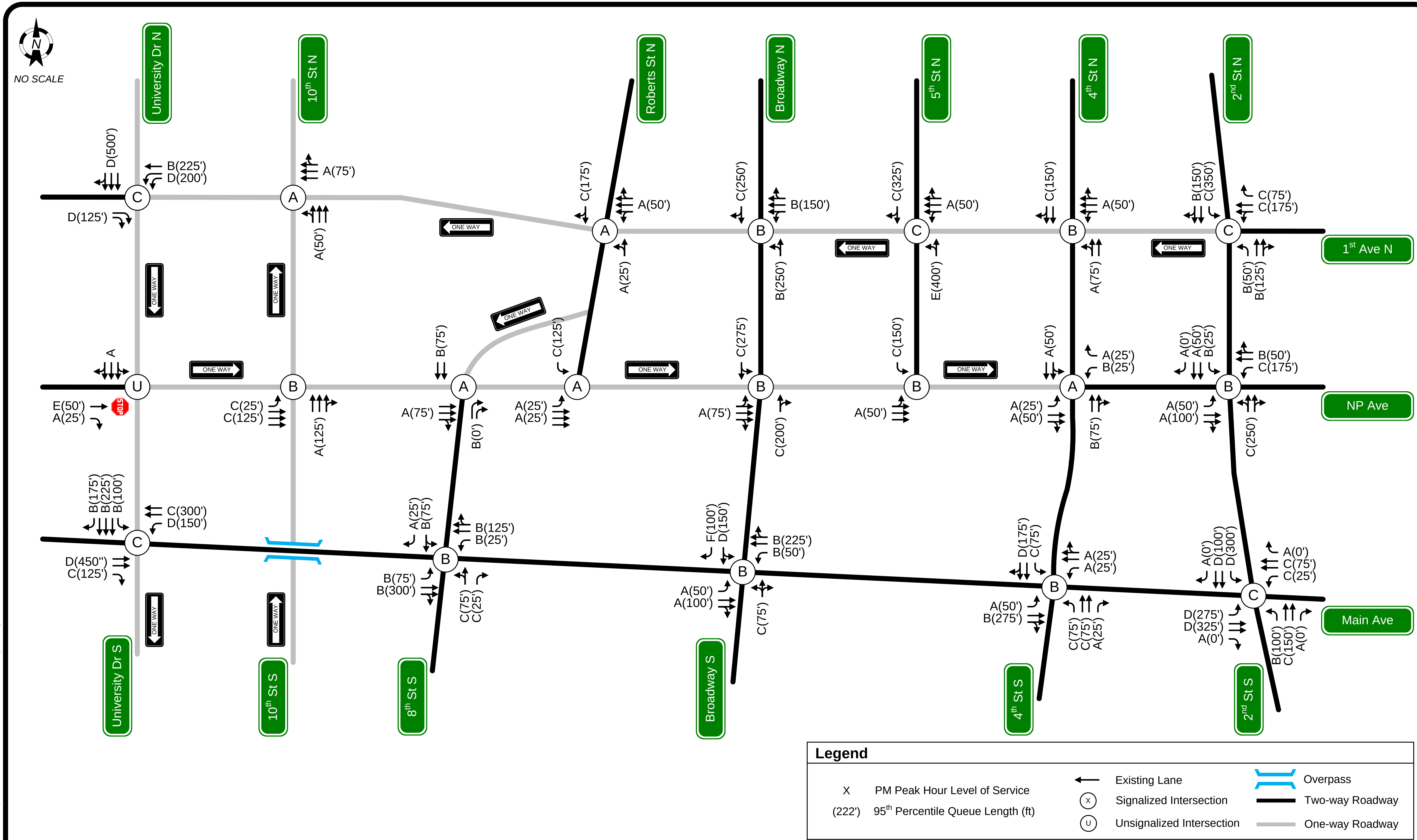

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Year 2008

Existing PM Level of Service and Queue Length

Figure 4

1.2.2 Future Conditions

1.2.2.1 Future Traffic Volumes

The Advanced Traffic Analysis Center (ATAC) at North Dakota State University (NDSU) and Metro COG provided year 2035 ADT volume projections. These ADT volumes, along with existing traffic characteristics and engineering judgment, were used to develop year 2035 peak hour traffic volumes at each of the study intersections. **Figure 5** displays year 2035 ADT, AM and PM peak hour turning movement volumes, and future year screen line.

Please note, through discussions with ATAC and Metro COG, changes were made to the current year 2035 travel demand model (TDM):

- The toll bridge at 12th Avenue North was left intact. The current TDM made the assumption that the toll would be removed by year 2035. However, with no formal plan to remove the toll included in the long-range transportation plan, the decision was made to leave the toll "as-is" in the base year model.
- The two traffic signals at NP Avenue & 8th Street and NP Avenue & Roberts Street were modeled as one signal in the TDM. This is a standard practice for macroscopic modeling two offset T intersections and had not previously been investigated by Metro COG.

1.2.2.2 Future Capacity Analysis

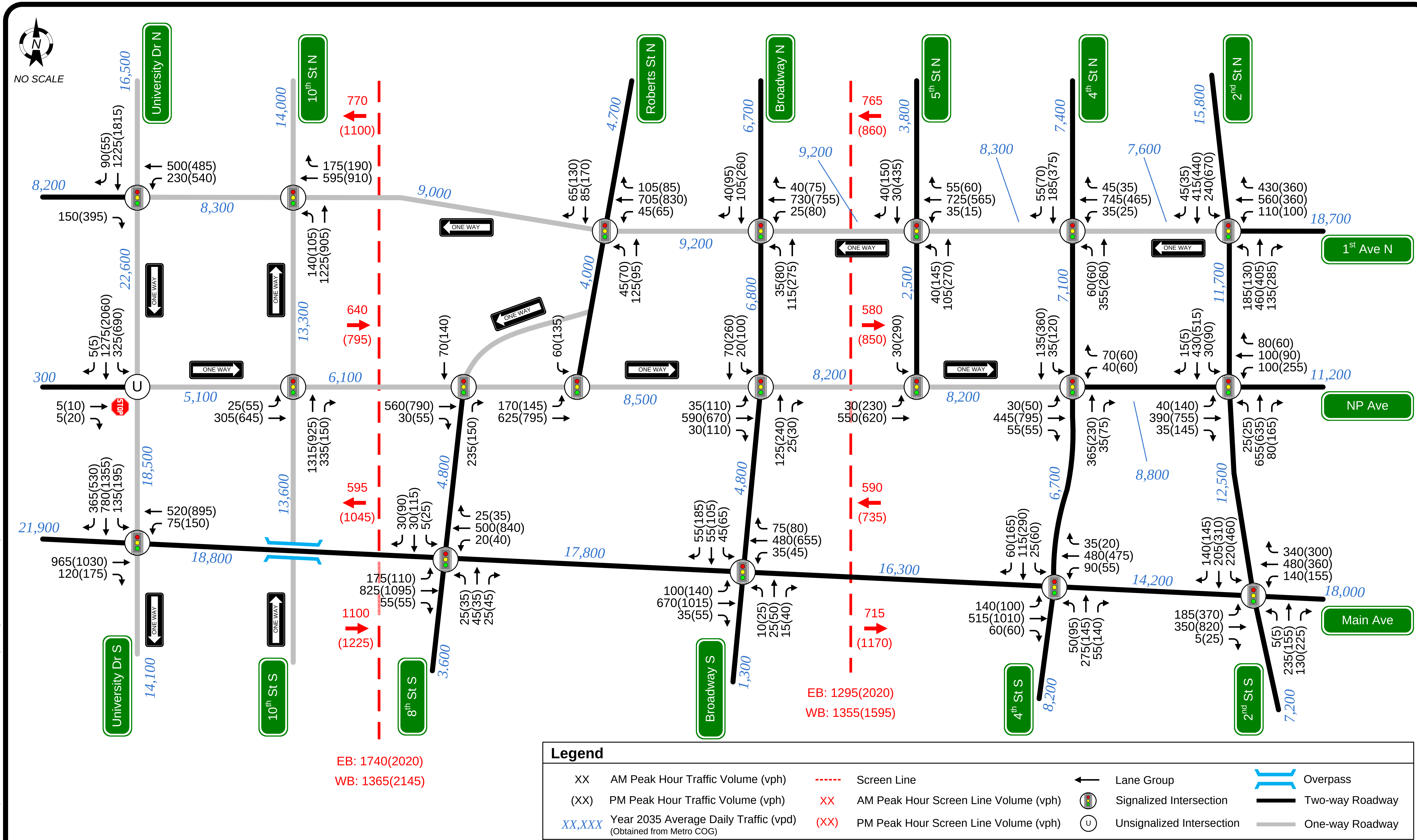
The future year peak hour scenarios were analyzed as described in **Section 1.2.1.2** using the existing lane configurations. The future year traffic signal timings utilized 90-second cycle lengths and the splits and offsets were optimized for year 2035 traffic volumes.

The results of the year 2035 LOS analysis are displayed in **Figure 6** and **Figure 7**. The following deficiencies were noted:

- Year 2035 AM
  - NP Avenue & University Drive – eastbound through LOS F
- Year 2035 PM
  - 1st Avenue North & 2nd St North – southbound left LOS F
  - NP Avenue & University Drive – eastbound through LOS F

Please see **Section 1.2.1.2** for discussion of NP Avenue & University Drive. Regarding 1st Avenue North & 2nd Street North, the southbound left turn movement experiences poor LOS due to the volume of turning vehicles. Based on the volume, it is recommended that an additional southbound left turn bay be constructed. See the insets in **Figure 6** and **Figure 7** for the anticipated LOS with an additional turn bay.

A queue length analysis was performed for the year 2035 analysis scenarios using the same methodology described for the existing year analysis (see **Section 1.2.1.2**). **Figure 6** and **Figure 7** displays these queue lengths. The queuing analyses can be found in the **Appendix**.



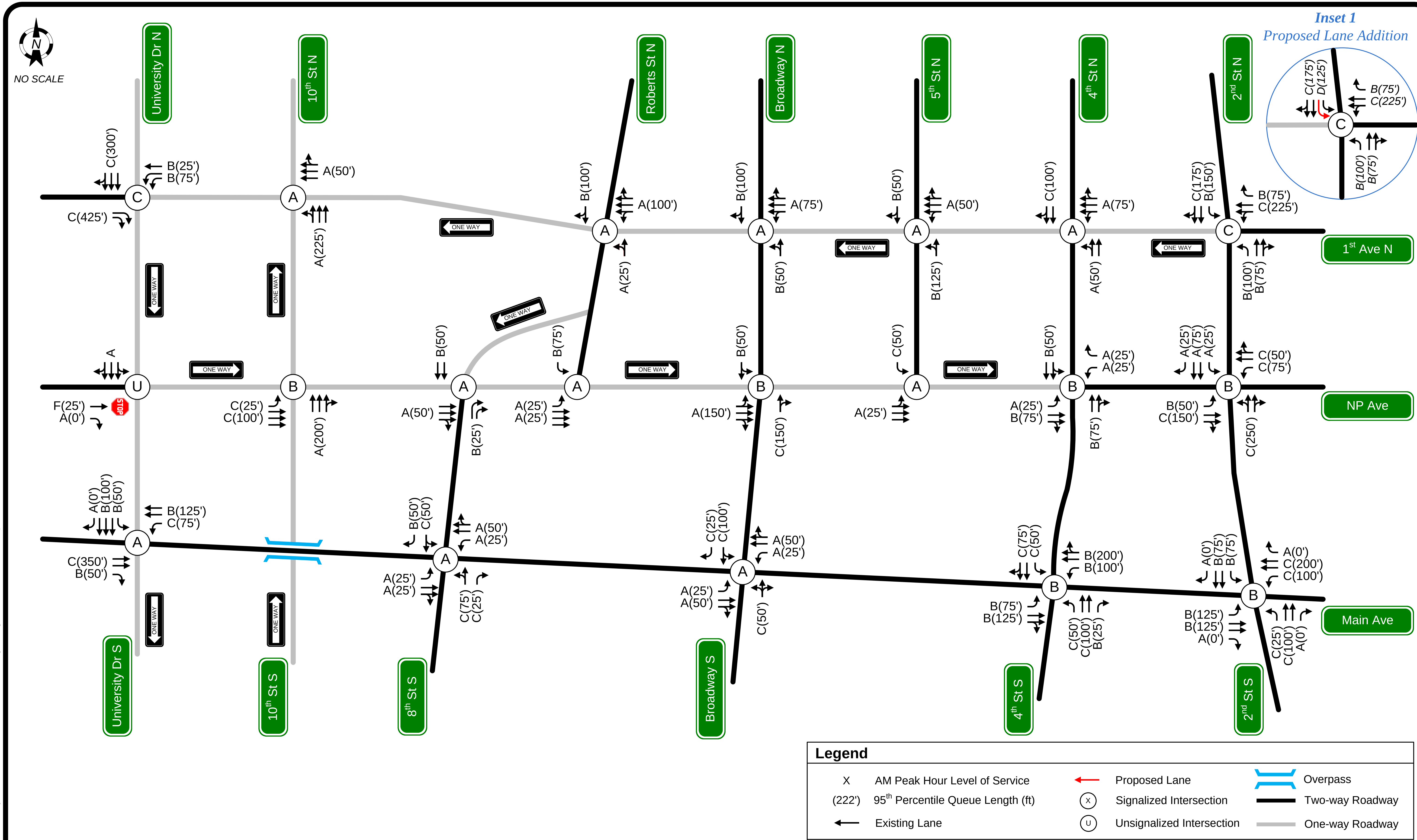
NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

Year 2035

Future Traffic Volumes

Figure 5



NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

benesch engineers · scientists · planners

Year 2035

Future AM Level of Service and Queue Length

Figure 6

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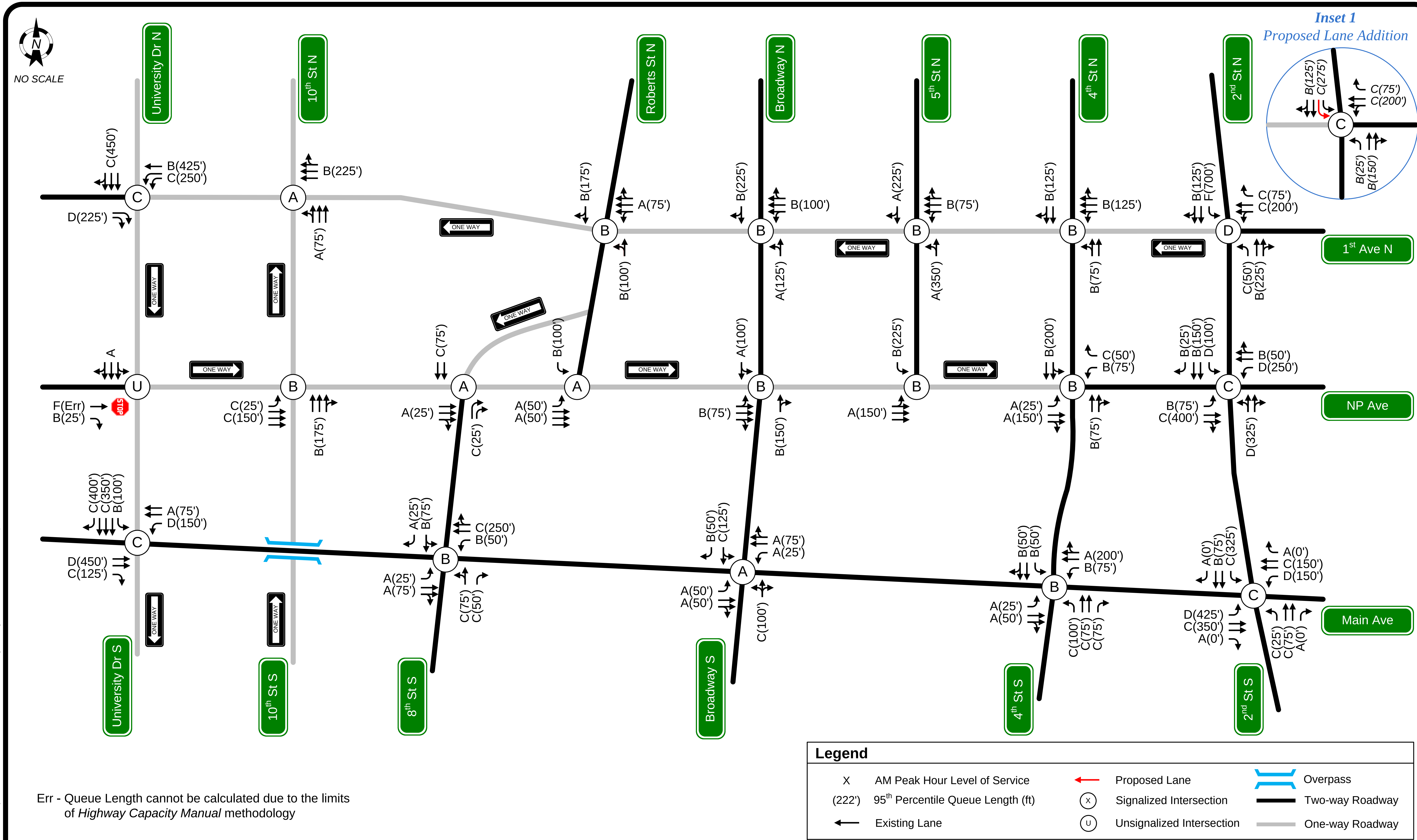


NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

benesch

Year 2035

Future PM Level of Service and Queue Length

Figure 7

1.2.3 Traffic Analysis Conclusions

In general, the deficiencies identified in the year 2008 analysis scenarios are mitigated by the signal timing improvements in the year 2035 scenarios, with the exception of the southbound left turn at 1st Avenue North & 2nd Street North. At this location, a geometric solution (construction of an additional turn bay) should be investigated. For NP Avenue & University Drive, signalization of the intersection is not a viable solution for the poor westbound LOS due to the proximity to Main Avenue & University Drive. Keeping in mind the extremely minor traffic volume on the westbound approach, any benefit to the westbound approach would have a negative effect on many more southbound vehicles. As such, no improvements are recommended to NP Avenue & University Drive.

1.3 Safety Analysis

A cursory safety analysis of the study area (all intersections, not limited to study intersections) was performed using crash data obtained from the North Dakota Department of Transportation. The crash data detailed intersection and midblock crashes in the study area from January 1, 2006, to December 31, 2008 (3 years). Following is a brief overview of the prevalent types and locations of crashes and possible improvements to incorporate into the development of alternatives.

- Right angle crashes occurred at numerous intersections in the study area due to red light running. Consider adjusting the change intervals of the signals or installing advanced warning beacons.
- Right angle crashes occurred at 1st Avenue North & 4th Street North and 1st Avenue North & 5th Street North due to confusion with signals operation in flash mode. Consider removing the flash operation.
- Sideswipes (same direction) occurred along 1st Avenue North at Broadway North, 7th Street North, and 8th Street North due to vehicles attempting to turn left from the center lane. Consider signing/marking improvements.
- Several rear end crashes occurred on Main Avenue between 8th Street and 9th Street due to vehicles attempting to turn into the Mexican Village restaurant. Consider access management such as encouraging other routes into the restaurant's parking lot.

This high-level safety analysis will be used to aid in the development and selection of alternative lane geometries.

1.4 Economic Conditions Assessment

1.4.1 Street Conversion Benchmark Survey

The conversion of one-way streets to two-way traffic across the United States has often been implemented as a means to strengthen a city's downtown economic vitality and stimulate redevelopment. For purposes of projecting the economic impacts such a traffic change would have on Downtown Fargo, five cities that have converted one or more one-way streets in central business districts have been evaluated.

The five benchmark cities were chosen for a combination of reasons, including the fact that the converted streets are located in or provide direct access to each downtown. Like Downtown Fargo, three of these cities (Austin, Texas, Fort Collins, Colorado, and Lafayette, Indiana) also have a university or university-related facility located in or near downtown. The median 2008 population of these five cities is 163,186 persons ranging from 64,049 to 757,688, large enough in size to provide a meaningful amount of downtown economic development activity and data for this survey.

An overview of the cities, 2008 population, year of the street conversion project, street(s) converted from one-way to two-way, and length of the conversion project is displayed in **Table 3**.

Table 3. Benchmark Survey of Recent Downtown with Street Conversions

City (2008 Population)	Street(s) Converted from One-Way to Two-Way	Major Access to / from Downtown	Length of Street Conversion	Year of Street Conversion
Austin, Texas (757,688)	Cesar Chavez Street	No	5 blocks	2008
Des Moines, IA (197,093)	Court and Walnut Avenues and Locust Street	No	3 to 4 blocks each	2006
Fort Collins, CO (136,569)	Mason and Howes Streets	Yes	1+ mile	2009
Lafayette, IN (64,049)	Main Street	Yes	9 blocks	1994
Vancouver, WA (163,186)	Broadway	Yes	7 to 8 blocks each	2007
	Main Street			2008
	"C" Street			2009

Source: U.S. Census; City of Austin Downtown Master Plan; Downtown Des Moines Community Alliance; City of Fort Collins Planning Department; Lafayette Downtown, Lafayette Chamber of Commerce; Vancouver Chamber of Commerce; City of Vancouver.

Since every city's downtown is unique, it is important to appreciate each downtown's economic condition and the context in which the one-way to two-way street conversion project was implemented. The five downtowns evaluated on behalf of this study for Downtown Fargo varied in the degree of economic vitality – from a dynamic central business district with a mix of office, government entities, retail, lodging, and residential development such as Austin, Texas, to a city seeking to reinvigorate its downtown with new public investment, such as Vancouver, Washington.

For the purposes of presenting the economic impacts in this survey, each downtown has been categorized within four economic conditions on a scale ranging from a stagnant economic situation to a diverse and vibrant economic condition as follows:

1. Stagnant Downtown – A city with aging downtown conditions with little or no active public or private investment occurring. Absent public or private investment, a downtown often begins to decline, evidenced in many forms but most notably a central business district with increasing office and retail building vacancy, under-utilized buildings, poorly maintained properties, etc. None of these surveyed cities fit this condition.

2. Major New Public Investment – Once decline has been publicly recognized, the most common and ultimate response by the community, especially the local elected officials, is to invest new public dollars. This investment takes many forms but often reflects a new city or county office building, a new art, cultural, or sports facility, and often incorporates streetscape improvements to enhance the area's appearance. These public investments are commonly accompanied by tax incentives to attract private investment.

3. Major New Private Investment – In many downtowns, once the private sector witnesses major public reinvest in a downtown, the private sector becomes receptive to reinvestment and is often lured, in part, by tax or other financial incentives. New private investment then begins and serves to transition an older downtown back to its former role as an active central business district.

4. Vibrant Downtown – A vibrant downtown reflects a successful mix of land uses and activity weekdays and weekends, daytime and evenings. It is the place that residents, workers and visitors seek out to serve a variety of community services, activities, and special events. The downtown "works" and competes with or exceeds other commercial, employment, and cultural districts in the city or region.

Figure 8 displays the life cycle continuum experience in most of America's downtowns. These ranges serve to put the findings of this two-way street conversion benchmark survey in their proper context and better appreciate the economic impacts of the each city's street conversion project.

Figure 8. Downtown Economic Life Continuum

The five cities evaluated for this street conversion benchmark survey are currently categorized in their economic lives as displayed in **Table 4**. These assessments are the result of a combination of assessment of local economic indicators, recently published data and reports, and interviews with local officials and members of the respective business community.

Table 4. Economic Overview / Status of Surveyed Downtowns

Stagnant Downtown	Major New Public Investment	Major New Private Investment	Vibrant Downtown
			Austin, TX
		Des Moines, IA	
	Fort Collins, CO >>		
		Lafayette, IN	
	Vancouver, WA >>		

Each city and major indicators associated with three commonly stated objectives:

- Improve traffic and/or public transit, new bike lanes, wider sidewalks, etc;
- Support and/or stimulate public and private development and redevelopment;
- Directly increase revenues to the city and/or downtown property owners.

The timing of each two-way street conversion project varies among the five downtowns. Although all five cities have seen favorable economic outcomes from the street conversion projects, it is noteworthy that:

- Lafayette, Indiana's street conversion preceded downtown redevelopment;
- Fort Collins, Colorado's street conversion is intended to stimulate further redevelopment on the corridor;
- Austin, Des Moines, and Vancouver's street conversion projects occurred as downtown redevelopment was actively underway.

A recent independent study by researchers at Iowa State University on behalf of the City of Des Moines concerning the conversion of streets in Downtown Des Moines concluded that…

> *"The issue of evaluating [conversion of streets to two-way] is somewhat a question of which came first, the development stimulated a change to traffic patterns or improved traffic patterns accelerated development."*

The following narrative provides a comparative assessment of the major and direct economic impacts and role the two-way street conversion played in the city's downtown redevelopment effort. **Table 5** reflects the changes and relative importance identified as a result of the recent street conversion in each downtown. The results of this evaluation are ranked and reflected by the following informal scoring system based on the data gathered and interviews conducted:

√√ = Significant increase (2 points towards total overall ranking tally)
√ = Increase (counts for 1 point)
0 = No change or limited measurable change occurring (counts as 0 points).

Table 5. Summary of Street Conversion Objectives and Economic Impacts

Objective / Impact	Austin, TX	Des Moines, IA	Fort Collins, CO	Lafayette, IN	Vancouver, WA	Total / Overall Ranking
1. Enhance Traffic and/or Transportation Systems . . .						
Improved auto access / Traffic flow	0	√√	√√	√√	√	**7**
Improved Public Transit System Use	0	0	√√	√	√	**4**
Added Bicycle Lanes	√√	0	√	0	0	**3**
Widen Sidewalks	√√	0	√	0	0	**3**
2. Support Redevelopment / Stimulate New Development . . .						
New Offices Built	√√	√√	0	√	√	**6**
Added Residential Units	√√	0	√√	√	√	**6**
New Retailers	√	√	√	√	0	**5**
New Hotel / Lodging	0	√√	0	0	√	**3**
New Public Buildings / Parks	City hall; Library planned	Parking garage	0	0	Parking garage	**3**
Significant amount of Redevelopment	√√	√√	√	√	√√	**8**
3. Direct Economic Indicators . . .						
Increased Property Values / Taxes	√√	√√	√√	0	0	**6**
Increased number of Residential Units	√√	0	√√	0	√√	**6**
Increases Local Sales Taxes	√	√	√	√	√	**5**
Increases Retail Occupancy	√	√	√	√	√	**5**
Increases Office Occupancy	√	√√	0	√	√	**5**
Increased Office Rental Rates	√	√	0	√	0	**3**
Increased number of Hotel Rooms	0	√√	0	0	√	**3**

Detailed descriptions of the five downtowns, the two-way street conversion projects and the subsequent economic development impacts from the projects are presented in the following pages.

1.4.2 Benchmark City Survey Findings

1.4.2.1 Austin, Texas - Cesar Chavez Street

Cesar Chavez Street is a major artery that bisects Downtown Austin. Downtown Austin has been experiencing a significant amount of new private investment since 2004. This includes constructing a new Austin City Hall three blocks from the recent two-way street conversion project.

Construction to convert Cesar Chavez Street from one-way street through part of Downtown to two-way was completed in 2008. The total project cost was $6.8 million. The urban design elements for the conversion project were developed based on input from stakeholders as well as the vision contained in the Comprehensive Plan and the Great Streets Master Plan.

The urban enhancements included an expanded 15 to 32 foot wide esplanade on the one side of Cesar Chavez Street. New benches, trash receptacles, and a water fountain were included. The project also incorporated storm sewer improvements, water, wastewater, electric, gas, and telecommunications adjustments prior to the roadway widening and addition of turn lanes at three intersections to enable the conversion of Cesar Chavez Street to two-way vehicle traffic.

Major private projects currently under construction on Cesar Chavez Street include a residential project with 294 apartments and 185 condominiums plus 22,000 square feet of retail, 11,000 square feet of office, and a 5,000 square foot restaurant. Also under construction is a high rise tower that includes 258 rental units and ground floor retail space. The city is also planning a new central library with 250,000 square foot library on Cesar Chavez Street just beyond where the street conversion occurred.

A closed power plant on Cesar Chavez Street is planned for redevelopment. The Seaholm Power Plant will be redeveloped into a mixed-use attraction. Once complete, the site will feature a mix of office space, local retail shops, condos, a boutique hotel, a special event space, and an outdoor terrace that overlooking adjacent Town Lake, a major Downtown amenity and recreation attraction.

Residential, office and retail rental rates have been increasing throughout Downtown Austin, including the spaces offered for lease along Cesar Chavez Street. In the last 12 months since the completion of the two-way street conversion, the average annual rental rates per square foot for Austin’s office space declined slightly from 2008 to the first quarter of 2009. However, the largest decline in office rental rates took place in suburban markets while the Central Business District, which includes Cesar Chavez Street, actually saw a slight increase in rental rates. In conclusion, the conversion of Cesar Chavez Street gave further momentum to an already actively redeveloping section of the city’s downtown.

1.4.2.2 Des Moines, Iowa - Court Avenue, Walnut Avenue, Locust Street

Over the past five years, Downtown Des Moines has seen more than $2.75 billion invested in public and private capital projects. Downtown Des Moines Central Business District converted portions of three streets from one-way to two-way: Court Avenue, Walnut Avenue, and Locust Street. These three streets do not serve as commuter routes to the city's Central Business District section of downtown. In addition to seeking to improve local traffic patterns, a prime objective of the streets' conversions was to improve access and visibility to the streets retail establishments.

Several of the new office buildings and a major hotel renovation are located on or abutting one of the three streets converted to two-way traffic. The city also constructed a new public parking garage that is more efficiently accessed as a result of one of the conversions.

The Des Moines Central Business District absorbed more office space since 2007 than any other sub-market in the greater Des Moines area, adding over 520,000 square feet of new office in the last two years and absorbing over 350,000 square feet of office. Downtown Des Moines office vacancy rate increased from 6.2 percent to 7.5 percent due to the large increase in the amount of office supply. Rental rates at the new office buildings are the highest in the city, while the range of office rental rates for space in existing, older office buildings has remained the same for the last three years.

A recent independent study by Iowa State University researchers for the City of Des Moines regarding the conversion project concluded that *"...the issue of evaluating (conversion of streets to two ways) is somewhat a question of which came first, the development stimulated a change to traffic patterns or improved traffic patterns accelerated development."*

Nevertheless, there is no doubt that the three conversions enhanced development in Downtown Des Moines, complementing the new public and private investment and the success that the Central Business District is experiencing.

1.4.2.3 Fort Collins, Colorado - Mason and Howe Streets

The Mason Street Corridor is a major north-south byway within the City of Fort Collins that connects Downtown Fort Collins to Colorado State University approximately one mile from Downtown. Mason Street and Howe Street, a parallel street to Mason Street, are currently being converted from one-way to two-way to include a new bicycle and pedestrian trail as well as a planned bus rapid transit system in a fixed guide way for the majority of the two+ mile corridor.

Mason and Howe Streets include a variety of conditions ranging from mature downtown office and retail buildings to relatively new larger format retailers. More than 20 percent of the land along the Mason Street corridor is exempt, including a combination of city, county and university buildings. Approximately 100 residential units have been recently completed with over 350 additional units either under construction or proposed for the corridor area. Several vacant parcels along Mason Street have been targeted for new development opportunities.

The conversion of Mason and Howe Streets to two-way traffic is an element of the Mason Corridor Master Plan adopted in 2000 and in the Downtown Strategic Plan adopted in 2004. According to these plans, the conversion to two-way operation is designed to *"increase operational efficient for the bus system as well as improve overall downtown access, mobility and circulation for automobile users and bicyclists."*

Downtown Fort Collins has recently begun to experience redevelopment, primarily through higher density, infill condominium projects. Eleven for sale, residential construction projects have been completed in the last few years with additional residential units proposed for the Mason Street corridor.

An independent economic analysis of the proposed street conversion project by an economic consultant on behalf of the city in 2007 concluded that the conversion will stimulate further redevelopment that has been occurring and actively planned along the Mason Street corridor in Downtown Fort Collins, tripling the amount of new retail development in the next five years (See **Table 6**).

The study further stated that the Mason Street corridor conversion is designed to provide another amenity: expanding the attractiveness of Downtown Fort Collins by providing the area with improved access to regional destinations. **Table 6** displays the estimated economic impacts from the conversion project over the next 10 years, based on recent and planned redevelopment projects along the Mason Street corridor.

Table 6. Mason Street Corridor Property Tax and Retail Development Projected Growth

Property Tax Source	Existing / Pre-Conversion	Short Term (Years 1 - 5)	Mid Term (Years 6 - 10)	Net Increase Years 1 – 10 / Percent Change	
Residential	$120,500	$621,500	$1,154,500	$1,034,000	858%
Retail	$3,500	$18,500	$34,000	$30,500	871%
Office	$3,000	$33,000	$63,000	$60,000	2000%
Total Property Taxes	**$127,000**	**$673,000**	**$1,251,500**	**$1,124,500**	**885%**
Retail Square Feet	12,500 square feet	37,500 square feet	87,500 square feet	75,000 square feet	600%

Source: Mason Street Corridor Economic Analysis 2007.

In summary, the Mason Street corridor conversion, like Austin and Des Moines, significantly complements the redevelopment and private reinvestment that has been occurring in Downtown Fort Collins.

1.4.2.4 Lafayette, Indiana – Main Street

Downtown Lafayette contains many turn-of-the-century architectural landmarks, historic neighborhoods, and public areas. The area is considered the heart of the community with a wide range of retail shops, boutique shops, a bed and breakfast inn, restaurants, professional service providers, public services, and community festivities. There are no chain retail stores in Downtown Lafayette; Lafayette is home to Purdue University.

Main Street is less than one mile in length and is characterized mostly by specialty shops and offices. Lafayette's Main Street Program earned the Indiana and national Main Street's highest distinction in 2007 for its rehabilitation projects. The city operates a free downtown shuttle which carried more than 340,000 passengers in 2007.

Main Street in Downtown Lafayette was converted from one-way to two-way traffic in 1994. Main Street had been a couplet with a parallel street (Columbia Street). After the conversion, the adjoining Columbia Street remained one-way and was paired with another street. Main Street's conversion was a part of a major transportation program relocating railroad tracks from the Downtown and creating grade separations which enabled redevelopment to occur.

The conversion of Main Street from 4th to 11th Streets was a "very big plus to retail" according to the Lafayette Redevelopment Director, Dennis Carson. Main Street has better specialty shopping than elsewhere in the region. Lafayette Chamber of Commerce and city officials direct specialty retail prospects to downtown and actively encourage destination uses. Downtown is now the first place specialty stores look for retail space.

Downtown also is a growing residential hub. Recently completed construction of one full block of Main Street included a $25 million three-building complex that included five-story retail/ residential condominium building with 18,500 square feet of retail space, 36 residences, as well as a 140,000 square foot office building.

Commercial lease rates downtown range from $10.00 per square foot for storefront and older properties to $15.00 per square foot and $16.00 per square foot at newer properties. Commercial lease rates elsewhere in Lafayette range from $10.00 to $20.00 per square foot.

Of 300,000 square feet of office space in downtown Lafayette, the estimated office vacancy rate is approximately 20 percent. This high vacancy rate is attributable, in part, to the fact that almost one-half of the vacant space has been built in the last three years. Downtown Lafayette is doing better in the current economic downturn than retail elsewhere in the city according to Lafayette city and chamber officials.

In summary, although the Main Street conversion project was motivated by a need to enhance safety, automobile circulation and create sites for redevelopment to occur, Downtown Lafayette has enjoyed continued redevelopment and attracted specialty retailers along the Main Street since the two-way conversion was completed.

1.4.2.5 Vancouver, Washington - Broadway, Main and "C" Streets

In Summer 2007, Broadway in Downtown Vancouver was the first of three streets to be converted from one-way to two-way traffic from 6th to 15th Streets. The conversion project also included modification or removal of traffic islands, modification of traffic signals, and the addition of bus stops. The Main Street streetscape project carried out as a part of the street's conversion was primarily an economic development project. Improvements to the street environment were envisioned as a catalyst for retail revitalization along the three streets and corridor connecting Downtown Vancouver to the Interstate Highway.

The redevelopment and revitalization of Downtown Vancouver began in 1997. The major reconstruction effort and traffic pattern changes are viewed by city officials as important steps in support of the long-term economic vision for Downtown Vancouver.

Goals in the master plan include improving mobility and linkages that optimize accessibility within downtown Vancouver and the region. The City has made substantial public investment in the renovation of a large, downtown park and streetscape treatments. It has also partnered with two private developers to provide housing, retail commercial and office space to support the Downtown as a live/work center of financial, government and professional offices, community and entertainment facilities.

Since the master plan's adoption, downtown Vancouver has changed significantly. Vacant buildings have been replaced with upscale residences, retail establishments, and new restaurants and people regularly use Esther Short Park for play, outdoor concerts, festivals, and a farmer's market. The Plan has helped produce almost $236 million in projects that have either been completed or have begun construction:

- 1,010 new residential units
- 540,000 square feet of new commercial space
- 1,474 new jobs attributed to new development
- A new Hilton Hotel and Conference Center
- A new office building for the *Columbian* newspaper.

Several retail businesses along Broadway in downtown Vancouver report an increase of approximately 10 to 20 percent in sales activity since the street's conversion to two-way. Now under construction at Broadway and 6th Street in downtown is a 71,000 square feet of mixed use commercial space with 21 luxury condominiums and a 267 space public parking structure. The project is due to be completed in the third quarter of 2009. There are several other commercial projects actively planned on "C" Street.

Like Downtown Austin and Downtown Des Moines, Downtown Vancouver's two-way street conversions were carried out as an element of a master plan and as redevelopment and new investment was occurring. And like those cities, the two-way street conversion is viewed as enhancing the on-going redevelopment efforts. All of the cities received little or no public opposition to the street conversions, and each downtown has been met with further private reinvestment and new development.

1.4.3 Economic Conditions Assessment Conclusion

In summary***, it is can be reasonably concluded from this survey of other downtown street conversion projects that the conversion of NP and 1st Avenues to two way traffic will have a positive economic impact on existing development and will stimulate further redevelopment in Downtown Fargo.*** The projected economic impacts on Downtown Fargo will be presented in a later phase of this study.

1.5 Transit Conditions Assessment

1.5.1 Transit Service Overview

Downtown Fargo is currently served by Metro Area Transit (MAT) of Fargo and Moorhead. MAT presently operates 23 fixed-routes within the cities of Fargo and West Fargo, North Dakota, and Moorhead, Minnesota. The Cities of Fargo and Moorhead cooperatively manage and fund public transit services. The Cities contract with a private operator, First Transit, who operates the service using a fleet of 29 vehicles that are stored at the Metro Transit Garage (MTG), located at 650 23rd Street North in Fargo. The garage is jointly owned and managed by the two cities. **Figure 9** and **Figure 10** display the Fargo and Moorhead MAT Service, respectively (courtesy MAT Bus).

MAT services are provided six days per week, Monday through Saturday, and generally operate from about 6:00 AM to 7:00 PM at 30 or 60-minute headways. A few routes provide extended service, operating until roughly 10:00 PM. The routes are generally configured as feeders or circulators that link different portions of Fargo or Moorhead to the Ground Transportation Center (GTC) in Downtown Fargo. The GTC is located at 502 NP Avenue. A few routes link outer portions of the MAT service area to major transfer points outside of Downtown Fargo, where customers can transfer to routes that operate to the GTC: Routes 21, 22, and 25 in Fargo, and the 3 and 5 in Moorhead.

Four of the routes operating within Fargo (Routes 31, 32, 34, and 35) function as circulators for the NDSU campus. Route 34 operates year-round on weekdays only, while routes 31 and 32 operate during school days only. The routes generally operate from the early morning through the late afternoon-early evening, except for the Route 35, which provides service from 8:00 PM to 10:00 PM on school days only. The NDSU campus is also served by Route 13, which links the campus to the Downtown GTC. Route 13 provides service from the early morning until roughly 10:00 PM, providing a 15-minute headway during daytime hours on school days. MAT began Route 33 in August 2009 during school days only for NDSU. The route operates from the Memorial Union to University Drive/Centennial Blvd., with approximately 12-minute headways.

The base cash fare for the fixed-route service is $1.25 per one-way trip. In 2008, MAT provided over 1.6 million one-way trips, an increase of approximately 23 percent from the previous year for the fixed-route services. MAT provided approximately 60,000 one-way paratransit trips in 2008. Approximately 70,098 annual revenue service hours were operated in 2008, which is approximately 9 percent more hours than the previous year. The 2009 MAT budget is approximately $5.4 million, an increase of approximately 25 percent from 2008.

Route 31 On-campus circulator

Hours of Service:
7:25 a.m. to 7:51 p.m. - school days only
On 15-minute circulations from 7:25 a.m. to 7:51 p.m.
(Schedule is in minutes after the hour):

1	Departs Minard Pullout	:25	:40	:55	:10
2	Stevens Hall	:27	:42	:57	:12
3	Wallman Wellness Center	:28	:43	:58	:13
4	Candlewood Suites	:30	:45	:00	:15
5	Tech Park	:31	:46	:01	:16
6	Dome Shelter	:32	:47	:02	:17
7	High Rises	:33	:48	:03	:18
8	Loftsgard Hall	:34	:49	:04	:19
9	Shepperd Arena	:35	:50	:05	:20
1	Arrives Minard Pullout	:36	:51	:06	:21

This bus runs during finals week.

Route 32 Near-campus circulator

Hours of Service:
7:25 a.m. to 6:21 p.m. - school days only
On 30-minute circulations from 7:25 a.m. to 6:21 p.m.
(Schedule is in minutes after the hour):

1	Departs Minard Pullout East	:25	:55
2	Residence Dining Center	:27	:57
3	Fargodome	:29	:59
4	Arrives University Village	:32	:02
	Departs University Village	:34	:04
5	Dome Shelter	:36	:06
6	High Rises	:38	:08
7	Minard Pullout West	:41	:11
8	8th Ave. & 14th St.	:45	:15
9	Dakota Dr. & 18th St.	:48	:18
10	Criminal Justice	:49	:19
1	Arrives Minard Pullout East	:51	:21

This bus runs during finals week.

Route 34 On-campus circulator

Hours of Service:
7:44 a.m. to 4:55 p.m. - all weekdays
On 15-minute circulations from 7:44 a.m. to 4:55 p.m.
(Schedule is in minutes after the hour):

1	Departs Memorial Union	:44	:59	:14	:29
2	Reed/Johnson Hall	:47	:02	:17	:32
3	Days Inn	:50	:05	:20	:35
4	Skills & Technology Center	:51	:06	:21	:36
5	Stop-N-Go Center (SGC)	:52	:07	:22	:37
1	Arrives Memorial Union	:55	:10	:25	:40

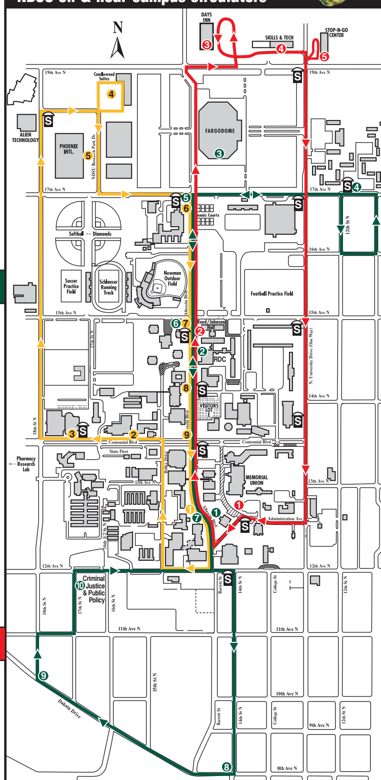
Route 34 does not operate on the following state holidays: New Year's Day, Martin Luther King Day, Presidents' Day, Good Friday, Memorial Day, Fourth of July, Labor Day, Veterans' Day, Thanksgiving Day, and Christmas Day.

This bus runs Monday through Friday year-round.

Indicates bus shelter locations.

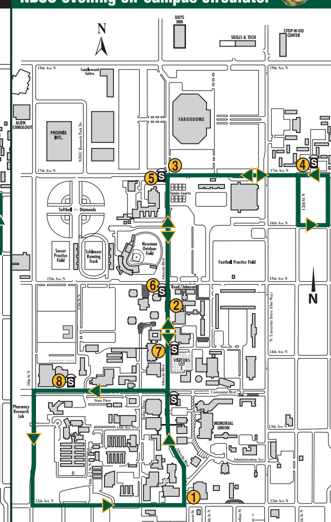
Routes 31, 32 & 34

NDSU on & near-campus circulators



Route 35

NDSU evening on-campus circulator

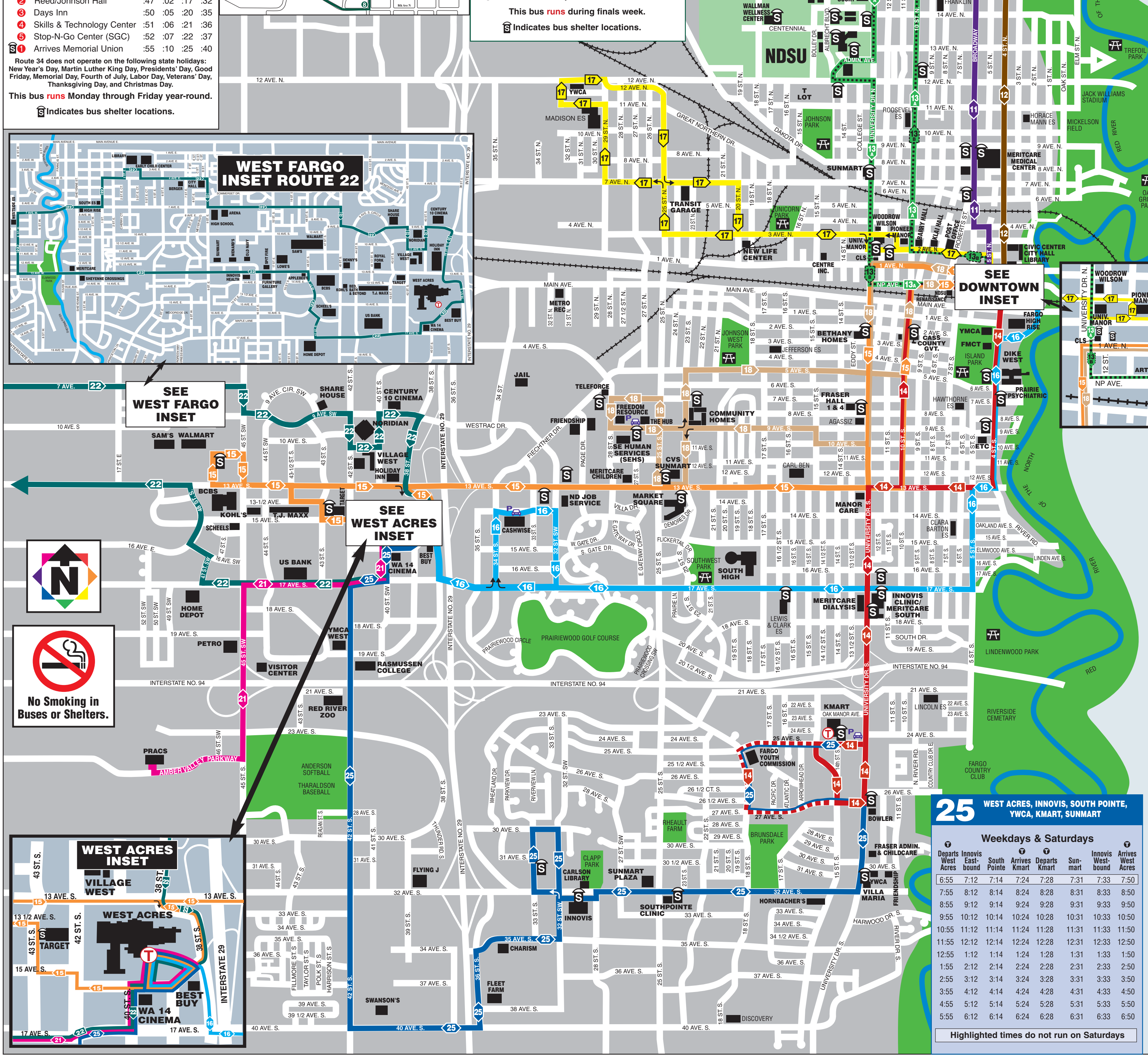


Hours of Service:
8:00 p.m. to 10:07 p.m. — school days only
On 20-minute circulations from 8:00 p.m. to 10:07 p.m.
(Schedule is in minutes after the hour):

1	Departs Library	:00	:20	:40
2	RDC (Residence Dining Center)	:02	:22	:42
3	Fargodome	:04	:24	:44
4	University Village	:07	:27	:47
5	Dome Shelter	:09	:29	:49
6	High Rises	:11	:31	:51
7	Loftsgard Hall	:12	:32	:52
8	Wallman Wellness Center	:13	:33	:53
1	Returns to Library	:16	:36	:56

This bus runs during finals week.

Indicates bus shelter locations.



Park & Ride
Transfer Points
Park
Passenger Shelters
Night Service
GTC Ground Transportation Center

Information:
701.232.7500
www.matbus.com
Please DO NOT call at :15 & :45, as dispatchers may be unavailable.

All times shown are departure times unless otherwise noted. Please allow yourself five extra minutes.

11 MERITCARE, NORTHPORT, TROLLWOOD, MERITCARE

Weekdays & Saturdays

Departs GTC	Merit Care North-bound	North Port North-bound	Troll wood	North Port South-bound	Merit Care South-bound	Arrives GTC
6:15	6:18	6:23	6:25	6:31	6:36	6:40
6:45	6:48	6:53	6:55	7:01	7:06	7:10
7:15	7:18	7:23	7:25	7:31	7:36	7:40
7:45	7:48	7:53	7:55	8:01	8:06	8:10
8:15	8:18	8:23	8:25	8:31	8:36	8:40
8:45	8:48	8:53	8:55	9:01	9:06	9:10
9:15	9:18	9:23	9:25	9:31	9:36	9:40
9:45	9:48	9:53	9:55	10:01	10:06	10:10
10:15	10:18	10:23	10:25	10:31	10:36	10:40
10:45	10:48	10:53	10:55	11:01	11:06	11:10
11:15	11:18	11:23	11:25	11:31	11:36	11:40
11:45	11:48	11:53	11:55	12:01	12:06	12:10
12:15	12:18	12:23	12:25	12:31	12:36	12:40
12:45	12:48	12:53	12:55	1:01	1:06	1:10
1:15	1:18	1:23	1:25	1:31	1:36	1:40
1:45	1:48	1:53	1:55	2:01	2:06	2:10
2:15	2:18	2:23	2:25	2:31	2:36	2:40
2:45	2:48	2:53	2:55	3:01	3:06	3:10
3:15	3:18	3:23	3:25	3:31	3:36	3:40
3:45	3:48	3:53	3:55	4:01	4:06	4:10
4:15	4:18	4:23	4:25	4:31	4:36	4:40
4:45	4:48	4:53	4:55	5:01	5:06	5:10
5:15	5:18	5:23	5:25	5:31	5:36	5:40
5:45	5:48	5:53	5:55	6:01	6:06	6:10
6:15	6:18	6:23	6:25	6:31	6:36	6:40
7:15	7:18	7:23	7:25	7:31	7:36	7:40
8:15	8:18	8:23	8:25	8:31	8:36	8:40
9:15	9:18	9:23	9:25	9:31	9:36	9:40

Highlighted times do not run on Saturdays.

Hourly Service 6:15 p.m. to 9:15 p.m.

12 MERITCARE, VA HOSPITAL, 32 AVE. N., VA HOSPITAL, MERITCARE

Weekdays

Departs GTC	Merit Care North-bound	VA Hospital North-bound	35 Ave. N. & Elm St.	VA Hospital South-bound	Merit Care South-bound	Arrives GTC
6:45	6:48	6:53	6:57	7:02	7:07	7:11
7:45	7:48	7:53	7:57	8:02	8:07	8:11
8:45	8:48	8:53	8:57	9:02	9:07	9:11
9:45	9:48	9:53	9:57	10:02	10:07	10:11
10:45	10:48	10:53	10:57	11:02	11:07	11:11
11:45	11:48	11:53	11:57	12:02	12:07	12:11
12:45	12:48	12:53	12:57	1:02	1:07	1:11
1:45	1:48	1:53	1:57	2:02	2:07	2:11
2:45	2:48	2:53	2:57	3:02	3:07	3:11
3:45	3:48	3:53	3:57	4:02	4:07	4:11
4:45	4:48	4:53	4:57	5:02	5:07	5:11
5:45	5:48	5:53	5:57	6:02	6:07	6:11

No Saturday Service.

13A GTC, KLAI HALL, 10 ST. & 12 AVE. N., FARGODOME, MEMORIAL UNION, NDSU RENAISSANCE (NP AVE.)

Weekdays & Saturdays

Departs GTC	Klai Hall	10 St. & 12 Ave. N.	Fargo-dome	Mem Union	NDSU Renaissance (NP Ave.)	Arrives GTC
6:15	6:17	6:22	6:29	6:31	6:38	6:41
6:45	6:47	6:52	6:59	7:01	7:08	7:11
7:15	7:17	7:20	7:29	7:31	7:38	7:41
7:45	7:47	7:50	7:59	8:01	8:08	8:11
8:15	8:17	8:20	8:29	8:31	8:38	8:41
8:45	8:47	8:50	8:59	9:01	9:08	9:11
9:15	9:17	9:20	9:29	9:31	9:38	9:41
9:45	9:47	9:50	9:59	10:01	10:08	10:11
10:15	10:17	10:20	10:29	10:31	10:38	10:41
10:45	10:47	10:50	10:59	11:01	11:08	11:11
11:15	11:17	11:20	11:29	11:31	11:38	11:41
11:45	11:47	11:50	11:59	12:01	12:08	12:11
12:15	12:17	12:20	12:29	12:31	12:38	12:41
12:45	12:47	12:50	12:59	1:01	1:08	1:11
1:15	1:17	1:20	1:29	1:31	1:38	1:41
1:45	1:47	1:50	1:59	2:01	2:08	2:11
2:15	2:17	2:20	2:29	2:31	2:38	2:41
2:45	2:47	2:50	2:59	3:01	3:08	3:11
3:15	3:17	3:20	3:29	3:31	3:38	3:41
3:45	3:47	3:50	3:59	4:01	4:08	4:11
4:15	4:17	4:20	4:29	4:31	4:38	4:41
4:45	4:47	4:50	4:59	5:01	5:08	5:11
5:15	5:17	5:20	5:29	5:31	5:38	5:41
5:45	5:47	5:50	5:59	6:01	6:08	6:11
6:45	6:47	6:50	6:59	7:01	7:08	7:11
7:45	7:47	7:50	7:59	8:01	8:08	8:11
8:45	8:47	8:50	8:59	9:01	9:08	9:11
9:45	9:47	9:50	9:59	10:01	10:08	10:11

Highlighted times do not run on Saturdays.

Hourly Service 5:45 p.m. to 9:45 p.m.

13B MEMORIAL UNION, NDSU RENAISSANCE (NP AVE.), GTC, KLAI HALL, CENTENNIAL SHELTER

NDSU School Days Only

Memorial Union	Arrives NDSU Renaissance (NP Ave.)	Departs NDSU Renaissance (NP Ave.)	GTC	Klai Hall	Centennial Shelter
7:15	7:25	7:30	7:32	7:34	7:44
7:45	7:55	8:00	8:02	8:04	8:14
8:15	8:25	8:30	8:32	8:34	8:44
8:45	8:55	9:00	9:02	9:04	9:14
9:15	9:25	9:30	9:32	9:34	9:44
9:45	9:55	10:00	10:02	10:04	10:14
10:15	10:25	10:30	10:32	10:34	10:44
10:45	10:55	11:00	11:02	11:04	11:14
11:15	11:25	11:30	11:32	11:34	11:44
11:45	11:55	12:00	12:02	12:04	12:14
12:15	12:25	12:30	12:32	12:34	12:44
12:45	12:55	1:00	1:02	1:04	1:14
1:15	1:25	1:30	1:32	1:34	1:44
1:45	1:55	2:00	2:02	2:04	2:14
2:15	2:25	2:30	2:32	2:34	2:44
2:45	2:55	3:00	3:02	3:04	3:14
3:15	3:25	3:30	3:32	3:34	3:44
3:45	3:55	4:00	4:02	4:04	4:14
4:15	4:25	4:30	4:32	4:34	4:44
4:45	4:55	5:00	5:02	5:04	4:14
5:15	5:25	5:30	5:32	5:34	5:44
5:45	5:55	6:00	6:02	6:04	6:14
6:15	6:25	6:30	6:32	6:34	6:44

Operates NDSU School Days only.

25 WEST ACRES, INNOVIS, SOUTH POINTE, YWCA, KMART, SUNMART

Weekdays & Saturdays

Departs West Acres	Innovis East-bound	South Pointe	Arrives Kmart	Departs Kmart	Sun-mart	Innovis West-bound	Arrives West Acres
6:55	7:12	7:14	7:24	7:28	7:31	7:33	7:50
7:55	8:12	8:14	8:24	8:28	8:31	8:33	8:50
8:55	9:12	9:14	9:24	9:28	9:31	9:33	9:50
9:55	10:12	10:14	10:24	10:28	10:31	10:33	10:50
10:55	11:12	11:14	11:24	11:28	11:31	11:33	11:50
11:55	12:12	12:14	12:24	12:28	12:31	12:33	12:50
12:55	1:12	1:14	1:24	1:28	1:31	1:33	1:50
1:55	2:12	2:14	2:24	2:28	2:31	2:33	2:50
2:55	3:12	3:14	3:24	3:28	3:31	3:33	3:50
3:55	4:12	4:14	4:24	4:28	4:31	4:33	4:50
4:55	5:12	5:14	5:24	5:28	5:31	5:33	5:50
5:55	6:12	6:14	6:24	6:28	6:31	6:33	6:50

Highlighted times do not run on Saturdays

21 WEST ACRES, US BANK, 45 ST. & 18 AVE. S., PRACS, 17 AVE. S. & 42 ST.

Weekdays & Saturdays

Departs West Acres	US Bank	45 St. 18 Ave. S. Westbound	PRACS Institute	45 St. 18 Ave. S. Eastbound	17 Ave. S. & 42 St.	Arrives West Acres
6:50	6:52	6:55	7:00	7:05	7:07	7:10
7:50	7:52	7:55	8:00	8:05	8:07	8:10
8:50	8:52	8:55	9:00	9:05	9:07	9:10
9:50	9:52	9:55	10:00	10:05	10:07	10:10
10:50	10:52	10:55	11:00	11:05	11:07	11:10
11:50	11:52	11:55	12:00	12:05	12:07	12:10
12:50	12:52	12:55	1:00	1:05	1:07	1:10
1:50	1:52	1:55	2:00	2:05	2:07	2:10
2:50	2:52	2:55	3:00	3:05	3:07	3:10
3:50	3:52	3:55	4:00	4:05	4:07	4:10
4:50	4:52	4:55	5:00	5:05	5:07	5:10
5:50	5:52	5:55	6:00	6:05	6:07	6:10
6:50	6:52	6:55	7:00	7:05	7:07	7:10

Highlighted times do not run on Saturdays

22 WEST ACRES, 13 AVE. W. & 9 ST. E., WEST SIDE ES, HIGH RISE, LIBRARY, CITY HALL, SHARE HOUSE

Weekdays & Saturdays

Departs West Acres	13 Ave. W. & 9 St. E.	West Side	High Rise	City Hall	7 Ave. W. & 45 St.	Share House	Arrives West Acres
6:15	6:22	6:28	6:30	6:33	6:36	6:39	6:45
7:15	7:22	7:28	7:30	7:33	7:36	7:39	7:45
8:15	8:22	8:28	8:30	8:33	8:36	8:39	8:45
9:15	9:22	9:28	9:30	9:33	9:36	9:39	9:45
10:15	10:22	10:28	10:30	10:33	10:36	10:39	10:45
11:15	11:22	11:28	11:30	11:33	11:36	11:39	11:45
12:15	12:22	12:28	12:30	12:33	12:36	12:39	12:45
1:15	1:22	1:28	1:30	1:33	1:36	1:39	1:45
2:15	2:22	2:28	2:30	2:33	2:36	2:39	2:45
3:15	3:22	3:28	3:30	3:33	3:36	3:39	3:45
4:15	4:22	4:28	4:30	4:33	4:36	4:39	4:45
5:15	5:22	5:28	5:30	5:33	5:36	5:39	5:45
6:15	6:22	6:28	6:30	6:33	6:36	6:39	6:45
7:15	7:22	7:28	7:30	7:33	7:36	7:39	7:45

Highlighted times do not run on Saturdays

18 CLS, BETHANY, FRASER HALL, SUNMART, TELEFORCE, SEHS, COMM. HOMES, CASS CO.

Weekdays & Saturdays

Departs GTC	Fraser Hall	9 Ave. S. & 17 St.	Sun-Mart	SEHS/ The Hub	Comm Homes	Cass County	Arrives GTC
6:45	6:50	6:53	6:56	7:00	7:02	7:06	7:09
7:15	7:20	7:23	7:26	7:30	7:32	7:36	7:39
7:45	7:50	7:53	7:56	8:00	8:02	8:06	8:09
8:15	8:20	8:23	8:26	8:30	8:32	8:36	8:39
8:45	8:50	8:53	8:56	9:00	9:02	9:06	9:09
9:15	9:20	9:23	9:26	9:30	9:32	9:36	9:39
9:45	9:50	9:53	9:56	10:00	10:02	10:06	10:09
10:15	10:20	10:23	10:26	10:30	10:32	10:36	10:39
10:45	10:50	10:53	10:56	11:00	11:02	11:06	11:09
11:15	11:20	11:23	11:26	11:30	11:32	11:36	11:39
11:45	11:50	11:53	11:56	12:00	12:02	12:06	12:09
12:15	12:20	12:23	12:26	12:30	12:32	12:36	12:39
12:45	12:50	12:53	12:56	1:00	1:02	1:06	1:09
1:15	1:20	1:23	1:26	1:30	1:32	1:36	1:39
1:45	1:50	1:53	1:56	2:00	2:02	2:06	2:09
2:15	2:20	2:23	2:26	2:30	2:32	2:36	2:39
2:45	2:50	2:53	2:56	3:00	3:02	3:06	3:09
3:15	3:20	3:23	3:26	3:30	3:32	3:36	3:39
3:45	3:50	3:53	3:56	4:00	4:02	4:06	4:09
4:15	4:20	4:23	4:26	4:30	4:32	4:36	4:39
4:45	4:50	4:53	4:56	5:00	5:02	5:06	5:09
5:15	5:20	5:23	5:26	5:30	5:32	5:36	5:39
5:45	5:50	5:53	5:56	6:00	6:02	6:06	6:09
6:15	6:20	6:23	6:26	6:30	6:32	6:36	6:39
7:15	7:20	7:23	7:26	7:30	7:32	7:36	7:39
8:15	8:20	8:23	8:26	8:30	8:32	8:36	8:39
9:15	9:20	9:23	9:26	9:30	9:32	9:36	9:39

Highlighted times do not run on Saturdays

Hourly Service 6:15 p.m. to 9:15 p.m.

16 FARGO HIGH RISE, INNOVIS CLINIC/MERITCARE, SOUTH HIGH, JOB SERVICE, WEST ACRES

Weekdays & Saturdays

Departs GTC	Innovis Clinic West-bound	Cashwise West-bound	West Acres	Cashwise East-bound	Innovis Clinic East-bound	Arrives GTC
6:45	6:54	7:02	7:15	7:20	7:28	7:39
7:45	7:54	8:02	8:15	8:20	8:28	8:39
8:45	8:54	9:02	9:15	9:20	9:28	9:39
9:45	9:54	10:02	10:15	10:20	10:28	10:39
10:45	10:54	11:02	11:15	11:20	11:28	11:39
11:45	11:54	12:02	12:15	12:20	12:28	12:39
12:45	12:54	1:02	1:15	1:20	1:28	1:39
1:45	1:54	2:02	2:15	2:20	2:28	2:39
2:45	2:54	3:02	3:15	3:20	3:28	3:39
3:45	3:54	4:02	4:15	4:20	4:28	4:39
4:45	4:54	5:02	5:15	5:20	5:28	5:39
5:45	5:54	6:02	6:15	6:20	6:28	6:39
6:45	6:54	7:02	7:15	7:20	7:28	7:39
7:45	7:54	8:02	8:15	8:20	8:28	8:39
8:45	8:54	9:02	9:15	9:20	9:28	9:39

Highlighted times do not run on Saturdays

17 PIONEER MANOR, MADISON ELEM., METRO TRANSIT, NEW LIFE, UNIV. MANOR

Weekdays & Saturdays

Departs GTC	Woodrow Wilson	Madison Elem.	Metro Transit	New Life	Univ Manor	Arrives GTC
6:15	6:18	6:24	6:28	6:30	6:35	6:39
7:15	7:18	7:24	7:28	7:30	7:35	7:39
8:15	8:18	8:24	8:28	8:30	8:35	8:39
9:15	9:18	9:24	9:28	9:30	9:35	9:39
10:15	10:18	10:24	10:28	10:30	10:35	10:39
11:15	11:18	11:24	11:28	11:30	11:35	11:39
12:15	12:18	12:24	12:28	12:30	12:35	12:39
1:15	1:18	1:24	1:28	1:30	1:35	1:39
2:15	2:18	2:24	2:28	2:30	2:35	2:39
3:15	3:18	3:24	3:28	3:30	3:35	3:39
4:15	4:18	4:24	4:28	4:30	4:35	4:39
5:15	5:18	5:24	5:28	5:30	5:35	5:39
6:15	6:18	6:24	6:28	6:30	6:35	6:39

Highlighted times do not run on Saturdays.

15 CLS, BETHANY HOMES, FRASER HALL, 13 AVE. S., WEST ACRES, WAL-MART, TARGET

Weekdays & Saturdays

Departs GTC	13 Ave. S. & 32 St.	West Acres Westbound	Wal-Mart	West Acres Eastbound	13 Ave. S. & Univ.	Arrives GTC
6:15	6:27	6:38	6:45	6:53	7:07	7:11
6:45	6:57	7:08	7:15	7:23	7:37	7:41
7:15	7:27	7:38	7:45	7:53	8:07	8:11
7:45	7:57	8:08	8:15	8:23	8:37	8:41
8:15	8:27	8:38	8:45	8:53	9:07	9:11
8:45	8:57	9:08	9:15	9:23	9:37	9:41
9:15	9:27	9:38	9:45	9:53	10:07	10:11
9:45	9:57	10:08	10:15	10:23	10:37	10:41
10:15	10:27	10:38	10:45	10:53	11:07	11:11
10:45	10:57	11:08	11:15	11:23	11:37	11:41
11:15	11:27	11:38	11:45	11:53	12:07	12:11
11:45	11:57	12:08	12:15	12:23	12:37	12:41
12:15	12:27	12:38	12:45	12:53	1:07	1:11
12:45	12:57	1:08	1:15	1:23	1:37	1:41
1:15	1:27	1:38	1:45	1:53	2:07	2:11
1:45	1:57	2:08	2:15	2:23	2:37	2:41
2:15	2:27	2:38	2:45	2:53	3:07	3:11
2:45	2:57	3:08	3:15	3:23	3:37	3:41
3:15	3:27	3:38	3:45	3:53	4:07	4:11
3:45	3:57	4:08	4:15	4:23	4:37	4:41
4:15	4:27	4:38	4:45	4:53	5:07	5:11
4:45	4:57	5:08	5:15	5:23	5:37	5:41
5:15	5:27	5:38	5:45	5:53	6:07	6:11
5:45	5:57	6:08	6:15	6:23	6:37	6:41
6:15	6:27	6:38	6:45	6:53	7:07	7:11
7:15	7:27	7:38	7:45	7:53	8:07	8:11
8:15	8:27	8:38	8:45	8:53	9:07	9:11
9:15	9:27	9:38	9:45	9:53	10:07	10:11

Highlighted times do not run on Saturdays

Hourly Service 6:15 p.m. to 9:15 p.m.

14 PRAIRIE PSY., INNOVIS CLINIC/MERITCARE, KMART, CASS COUNTY

Weekdays & Saturdays

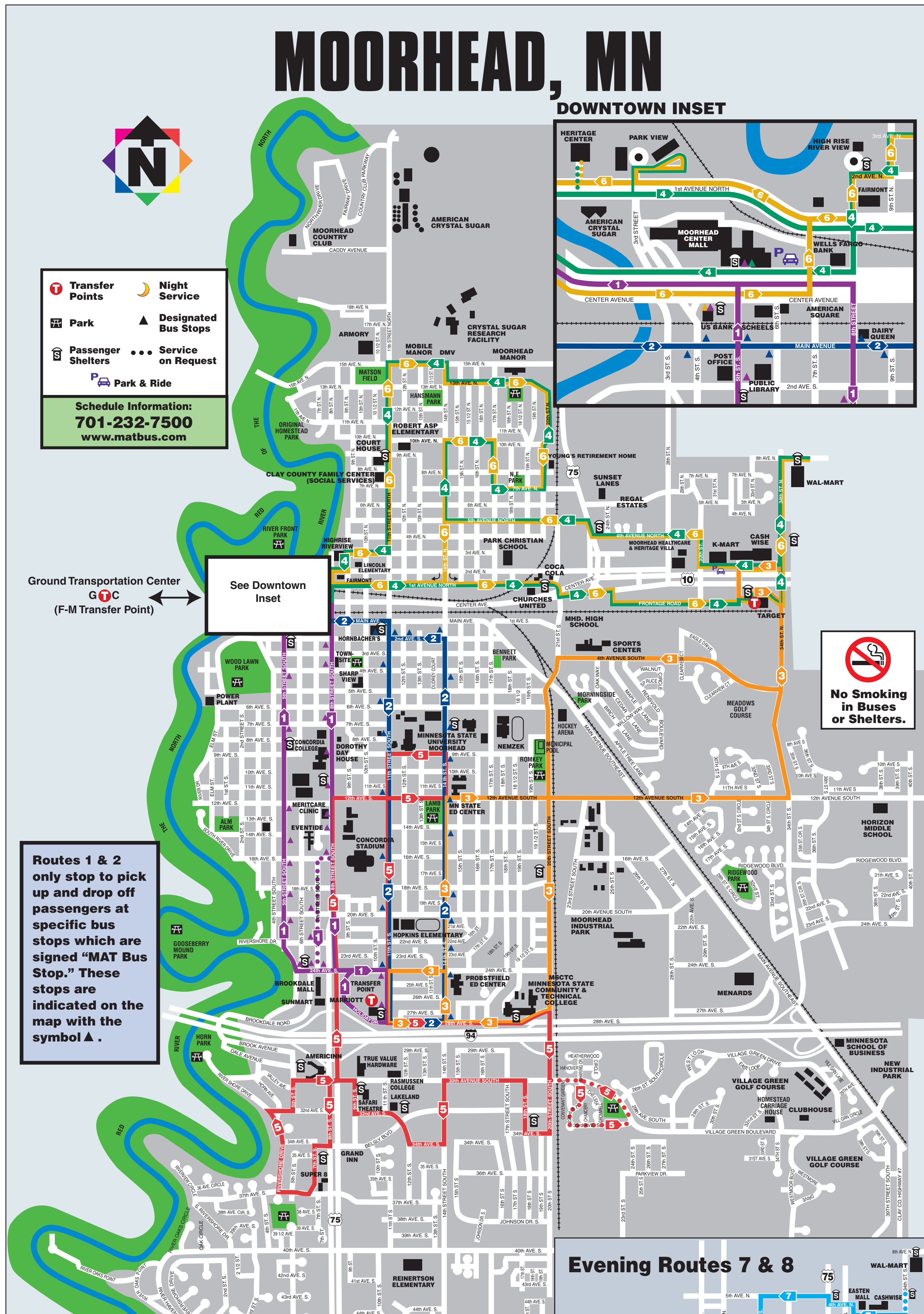
Departs GTC	Prairie Psych	Innovis Clinic South-bound	Kmart	Innovis Clinic North-bound	Cass County	Arrives GTC
6:15	6:17	6:22	6:25 T	6:35	6:38	6:41
6:45	6:47	6:52	6:55	7:05	7:08	7:11
7:15	7:17	7:22	7:25 T	7:35	7:38	7:41
7:45	7:47	7:52	7:55	8:05	8:08	8:11
8:15	8:17	8:22	8:25 T	8:35	8:38	8:41
8:45	8:47	8:52	8:55	9:05	9:08	9:11
9:15	9:17	9:22	9:25 T	9:35	9:38	9:41
9:45	9:47	9:52	9:55	10:05	10:08	10:11
10:15	10:17	10:22	10:25 T	10:35	10:38	10:41
10:45	10:47	10:52	10:55	11:05	11:08	11:11
11:15	11:17	11:22	11:25 T	11:35	11:38	11:41
11:45	11:47	11:52	11:55	12:05	12:08	12:11
12:15	12:17	12:22	12:25 T	12:35	12:38	12:41
12:45	12:47	12:52	12:55	1:05	1:08	1:11
1:15	1:17	1:22	1:25 T	1:35	1:38	1:41
1:45	1:47	1:52	1:55	2:05	2:08	2:11
2:15	2:17	2:22	2:25 T	2:35	2:38	2:41
2:45	2:47	2:52	2:55	3:05	3:08	3:11
3:15	3:17	3:22	3:25 T	3:35	3:38	3:41
3:45	3:47	3:52	3:55	4:05	4:08	4:11
4:15	4:17	4:22	4:25 T	4:35	4:38	4:41
4:45	4:47	4:52	4:55	5:05	5:08	5:11
5:15	5:17	5:22	5:25 T	5:35	5:38	5:41
5:45	5:47	5:52	5:55	6:05	6:08	6:11
6:15	6:17	6:22	6:25 T	6:35	6:38	6:41
6:45	6:47	6:52	6:55	7:05	7:08	7:11
7:45	7:47	7:52	7:55	8:05	8:08	8:11
8:45	8:47	8:52	8:55	9:05	9:08	9:11
9:45	9:47	9:52	9:55	10:05	10:08	10:11

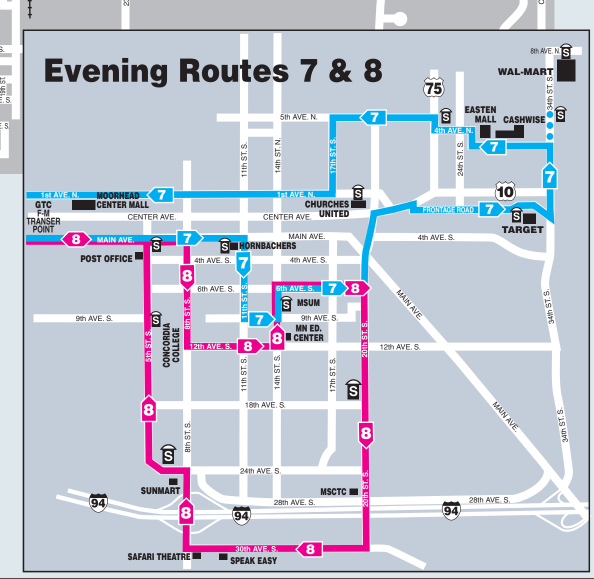
Highlighted times do not run on Saturdays

Weekday service to 18 Street at these times, Hourly Service 6:45 p.m. to 9:45 p.m.

#31490 (1/09)

MOORHEAD, MN





1 CONCORDIA COLLEGE, EVENTIDE MARRIOTT, CENTER MALL

WEEKDAYS

Departs GTC	US Bank	Concordia College (8th St.)	Marriott	Concordia College (5th St.)	Mhd. Center Mall	Arrives GTC
6:15	6:17	6:20	6:28	6:33	6:36	6:45
6:45	6:47	6:50	6:58	7:03	7:06	7:15
7:15	7:17	7:20	7:28	7:33	7:36	7:45
7:45	7:47	7:50	7:58	8:03	8:06	8:15
8:15	8:17	8:20	8:28	8:33	8:36	8:45
8:45	8:47	8:50	8:58	9:03	9:06	9:15
9:15	9:17	9:20	9:28	9:33	9:36	9:45
9:45	9:47	9:50	9:58	10:03	10:06	10:15
10:15	10:17	10:20	10:28	10:33	10:36	10:45
10:45	10:47	10:50	10:58	11:03	11:06	11:15
11:15	11:17	11:20	11:28	11:33	11:36	11:45
11:45	11:47	11:50	11:58	12:03	12:06	12:15
12:15	12:17	12:20	12:28	12:33	12:36	12:45
12:45	12:47	12:50	12:58	1:03	1:06	1:15
1:15	1:17	1:20	1:28	1:33	1:36	1:45
1:45	1:47	1:50	1:58	2:03	2:06	2:15
2:15	2:17	2:20	2:28	2:33	2:36	2:45
2:45	2:47	2:50	2:58	3:03	3:06	3:15
3:15	3:17	3:20	3:28	3:33	3:36	3:45
3:45	3:47	3:50	3:58	4:03	4:06	4:15
4:15	4:17	4:20	4:28	4:33	4:36	4:45
4:45	4:47	4:50	4:58	5:03	5:06	5:15
5:15	5:17	5:20	5:28	5:33	5:36	5:45
5:45	5:47	5:50	5:58	6:03	6:06	6:15
6:15	6:17	6:20	6:28	6:33	6:36	6:45

SATURDAYS

Departs GTC	US Bank	Concordia College (8th St.)	Marriott	Concordia College (5th St.)	Mhd. Center Mall	Arrives GTC
7:45	7:47	7:50	7:58	8:03	8:06	8:15
8:45	8:47	8:50	8:58	9:03	9:06	9:15
9:45	9:47	9:50	9:58	10:03	10:06	10:15
10:45	10:47	10:50	10:58	11:03	11:06	11:15
11:45	11:47	11:50	11:58	12:03	12:06	12:15
12:45	12:47	12:50	12:58	1:03	1:06	1:15
1:45	1:47	1:50	1:58	2:03	2:06	2:15
2:45	2:47	2:50	2:58	3:03	3:06	3:15
3:45	3:47	3:50	3:58	4:03	4:06	4:15
4:45	4:47	4:50	4:58	5:03	5:06	5:15
5:45	5:47	5:50	5:58	6:03	6:06	6:15

7th St. S. from 16th to 24th Avenue Service on Request (232-7500)

2 HORNBACHERS, MSUM MARRIOTT

WEEKDAYS

Departs GTC	Main & 6th St.	Horn-bachers	MSUM (11th St.)	Marriott	MSUM (14th St.)	Arrives GTC
6:15	6:17	6:21	6:22	6:28	6:33	6:45
6:45	6:47	6:51	6:52	6:58	7:03	7:15
7:15	7:17	7:21	7:22	7:28	7:33	7:45
7:45	7:47	7:51	7:52	7:58	8:03	8:15
8:15	8:17	8:21	8:22	8:28	8:33	8:45
8:45	8:47	8:51	8:52	8:58	9:03	9:15
9:15	9:17	9:21	9:22	9:28	9:33	9:45
9:45	9:47	9:51	9:52	9:58	10:03	10:15
10:15	10:17	10:21	10:22	10:28	10:33	10:45
10:45	10:47	10:51	10:52	10:58	11:03	11:15
11:15	11:17	11:21	11:22	11:28	11:33	11:45
11:45	11:47	11:51	11:52	11:58	12:03	12:15
12:15	12:17	12:21	12:22	12:28	12:33	12:45
12:45	12:47	12:51	12:52	12:58	1:03	1:15
1:15	1:17	1:21	1:22	1:28	1:33	1:45
1:45	1:47	1:51	1:52	1:58	2:03	2:15
2:15	2:17	2:21	2:22	2:28	2:33	2:45
2:45	2:47	2:51	2:52	2:58	3:03	3:15
3:15	3:17	3:21	3:22	3:28	3:33	3:45
3:45	3:47	3:51	3:52	3:58	4:03	4:15
4:15	4:17	4:21	4:22	4:28	4:33	4:45
4:45	4:47	4:51	4:52	4:58	5:03	5:15
5:15	5:17	5:21	5:22	5:28	5:33	5:45
5:45	5:47	5:51	5:52	5:58	6:03	6:15
6:15	6:17	6:21	6:22	6:28	6:33	6:45

SATURDAYS

Departs GTC	Main & 6th St.	Horn-bachers	MSUM (11th St.)	Marriott	MSUM (14th St.)	Arrives GTC
7:15	7:17	7:21	7:22	7:28	7:33	7:45
8:15	8:17	8:21	8:22	8:28	8:33	8:45
9:15	9:17	9:21	9:22	9:28	9:33	9:45
10:15	10:17	10:21	10:22	10:28	10:33	10:45
11:15	11:17	11:21	11:22	11:28	11:33	11:45
12:15	12:17	12:21	12:22	12:28	12:33	12:45
1:15	1:17	1:21	1:22	1:28	1:33	1:45
2:15	2:17	2:21	2:22	2:28	2:33	2:45
3:15	3:17	3:21	3:22	3:28	3:33	3:45
4:15	4:17	4:21	4:22	4:28	4:33	4:45
5:15	5:17	5:21	5:22	5:28	5:33	5:45
6:15	6:17	6:21	6:22	6:28	6:33	6:45

4 CHURCHES UNITED, TARGET, WAL-MART, CASHWISE, COURT HOUSE, CENTER MALL

WEEKDAYS

Departs GTC	Churches United	Target	Departs Wal-Mart	Cash-wise	14 St N at 10 Ave	Court House	Center Mall	Arrives GTC
					6:14	6:20	6:25	6:29
6:45	6:50	6:55	7:05	7:09	7:14	7:20	7:25	7:29
7:45	7:50	7:55	8:05	8:09	8:14	8:20	8:25	8:29
8:45	8:50	8:55	9:05	9:09	9:14	9:20	9:25	9:29
9:45	9:50	9:55	10:05	10:09	10:14	10:20	10:25	10:29
10:45	10:50	10:55	11:05	11:09	11:14	11:20	11:25	11:29
11:45	11:50	11:55	12:05	12:09	12:14	12:20	12:25	12:29
12:45	12:50	12:55	1:05	1:09	1:14	1:20	1:25	1:29
1:45	1:50	1:55	2:05	2:09	2:14	2:20	2:25	2:29
2:45	2:50	2:55	3:05	3:09	3:14	3:20	3:25	3:29
3:45	3:50	3:55	4:05	4:09	4:14	4:20	4:25	4:29
4:45	4:50	4:55	5:05	5:09	5:14	5:20	5:25	5:29
5:45	5:50	5:55	6:05	6:09	6:14	6:20	6:25	6:29

SATURDAYS

Departs GTC	Churches United	Target	Departs Wal-Mart	Cash-wise	14 St N at 10 Ave	Court House	Center Mall	Arrives GTC
					7:14	7:20	7:25	7:29
7:45	7:50	7:55	8:05	8:09	8:14	8:20	8:25	8:29
8:45	8:50	8:55	9:05	9:09	9:14	9:20	9:25	9:29
9:45	9:50	9:55	10:05	10:09	10:14	10:20	10:25	10:29
10:45	10:50	10:55	11:05	11:09	11:14	11:20	11:25	11:29
11:45	11:50	11:55	12:05	12:09	12:14	12:20	12:25	12:29
12:45	12:50	12:55	1:05	1:09	1:14	1:20	1:25	1:29
1:45	1:50	1:55	2:05	2:09	2:14	2:20	2:25	2:29
2:45	2:50	2:55	3:05	3:09	3:14	3:20	3:25	3:29
3:45	3:50	3:55	4:05	4:09	4:14	4:20	4:25	4:29
4:45	4:50	4:55	5:05	5:09	5:14	5:20	5:25	5:29
5:45	5:50	5:55	6:05	6:09	6:14	6:20	6:25	6:29

Heritage Center Service on Request (232-7500)

6 COURT HOUSE, TARGET, WAL-MART, CASHWISE, PARK VIEW

WEEKDAYS

Departs GTC	Robert Asp	10 Ave N at 14 St	Target	Departs Wal-Mart	Cash-wise	4 Ave N at 24 St.	Park View	Arrives GTC
6:15	6:24	6:30	6:37	6:45	6:49	6:52	6:58	7:03
7:15	7:24	7:30	7:37	7:45	7:49	7:52	7:58	8:03
8:15	8:24	8:30	8:37	8:45	8:49	8:52	8:58	9:03
9:15	9:24	9:30	9:37	9:45	9:49	9:52	9:58	10:03
10:15	10:24	10:30	10:37	10:45	10:49	10:52	10:58	11:03
11:15	11:24	11:30	11:37	11:45	11:49	11:52	11:58	12:03
12:15	12:24	12:30	12:37	12:45	12:49	12:52	12:58	1:03
1:15	1:24	1:30	1:37	1:45	1:49	1:52	1:58	2:03
2:15	2:24	2:30	2:37	2:45	2:49	2:52	2:58	3:03
3:15	3:24	3:30	3:37	3:45	3:49	3:52	3:58	4:03
4:15	4:24	4:30	4:37	4:45	4:49	4:52	4:58	5:03
5:15	5:24	5:30	5:37	5:45	5:49	5:52	5:58	6:03
6:15	6:24	6:30	6:37	6:45	6:49			

Heritage Center Service on Request (232-7500)

No Saturday Service (See Route 4)

3 MARRIOTT, TARGET, HIGH SCHOOL, MSCTC (TECH. COLLEGE)

WEEKDAYS

Departs Marriott	12th Ave. & 19½ St.	12th Ave. & Ridgewood	Target	High School	20th St. & 14th Ave.	MSCTC (Tech. College)	Arrives Marriott
					6:18	6:20	6:23
6:28	6:32	6:35	6:41	6:45	6:48	6:50	6:53
6:58	7:02	7:05	7:11	7:15	7:18	7:20	7:23
7:28	7:32	7:35	7:41	7:45	7:48	7:50	7:53
7:58	8:02	8:05	8:11	8:15	8:18	8:20	8:23
8:28	8:32	8:35	8:41	8:45	8:48	8:50	8:53
8:58	9:02	9:05	9:11	9:15	9:18	9:20	9:23
9:28	9:32	9:35	9:41	9:45	9:48	9:50	9:53
9:58	10:02	10:05	10:11	10:15	10:18	10:20	10:23
10:28	10:32	10:35	10:41	10:45	10:48	10:50	10:53
10:58	11:02	11:05	11:11	11:15	11:18	11:20	11:23
11:28	11:32	11:35	11:41	11:45	11:48	11:50	11:53
11:58	12:02	12:05	12:11	12:15	12:18	12:20	12:23
12:28	12:32	12:35	12:41	12:45	12:48	12:50	12:53
12:58	1:02	1:05	1:11	1:15	1:18	1:20	1:23
1:28	1:32	1:35	1:41	1:45	1:48	1:50	1:53
1:58	2:02	2:05	2:11	2:15	2:18	2:20	2:23
2:28	2:32	2:35	2:41	2:45	2:48	2:50	2:53
2:58	3:02	3:05	3:11	3:15	3:18	3:20	3:23
3:28	3:32	3:35	3:41	3:45	3:48	3:50	3:53
3:58	4:02	4:05	4:11	4:15	4:18	4:20	4:23
4:28	4:32	4:35	4:41	4:45	4:48	4:50	4:53
4:58	5:02	5:05	5:11	5:15	5:18	5:20	5:23
5:28	5:32	5:35	5:41	5:45	5:48	5:50	5:53
5:58	6:02	6:05	6:11	6:15	6:18	6:20	6:23
6:28	6:32	6:35	6:41	6:45	6:48		

SATURDAYS

Departs Marriott	12th Ave. & 19½ St.	12th Ave. & Ridgewood	Target	High School	20th St. & 14th Ave.	MSCTC (Tech. College)	Arrives Marriott
7:28	7:32	7:35	7:41	7:45	7:48	7:50	7:53
8:28	8:32	8:35	8:41	8:45	8:48	8:50	8:53
9:28	9:32	9:35	9:41	9:45	9:48	9:50	9:53
10:28	10:32	10:35	10:41	10:45	10:48	10:50	10:53
11:28	11:32	11:35	11:41	11:45	11:48	11:50	11:53
12:28	12:32	12:35	12:41	12:45	12:48	12:50	12:53
1:28	1:32	1:35	1:41	1:45	1:48	1:50	1:53
2:28	2:32	2:35	2:41	2:45	2:48	2:50	2:53
3:28	3:32	3:35	3:41	3:45	3:48	3:50	3:53
4:28	4:32	4:35	4:41	4:45	4:48	4:50	4:53
5:28	5:32	5:35	5:41	5:45	5:48	5:50	5:53
6:28	6:32	6:35	6:41				

5 MARRIOTT, MSCTC (TECH. COLLEGE), MSUM, VILLAGE GREEN

WEEKDAYS

Departs Marriott	MSCTC (Tech. College)	Safari	AmericInn	Concordia 12 Ave S	MSUM 9 Ave S	Arrives Marriott
			6:11	6:16	6:18	6:22
6:28	6:30	6:37	6:41	6:46	6:48	6:52
6:58	7:00	7:07	7:11	7:16	7:18	7:22
7:28	7:30	7:37	7:41	7:46	7:48	7:52
7:58	8:00	8:07	8:11	8:16	8:18	8:22
8:28	8:30	8:37	8:41	8:46	8:48	8:52
8:58	9:00	9:07	9:11	9:16	9:18	9:22
9:28	9:30	9:37	9:41	9:46	9:48	9:52
9:58	10:00	10:07	10:11	10:16	10:18	10:22
10:28	10:30	10:37	10:41	10:46	10:48	10:52
10:58	11:00	11:07	11:11	11:16	11:18	11:22
11:28	11:30	11:37	11:41	11:46	11:48	11:52
11:58	12:00	12:07	12:11	12:16	12:18	12:22
12:28	12:30	12:37	12:41	12:46	12:48	12:52
12:58	1:00	1:07	1:11	1:16	1:18	1:22
1:28	1:30	1:37	1:41	1:46	1:48	1:52
1:58	2:00	2:07	2:11	2:16	2:18	2:22
2:28	2:30	2:37	2:41	2:46	2:48	2:52
2:58	3:00	3:07	3:11	3:16	3:18	3:22
3:28	3:30	3:37	3:41	3:46	3:48	3:52
3:58	4:00	4:07	4:11	4:16	4:18	4:22
4:28	4:30	4:37	4:41	4:46	4:48	4:52
4:58	5:00	5:07	5:11	5:16	5:18	5:22
5:28	5:30	5:37	5:41	5:46	5:48	5:52
5:58	6:00	6:07	6:11	6:16	6:18	6:22
6:28	6:30	6:37	6:41			

SATURDAYS

Departs Marriott	MSCTC (Tech. College)	Safari	AmericInn	Concordia 12 Ave S	MSUM 9 Ave S	Arrives Marriott
			7:11	7:16	7:18	7:22
7:58	8:00	8:07	8:11	8:16	8:18	8:22
8:58	9:00	9:07	9:11	9:16	9:18	9:22
9:58	10:00	10:07	10:11	10:16	10:18	10:22
10:58	11:00	11:07	11:11	11:16	11:18	11:22
11:58	12:00	12:07	12:11	12:16	12:18	12:22
12:58	1:00	1:07	1:11	1:16	1:18	1:22
1:58	2:00	2:07	2:11	2:16	2:18	2:22
2:58	3:00	3:07	3:11	3:16	3:18	3:22
3:58	4:00	4:07	4:11	4:16	4:18	4:22
4:58	5:00	5:07	5:11	5:16	5:18	5:22
5:58	6:00	6:07	6:11	6:16	6:18	6:22

Village Green 22nd St. and 33rd Ave. S. Service on Request (232-7500)

7 EVENING: DOWNTOWN, HORNBACHER'S, MSUM, HIGH SCHOOL, TARGET, K-MART

MONDAY - SATURDAY

Departs GTC	Main at 4th St	Horn-bacher's	MSUM 14th St S	Target	K-Mart	4 Ave at 24 St N	17 St at 1 Ave N	1 Ave & 7 St N	Arrives GTC
7:15	7:17	7:20	7:23	7:29	7:31	7:33	7:34	7:37	7:40
8:15	8:17	8:20	8:23	8:29	8:31	8:33	8:34	8:37	8:40
9:15	9:17	9:20	9:23	9:29	9:31	9:33	9:34	9:37	9:40

8 EVENING: DOWNTOWN, CONCORDIA, MSUM, MSCTC (TECH COLLEGE), SAFARI, SUNMART

MONDAY - SATURDAY

Departs GTC	Main at 4th St	Concordia 8 St S	MSUM 14th St S	20 St at 14 Ave S	MSCTC (Tech College)	Safari Theatre	Sun Mart	Concordia 5 St Shelter	Arrives GTC
6:45	6:47	6:48	6:50	6:56	6:57	7:00	7:02	7:05	7:11
7:45	7:47	7:48	7:50	7:56	7:57	8:00	8:02	8:05	8:11
8:45	8:47	8:48	8:50	8:56	8:57	9:00	9:02	9:05	9:11
9:45	9:47	9:48	9:50	9:56	9:57	10:00	10:02	10:05	10:11

CONTACTS

fargo moorhead metro area transit

STATEMENT OF NONDISCRIMINATION

The Cities of Fargo, ND, and Moorhead, MN, do not discriminate against an individual on the basis of race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, disability, age or familial status in the provision of public transportation services.

This schedule is available on cassette tape. To request a tape, call (701) 232-7500.

SUGGESTIONS, COMPLAINTS OR COMPLIMENTS

We would like to hear your comments. Either call or write us:

Metro Area Transit
502 NP Avenue, Fargo, ND 58102
Fax: (701) 241-8558
TDD: Relay 7-1-1

Moorhead Transit Office: (701) 476-6782
Fargo Transit Office: (701) 241-8140

Moorhead Email: LVanBeek@matbus.com
Fargo Email: transit@CityofFargo.com

INFORMATION
(701) 232-7500
www.matbus.com
Please avoid calling at :15 & :45, as dispatchers may be unavailable.

MAT Bus Schedules & Maps

January 1, 2009 Edition

Metro Area Transit (MAT) of Fargo-Moorhead
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fargo moorhead metro area transit

PROGRAMS

COLLEGE U-PASS

Participating colleges pay MAT a fee for U-Pass, and their students receive unlimited free use of the MAT system with their current college I.D. NDSU also pays MAT to operate buses on and near campus.

BIKE & BUS

Bike racks are available on all MAT buses. A permit is required before using the bike racks. The free permit is issued at the GTC after a brief lesson and signing of a liability waiver. Riders must show the bus driver the permit before using the rack.

CLAY COUNTY RURAL TRANSIT

Clay County Rural Transit operates Dial-A-Ride service to certain areas of Moorhead and Dilworth where MAT bus routes do not run. For more information or to reserve a ride, call (218) 236-0303 or go online at www.co.clay.mn.us

PARK & RIDE

Park for free at convenient Park & Ride locations and take MAT. Look for the Park & Ride symbol on the route map or in parking lots.

Fargo Locations: K-Mart (South University), Skills & Technology Center, Cashwise, The Hub (SEHS Shelter).

Moorhead Locations: Center Mall and K-Mart (EasTen).

GUARANTEED RIDE HOME

MAT riders using the 30-day pass are eligible for the Guaranteed Ride Home Program. Reimbursement of two taxi rides per year, up to $20 each, is available for eligible emergencies.

RATES

CASH FARES

EXACT CHANGE ONLY, NO CANADIAN CURRENCY.

Adult	$1.25
Medicare Card Holder	.60
Discount (Elderly, Youth, Disabled)	.60
Child (Age Birth to Preschool)	Free with adult
Transfers	Free

PASSES

PASSES	Adult	Discount
30-Day Pass (unlimited rides on MAT) Plus $5 fee for reloadable Smartcard	$40.00	$26.00
10-Ride Pass	$12.50	$6.00
Summer Youth Pass (June-August)		$26.00

TOKENS (Sold in Package of 20)

Adult	$25.00
Discount (Elderly, Youth, Disabled)	$12.00
Medicare Card Holder	$12.00

COLLEGE U-PASS

MUST HAVE CURRENT COLLEGE I.D. TO RIDE FREE

NDSU Students	Free
MSUM Students, Faculty & Staff	Free
Concordia Students, Faculty & Staff	Free
MSCTC Students	Free

POP TICKETS (from Downtown Fargo Merchants)
One ticket is valid for a free ride on MAT.

SALES LOCATIONS

Passes and tokens are sold at the GTC, 502 NP Ave., Fargo.

DISCOUNT FARE is available to: Elderly (age 62 and older), Persons with Disabilities, Medicare Card Holder and Youth (K-12th grade).

Elderly and disabled must show a MAT "Special User Card" or Medicare Card to receive the discounted fare. The User Card is available at no charge from Metro Area Transit (701) 232-7500. MAT reserves the right to request a passenger's personal identification (or school ID), to verify his or her age, when determining discount fare applicability.

HOW TO RIDE

HOW TO READ THE TIME TABLES

The major destinations on each route are printed on the top. Reading from left to right, find the destination point closest to you. Follow the column down to determine the time the bus will be at that particular location. Clocks may differ – **Arrive at least five minutes earlier than the printed times.**

WHERE THE BUS STOPS

BUS STOP

The buses travel on specific routes which are shown on the map. Buses stop at corners or bus shelters along the route when passengers wave to the driver. Some exceptions apply. In downtown Moorhead, buses stop only at the shelters on Center Avenue. At the EasTen Mall, buses stop only at Cashwise and K-Mart. Moorhead buses stop only at the GTC while in Fargo. Routes 1 and 2 only stop at designated bus stops, which are signed.

HOW TO SIGNAL THE DRIVER TO STOP

Bus — X stand here (near corner)

Stand on the right-hand side near corner of the intersection closest to the lane traveled by the bus. Wave to the driver to let him or her know that you wish to board. A bus cannot stop in a right-turn lane unless the bus will make a right turn.

ON-BOARD COURTESIES

- Have exact change, token or pass ready before you board. Drivers do not carry change.
- Be careful when entering and leaving the bus, especially during inclement weather.
- Limit yourself to a maximum of two large packages. Packages can't take up seats where passengers may want to sit.
- Allow senior citizens and persons with disabilities to sit in the front of the bus.
- All objects must be kept out of the aisles, including wheelchairs, strollers, walkers, grocery carts, etc. Each bus has two spaces designated for securement of wheelchairs.
- Note that eating, smoking, drinking and playing music are prohibited on the bus.
- The use of threatening behavior or vulgar language will result in your being asked to leave the bus or GTC.

HOW TO RIDE

TRANSFERS

- **FREE** between all Moorhead and Fargo MAT buses.
- Provide for continuous one-way travel only.
- For your transfer slip to be deemed valid, you must travel on a bus ***continuously*** until reaching a transfer point. If you get off the bus prior to reaching a designated transfer point, your trip will be considered ended at your chosen destination. If you later try to reboard at a transfer point, your transfer slip will be deemed invalid. In this case, you will need to pay a new fare for your next trip.
- Accepted at transfer points — GTC, West Acres, and South K-Mart in Fargo; and Target and Marriott in Moorhead.
- If you need to transfer, request a transfer ticket from the driver when you board the bus. When you board the second bus, place the transfer ticket in the slot on the farebox.
- The Ground Transportation Center (GTC) is the main transfer point between Moorhead and Fargo buses. The GTC offers comfortable indoor seating, vending, and restrooms and is located at 502 NP Avenue in Fargo. Hours are 6:00 a.m. to 10:15 p.m. Monday - Friday; 7:00 a.m. to 10:15 p.m. Saturday.
- West Acres is a transfer point for Routes 15, 16, 21, 22 (West Fargo), and 25.
- South K-Mart is transfer point for Routes 14 and 25.

HOW TO EXIT THE BUS

One block before you wish to exit the bus, pull the bell-line located near the window. The driver will let you off at the next corner, designated bus stop or closest point where it is safe to stop. Think "safety" — wait for the bus to move on before crossing the street.

HOURS OF SERVICE

- Refer to timetables for exact hours of service on each route.
- Service is not provided on Sunday or the following holidays: New Year's Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day and Christmas Day.

Please be aware that adverse weather, traffic conditions, and construction detours may affect this schedule.

#31490 (1/09)

1.5.2 MAT Service within the NP Ave & 1st Ave North Corridor

MAT operates 15 of the 23 fixed-routes to/from the Ground Transportation Center, located within the NP Ave and 1st Ave North Corridor. The 15 routes are displayed in **Table 7**. Routes 7 and 8 are Evening Service Routes; thus approximately 13 daily routes operate in and out of the NP Ave and 1st Ave. North Corridor. **Figure 11** displays the existing fixed-route service within the study area.

Table 7. MAT Routes Traveling to/from the GTC

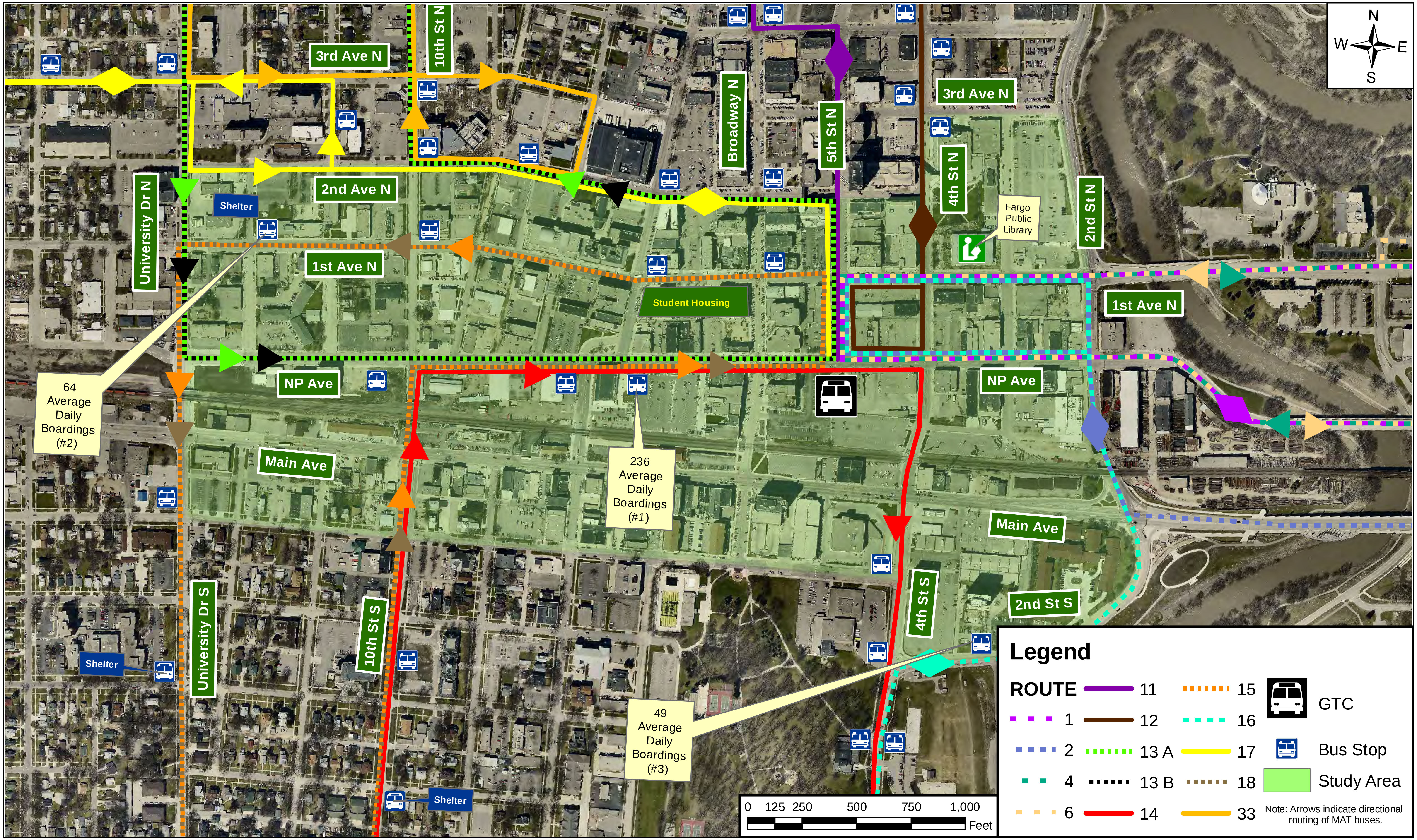
Route
1: Concordia College, Eventide, Marriott, Center Mall
2: Hornbachers, MSUM, Marriott
4: Churches United, Target, Wal-Mart, Cashwise, Court House, Center Mall
6: Court House, Target, Wal-Mart, Cashwise, Park View
7: Evening – Downtown, Hornbacher's, MSUM, High School, Target, K-Mart
8: Evening – Downtown, Concordia, MSUM, MSCTC, Safari, Sunmart
11: Meritcare, Northport, Trollwood,
12: Meritcare, VA Hospital, 32 Ave. N.
13A: GTC, KLAI Hall, 10 St. & 12 Ave. N., Fargodome, Memorial Union, and NDSU Renaissance
13B: Memorial Union, NDSU Renaissance, GTC, KLAI Hall, Centennial Shelter
14: Prairie Psy., Innovis Clinic/Meritcare, Kmart, Cass County
15: CLS, Bethany Homes, Fraser Hall, 13 Ave. S., West Acres, Wal-Mart, Target
16: Fargo High Rise, Innovis Clinic/Meritcare, South High, Job Service, West Acres
17: Pioneer Manor, Madison Elem., Metro Transit, New Life, Univ., Manor
18: CLS, Bethany, Fraser Hall, Sunmart, Teleforce, SEHS, Comm.Homes, Cass Co.

Table 8 displays the existing departure schedule from the GTC for MAT routes. Approximately nine buses depart from the GTC at 00:15 minutes after the hour from 6:15 AM to 7:00 PM. Approximately 10 buses depart at 00:45 minutes after the hour during that same time period. One bus departs at 00:02 minutes after the hour, and one bus at 00:32 minutes after the hour. Thus, during peak hour, 42 buses travel within the corridor to/from the GTC.

Table 8. GTC Bus Departure Schedule

Route	Headway	GTC Departure Time on the Hour	
1	30	:15	:45
2	30	:15	:45
4	60		:45
6	60	:15	
7	***60***	***:15***	
8	***60***		***:45***
11	30	:15	:45
12	60		:45
13a	30	:15	:45
13b	30	:02	:32
14	30	:15	:45
15	30	:15	:45
16	60		:45
17	60	:15	
18	30	:15	:45
Italics - Evenings Only			

Figure 11 also displays the directional travel for each of the routes traveling through the corridor. Currently, MAT heavily uses 5th Street N and 4th Street to maneuver north/south from the garage. Several routes use NP Ave to travel to the garage. 1st Ave N and 2nd Ave N are the primary streets traveling west. Main Avenue, NP Ave, and 1st Ave N are the primary eastbound routes.



NP Ave and 1st Ave North Corridor Development Plan

Fargo, North Dakota

MAT Bus Routes through Downtown Corridor

Figure 11

1.5.3 Downtown Stop Activity by Route

Following is a description of boarding activity at Downtown bus stops served by MAT routes. The observations are based on data provided to the study team that consisted of total boarding activity for all Downtown MAT routes for each day during December 2008 and January 2009.

To collect the boarding data, MAT used the existing farebox system to geocode the existing stops during that time period. Some data points did not pick up the digital readings and were coded 'between stops.' MAT does not currently have a geographically representative bus stop inventory due to the method of passenger pickup within the community. Pre-determined bus stops are available throughout the communities. However, MAT also has flag stops, which may indicate a bus stop at every corner. Knowing this information, to date, MAT has not completed a GIS-based inventory of bus stop data.

The current policy is that passengers may be picked up at any safe boarding corner. Mid-block stops are discouraged. MAT drivers do not typically stop within a 1-2 block radius of the GTC due to the heavy bus activity in that area. The Moorhead MAT service buses go directly to the GTC and do not make any stops once the buses cross the river into Fargo. The outbound Moorhead buses do not make stops until they cross the river into downtown Moorhead. **Table 9** displays an inventory of approximately 30 bus stops within the downtown corridor, in addition to the GTC facility.

It should be noted that the system-wide raw MAT boarding data included significant numbers of boardings attributed to a location labeled "between stops." Based on feedback from MAT staff, many of these boardings occur outside the Downtown area, due to the presence of the GTC and the small size of the Downtown area, relative to the entire MAT service area. MAT staff estimated approximately 100 total daily boardings were classified as 'between stops' for the downtown area.

In order to analyze boarding patterns that are typical of one weekday and one Saturday, it was necessary to determine a weekday and Saturday during the December-January data period that was considered representative. To do this, the total ridership for each route was determined for each individual weekday and Saturday during the period. The weekday and Saturday dates that featured total ridership that was closest to the 75th percentile value of all weekdays & Saturdays were chosen as the representative dates for this analysis.

Unfortunately, shortly after providing the passenger boarding data, MAT implemented a new farebox software that does not have the ability to identify the number of passengers per stop; MAT can now only track total boarding for an entire route. MAT is working to correct this problem but these data are the most recent data available.

Table 9. Bus Stop Locations within the NP Ave & 1st Ave North Corridor

Route	Location	Avg Weekday Daily Boardings	Corner
11	Broadway / 4th Avenue N	4	NE
11	Broadway / 4th Avenue N	7	NW
12	4th Street N / 3rd Avenue N	1	SE
12	4th Street N / 4th Avenue N	0	SE
12	4th Street N / 4th Avenue N	1	NW
12	4th Street N / 3rd Avenue N	4	NW
13, 18	1st Avenue N/Broadway	11	NE
13,15,18	1st Avenue N/Roberts	24	NE
13A, 13B, 17	2nd Avenue N (midblock)	0	NE
13A, 13B, 17	10th Street N / 2nd Avenue N	14	NE
13A	10th Street N / 3rd Avenue N	1	SE
13A, 13B, 17	University Drive N / 3rd Avenue N	2	NW
13A, 13B	10th Street N / NP Avenue (mid-blk)	0	S
13A, 13B, 14, 18	8th Street N / NP Avenue	0	S
13A, 13B, 14, 15, 18	Roberts Street / NP Avenue (mid-blk)	236	S
13B, 15	8th Street / NP Avenue	0	SW
14	4th Street / 1st Avenue S.	9	NW
14	4th Street / 2nd Avenue S.	0	NW
14, 15, 18	10th Street / 4th Avenue S.	4	SE
14, 15, 18	10th Street S / 2-3 Avenue S (mid-blk)	24	E
15	10th Street N / 1st Avenue N	6	E
15	12th Street N / 1st Avenue N	64	E
15	University Drive S / 1st Avenue S	11	NW
15	University Drive S / 3rd Avenue S	28	NW
16	4th Street / 1st Avenue Fargo High Rise	49	W
16	4th Street (mid-blk) comm theatre	0	N
16	4th Street (mid-blk) comm theatre	0	E
17	Broadway / 2nd Avenue N	9	NE
17	Roberts Street / 2nd Avenue N	10	NE
17	11th Street N / 2-3 Avenue N	2	E
17	14th Street N / 3rd Avenue N	0	NE
Avg. Daily Boardings		**522**	

A total of approximately 520 daily boardings are completed in the downtown corridor area. This data does not include the additional daily boardings at the GTC. The top three average daily boarding locations in the study area are:

1. Roberts Street/NP Avenue (mid-block) – NDSU: 236 average daily boardings
2. 12th Street N/1st Avenue N: 64 average daily boardings
3. 4th Street/1st Avenue Fargo High Rise: 49 average daily boardings

Recent conversations with MAT staff indicate that travel patterns will likely change within the corridor due to the opening of Barry Hall at NDSU. Barry Hall is located proximate to the highest boarding activity center, Roberts

Street/NP Avenue. MAT is willing to complete updated counts when the building opens (early Fall 2009), which would provide the most recent information for this study. As those data are received, the above boarding information will be updated.

1.6 Streetscape Assessment

1.6.1 Landscape Assessment

1.6.1.1 Landscape Existing Conditions

The landscape/boulevard space along the corridor has been inventoried to provide quantities for better understanding of designated right-of-way (ROW) for landscape and green space. The sidewalk and boulevard dimensions are generous along the corridor and provide opportunities to accommodate more green space, bicycle facilities, and pedestrian facilities.

1.6.1.2 Landscape/Boulevard Space Quantities

- 1st Avenue Totals
    - 4,000 square feet of boulevard varying from 5 ft to 10 ft width.
    - 48 boulevard trees within the ROW
    - 5% of non-roadway ROW.

- NP Avenue Totals
    - 6,000 square feet of boulevard varying from 5 ft to 10 ft width.
    - 42 boulevard trees within the ROW
    - 7% of non-roadway ROW

1.6.1.3 Landscape Recommendations

Every effort shall be made to minimize impacts to existing boulevard trees along the corridor. Redefining the streetscape similar to the improvements made along Broadway will increase the aesthetics as well as safety of the corridor. In general, the deficiencies of plant material, mainly boulevard trees and parking lot buffers should be held at a minimum to the standards of the Land Development Code.

1.6.2 Bicycle and Pedestrian Assessment

1.6.2.1 Bicycle and Pedestrian Existing Conditions

In an effort to maintain, as well as enhance, facilities for non-motorized forms of transportation, the quantities of sidewalks have been inventoried. There is currently no designated route for bicycle transportation save for the intersections of 1st Avenue & Broadway and NP Avenue & Broadway.

The current pedestrian facilities are poorly defined. They lack green space, tree canopies, clear crossing markings, and separation from the roadways. There are several places where the sidewalks are in disrepair or non-existent. The generous dimensions of these existing sidewalks provides for great opportunity to remedy these conditions by providing safer, clearer, and more walkable routes in general.

1.6.2.2 Pedestrian Facilities Quantities

- 1st Avenue Totals
  - 10,500 linear feet of sidewalks varying from 5 ft to 15 ft width.
  - 78,890 square feet total
  - 95% of non-roadway ROW.

- NP Avenue Totals
  - 7,900 linear feet of sidewalk varying from 8 ft to 14 ft width.
  - 85,667 square feet total
  - 93% of non-roadway ROW

1.6.2.3 Pedestrian Recommendations

Continuous and connected sidewalks are needed along both sides of streets to prevent unnecessary street crossings. Sidewalks should be buffered with a boulevard/green strip to increase pedestrian safety and comfort; separation makes it easier to meet Americans with Disabilities Act of 1990 (ADA) requirements for a continuous level passage and for a clear passage around obstacles.

Where possible, curb extensions shall be utilized. Curb extensions reduce the total crossing distance on streets with on-street parking and increased visibility; the waiting pedestrian can better see approaching traffic and drivers can better see pedestrians waiting to cross the road, as their views are no longer blocked by parked cars.

- Re-stripe crossing with high visibility markings and stop bars
- Include pedestrian signal heads at all crosswalks
- Separate sidewalk from roadway where possible
- Add street trees for shade and separation
- Provide clear pedestrian, furniture, and frontage zones along the sidewalks
- Possible mid-block crossing between Roberts Street and Broadway

1.6.2.4 Bicycle Facilities Quantities

- NP Avenue and 1st Avenue Totals
    - There are currently no dedicated facilities for bicycles along the corridor

1.6.2.5 Bicycle Recommendations

- Study alternatives which include separated bike lanes
- Study alternatives which include shared bike lanes
- New signage similar to Broadway
- Designate bike routes
- Coordinate routes with NDSU
- Set a road diet for both 1st Avenue and NP Avenue to reclaim other uses (e.g., bicycles and pedestrians)

1.6.3 Streetscape Key Intersections

Key intersections include 8th Street, Broadway, and Roberts Street along NP and 1st Avenues.

1.7 Corridor Needs and Issues Conclusions

The existing conditions documented in this memorandum will serve as the foundation from which the alternatives will be developed, as well as a benchmark against which the alternatives will be measured.

Chapter 2: Alternatives Development and Analysis

2.1 Introduction

This technical memorandum summarizes the alternatives development and analysis performed for the NP Avenue and 1st Avenue North corridor between 2nd Street North and University Drive in Fargo, North Dakota.

The mission statement for the project is to recommend a plan that accommodates all travelers: pedestrians, bicyclists, transit users, and drivers. The plan's design and safety features will improve the physical health of individuals, the environmental quality of the community and further increase opportunities for development. In keeping with the mission statement, the following alternatives were developed:

- Doing nothing: leaving both 1st Avenue North and NP Avenue as one-way, three-lane roadways (the No Build alternative, previously analyzed; see **Section 1.2.2** of **Chapter 1**)
- Converting 1st Avenue North and NP Avenue to two-way roadways with two lanes in the direction of the existing one-way operation and a single lane going the opposite direction. This configuration, known as a 2+1, would be two lanes westbound and one lane eastbound on 1st Avenue North and two lanes eastbound and one lane westbound on NP Avenue.
- Converting 1st Avenue North and NP Avenue to two-way roadways with a single lane in each direction and a center two-way left-turn lane (the Two-way, Two-lane alternative)
- Keeping 1st Avenue North and NP Avenue as one-way roadways but reducing the number of lanes on each street from three lanes to two lanes (the One-way, Two-lane alternative)

2.2 Projected Future Traffic Volumes

The Advanced Traffic Analysis Center (ATAC) at North Dakota State University (NDSU), in cooperation with the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) provided the future year (year 2035) projected average daily traffic (ADT) volumes for the 1st Avenue North, NP Avenue, and Main Avenue corridors for the alternatives. The AM and PM peak hour turning movements were derived utilizing the existing turning movements and the projected ADT volumes (see **Section 1.2.2.1** for further discussion).

2.3 Traffic Analysis

Each of the alternatives was evaluated based on the projected year 2035 traffic volumes during the AM and PM peak commuter periods.

Table 1 displays the 20 intersections in downtown Fargo that were identified for traffic analysis.

The traffic operations of each intersection during the peak periods were evaluated by computing the respective service capacities, amount of vehicle delay, level of service (LOS) and vehicle queuing requirements for each vehicular movement at the study intersections. The traffic operations for the study intersections were determined using methodologies described in the *2000 Highway Capacity Manual* (HCM).

Level of service is a qualitative system of ranking intersection performance using average stop delay per vehicle as the evaluation criteria (expressed as seconds of delay per vehicle, or sec/veh). The HCM LOS rankings are displayed in **Table 2**. For this report, acceptable levels of service were considered LOS C or better for intersections and LOS D or better for individual movements. The HCM reports along with the signal phasing and timing plans are displayed in the **Appendix**. Level of service calculations were performed using Synchro Studio 7 software.

2.3.1 Alternative 1 – 2+1 Lane Configuration

In the 2+1 configuration, 1st Avenue North will have two lanes in the westbound direction with a single lane in the eastbound direction. This option provides two lanes of capacity in the same direction of the existing one-way pairs. Similarly, NP Avenue will be converted to provide two-lanes in the eastbound direction and a single lane in the westbound direction. Separate, striped bicycle lanes are proposed for both 1st Avenue North and NP Avenue on the right side of the street, in the direction of the two lanes on either street; parallel parking will be available on each side of 1st Avenue North and NP Avenue. **Exhibit 1**, **Exhibit 2**, and **Exhibit 3** display the proposed 2+1 configuration and the subsequent changes to 1st Avenue North and NP Avenue.

The projected year 2035 traffic volumes are displayed in **Figure 12.** The results of the capacity analysis of the 2+1 alternative are shown in **Figure 13** and **Figure 14**. Based on the results of the capacity analysis, the following intersections experienced a significant change in level of service and delay:

- **1st Avenue North & 2nd Street North –** As previously discussed in **Chapter 1**, the year 2035 southbound-to-eastbound left-turn movement is projected to be significant. Approximately 240 and 670 vehicles per hour (vph) during the AM and PM peak commuter periods, respectively, are anticipated for the base future year No Build. The heavy left-turning volume yields unacceptable levels of service for the AM and PM analysis scenarios. An additional southbound left-turn lane should be considered in the future to help improve the overall level of service of the intersection. For these reasons, the 2+1 scenarios were analyzed with a dual southbound left turn at 1st Avenue North & 2nd Street North.

- **NP Avenue & 8th Street North/Roberts Street North –** The proposed 2+1 alternative provides two-way traffic on NP Avenue. With the addition the westbound traffic to the intersections of NP Avenue with 8th Street North and Roberts Street North, the eastbound and westbound vehicles backup into the adjacent intersection because the two intersections are located approximately 170 feet apart. To improve the traffic flow along NP Avenue, the Roberts Street intersection (and traffic signal) would be removed from NP Avenue, creating a two-way street around the west and north sides of Ole Tangen Triangle Park. Public vehicular access to the area between the park and the downtown Fargo Fire Station would be restricted but would be available only for emergency vehicles.

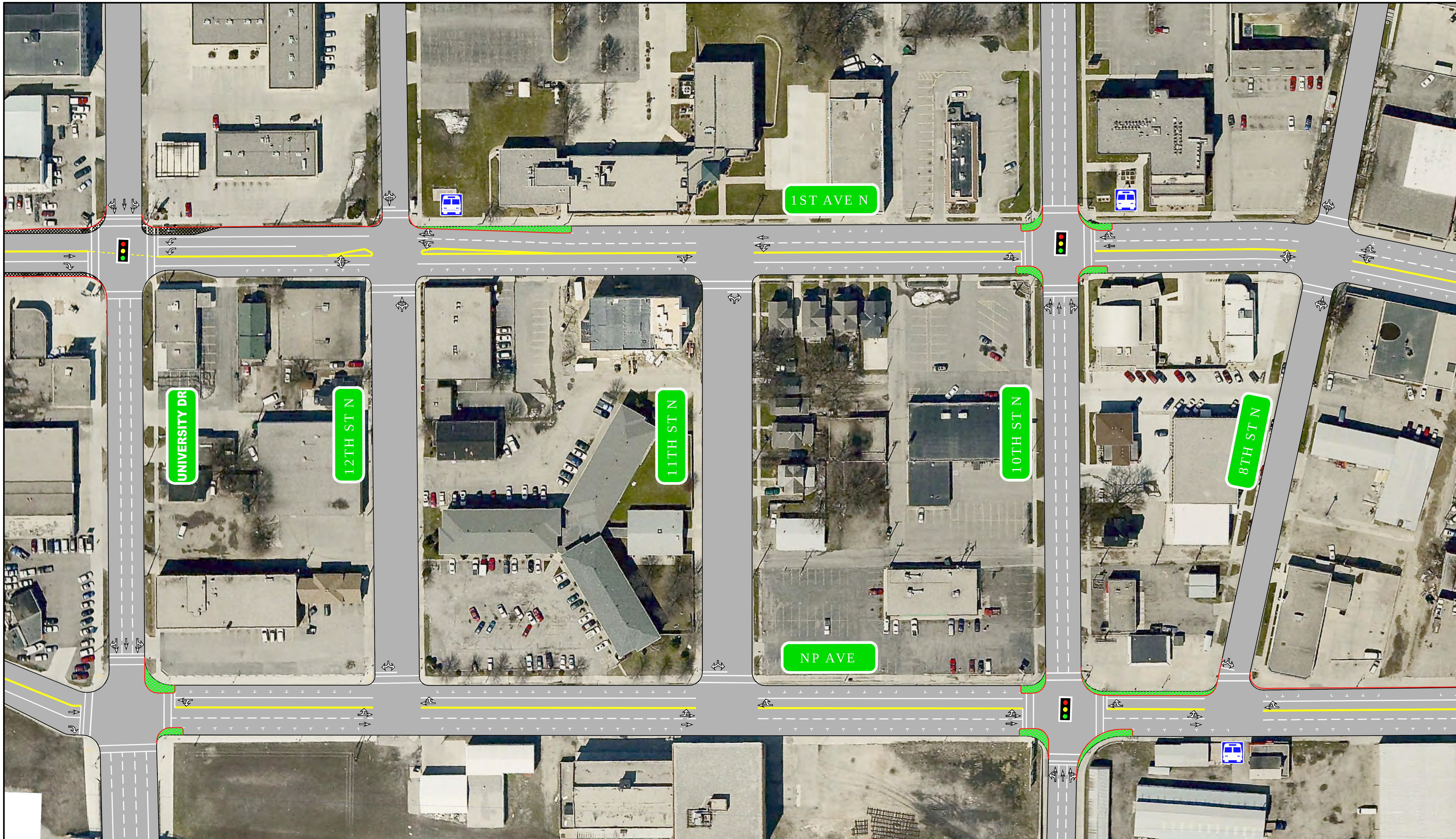
- **NP Avenue & University Drive–** The westbound approach for NP Avenue at University Drive North is anticipated to operate with unacceptable levels of service and to experience significant vehicle queues because the approach is two-way stop control. This intersection is unable to be signalized due to the proximity to the intersection at Main Avenue & University Drive. While it is not uncommon for side streets to experience poor levels of service during the peak commuter periods, drivers have the availability of using 1st Avenue North via 10th Street North or Main Avenue via 8th Street North in order to bypass the stop control at NP Avenue & University Drive.

2.3.1.1 Advantages of the 2+1

Two-way traffic eliminates the indirect travel necessitated by one-way streets (e.g., having to travel around three sides of a block to get to a destination). The 2+1 provides similar capacity as the existing one-way operation: three lanes eastbound (two lanes on NP Avenue, one on 1st Avenue North) and three lanes westbound (two lanes on 1st Avenue North and one lane on NP Avenue). By using the same three-lane footprint as the existing configuration, impacts to parking will be minimal. Two-way traffic generally causes a decrease in motor vehicle speeds creating a safer environment for pedestrians, cyclists, and other non-motorized modes of transportation.

2.3.1.2 Disadvantages of the 2+1

The abrupt change in traffic operations would require advance education for roadway users. The availability of new routes may cause confusion at first, but roadway users will quickly adjust. Two-way traffic will cause decreased motor vehicle speeds but the resulting increase in overall delay on the corridor will be comparable to the existing configuration. Freight loading areas will not be as profuse as the *de facto* loading zones in the existing configuration, but providing marked and signed loading zones will make up for the shortage.



NP Ave and 1st Ave North Corridor Development Plan
Fargo, North Dakota

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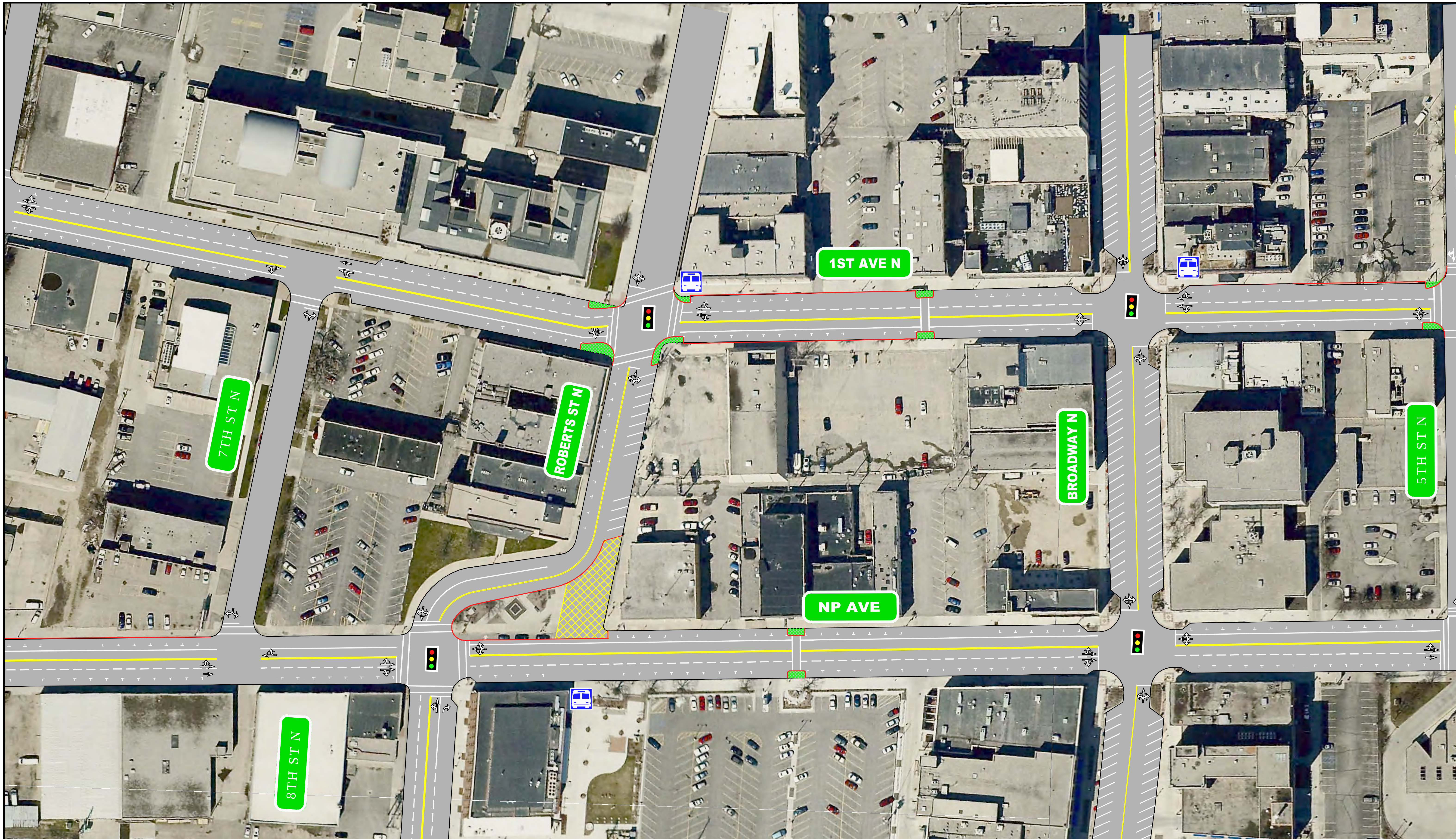
ALTERNATIVE #1
2 PLUS 1 WITH BIKE LANE
SHEET 1 OF 3

DRAFT

EXHIBIT 1

N

0 25' 50' 100'



NP Ave and 1st Ave North Corridor Development Plan
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ALTERNATIVE #1
2 PLUS 1 WITH BIKE LANE

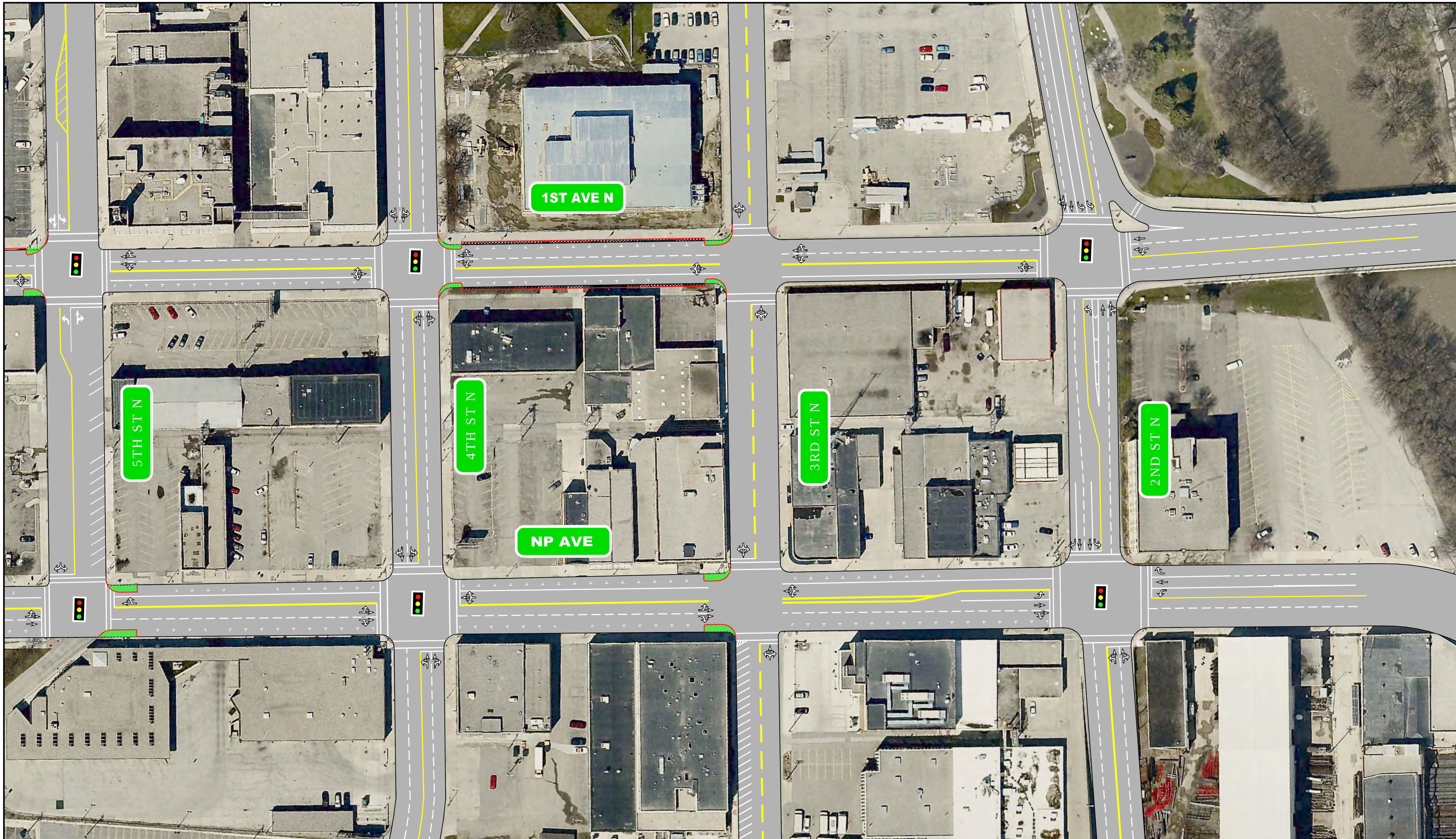
SHEET 2 OF 3

DRAFT

EXHIBIT 2

N

0 25' 50' 100'



NP Ave and 1st Ave North Corridor Development Plan
Fargo, North Dakota

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ALTERNATIVE #1
2 PLUS 1 WITH BIKE LANE

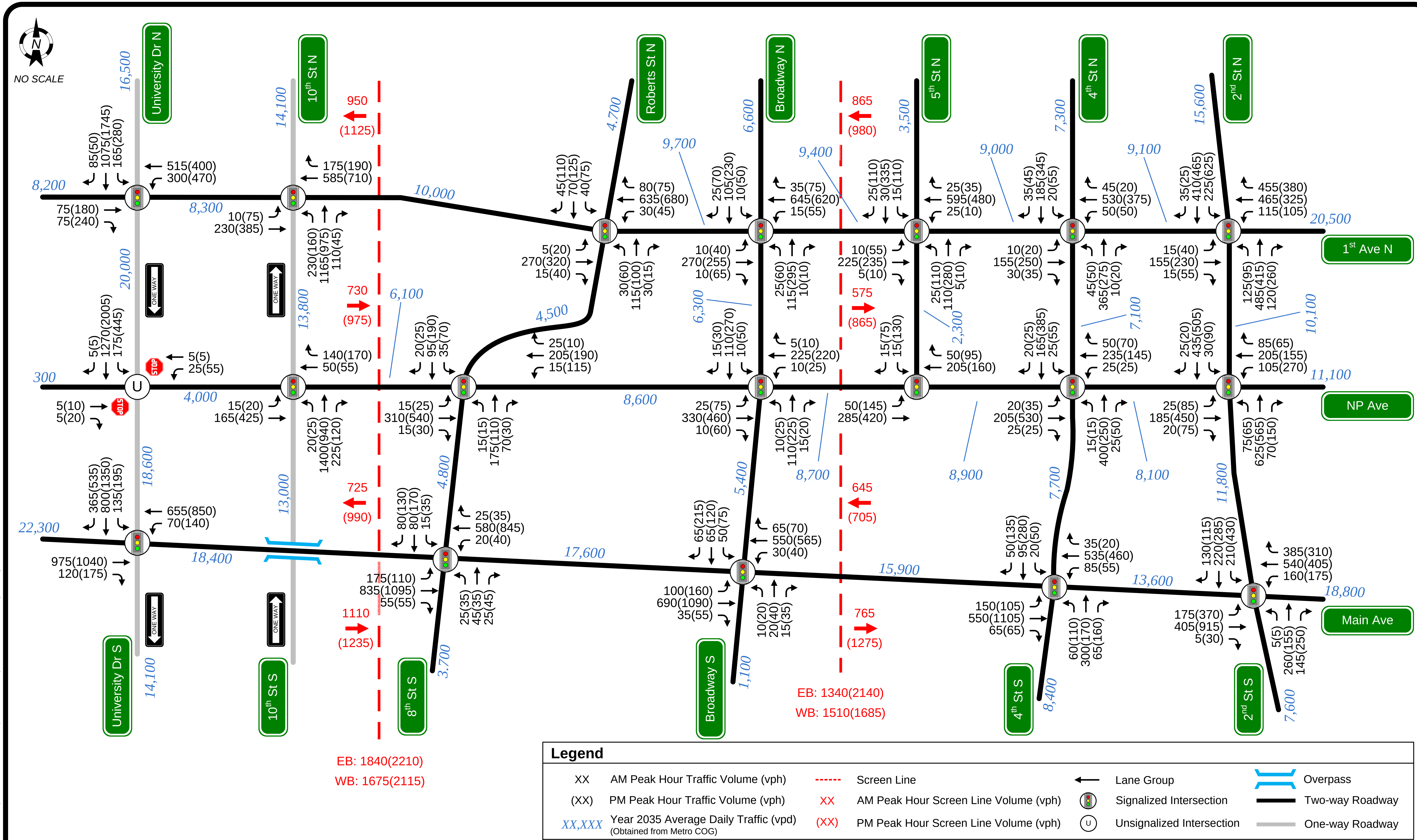
SHEET 3 OF 3

DRAFT

EXHIBIT 3

N

0 25' 50' 100'



NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

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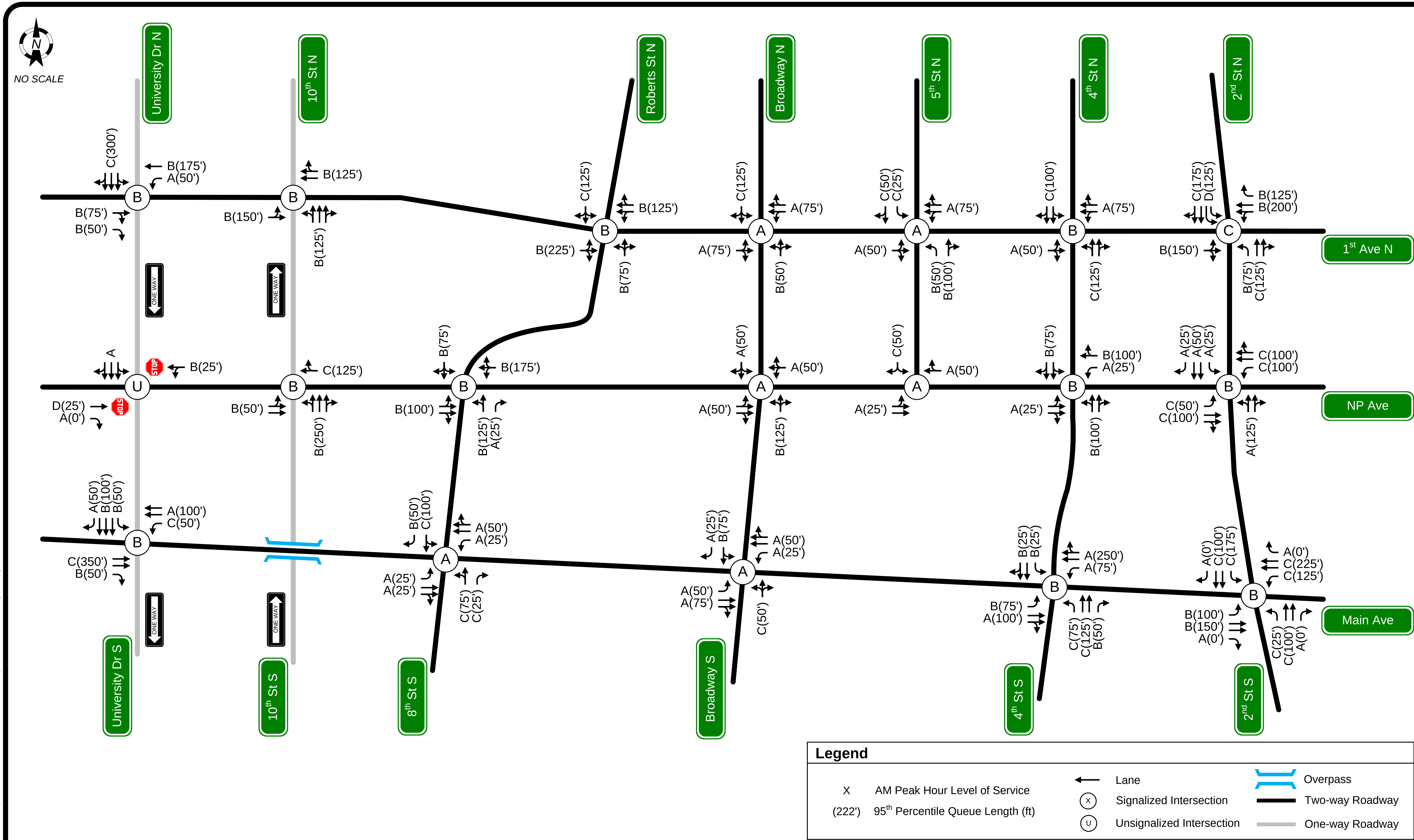
Year 2035

2+1 Traffic Volumes

Figure 12



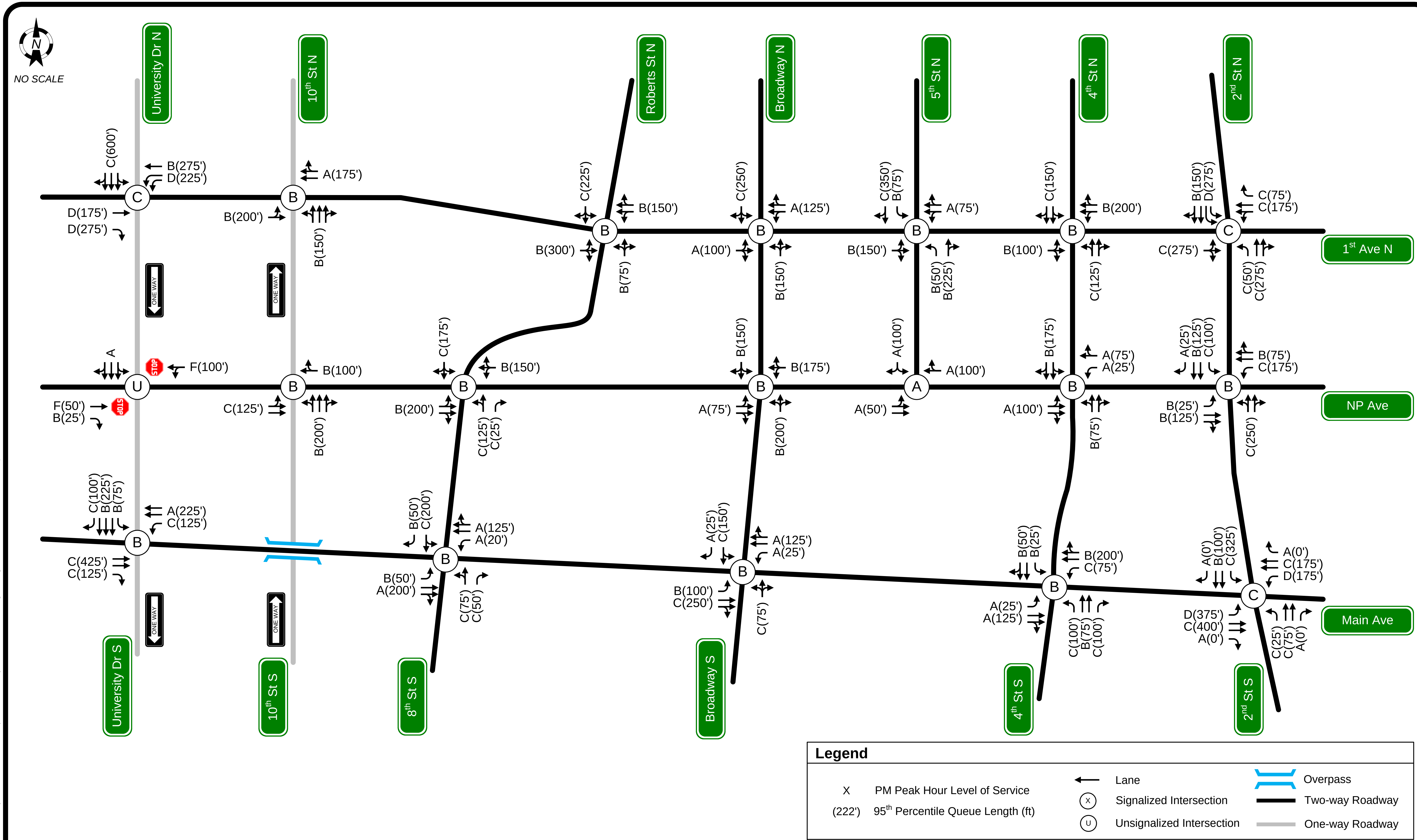
NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

Year 2035

2+1 AM Level of Service and Queue Length

Figure 13



NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

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Year 2035

2+1 PM Level of Service and Queue Length

Figure 14

2.3.2 Alternative 2 – Two Way with Center Turn Lane

In Alternative 2, 1st Avenue North and NP Avenue are proposed to be two-way corridors with a single lane in each direction and a center turn lane. A proposed bike lane is proposed on the right side of both NP Avenue and 1st Avenue North. Parallel parking is proposed to be provided on both sides of 1st Avenue North and NP Avenue. **Exhibit 4**, **Exhibit 5**, and **Exhibit 6** display the proposed two-way, two-lane configuration and the subsequent changes to 1st Avenue North and NP Avenue.

The projected year 2035 traffic volumes are displayed in Figure 15**.** The results of the capacity analysis of the 2+1 alternative are shown in **Figure 16** and **Figure 17**. Based on the results of the capacity the analysis, the following intersections experienced a significant change in level of service and delay:

- **1st Avenue North & 2nd Street North –** As previously discussed in **Chapter 1** and **Section 2.3.1**, the year 2035 southbound-to-eastbound left-turn movement is projected to be significant. An additional southbound left-turn lane should be considered in the future to help improve the overall level of service of the intersection. For these reasons, the Two-way, Two-lane scenarios were analyzed with a dual southbound left turn at 1st Avenue North & 2nd Street North.

- **NP Avenue & 8th Street North/Roberts Street North –** Similar to the 2+1, the proposed Two-way, Two-lane alternative provides two-way traffic on NP Avenue and will experience the same problems with the intersections of NP Avenue with Roberts Street and 8th Street North. These two intersections were modified similar to the 2+1.

- **NP Avenue & University Drive–** Like the 2+1, the westbound approach for NP Avenue at University Drive North is anticipated to operate with unacceptable levels of service and to experience significant vehicle queues because the approach is two-way stop control. Fortunately, drivers have the availability of rerouting their trips to 1st Avenue North or Main Avenue to avoid undue delay at NP Avenue & University Drive.

2.3.2.1 Advantages of the Two-way, Two-lane

Two-way traffic eliminates the indirect travel necessitated by one-way streets (e.g., having to travel around three sides of a block to get to a destination). While this alternative provides less capacity than the existing configuration, the center two-way left-turn lane provides increased access to business and parking lots on both NP Avenue and 1st Avenue North. Impacts to parking will be minimal due to the use of a three-lane footprint, like the existing configuration. Two-way traffic generally causes a decrease in motor vehicle speeds creating a safer environment for pedestrians, cyclists, and other non-motorized modes of transportation.

2.3.2.2 Disadvantages of the Two-way, Two-lane

Similar to the 2+1, the abrupt change in traffic operations would require advance education for roadway users. Two-way traffic will cause decreased motor vehicle speeds but the overall delay on the corridor will be greatly increased compared to the existing configuration. Freight loading areas will not be as profuse as the *de facto* loading zones in the existing configuration, but marked and signed loading zones will make up for the shortage. While the impacts to parking will be minimal, the disadvantage to having only one lane in each direction means that vehicles stopping to maneuver in and out of parking stalls will have a greater impact on traffic operations than would the 2+1.

NP Ave and 1st Ave North Corridor Development Plan
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ALTERNATIVE #2
TWO-WAY; 2-LANE WITH BIKE LANE

SHEET 1 OF 3

DRAFT

EXHIBIT 4

N

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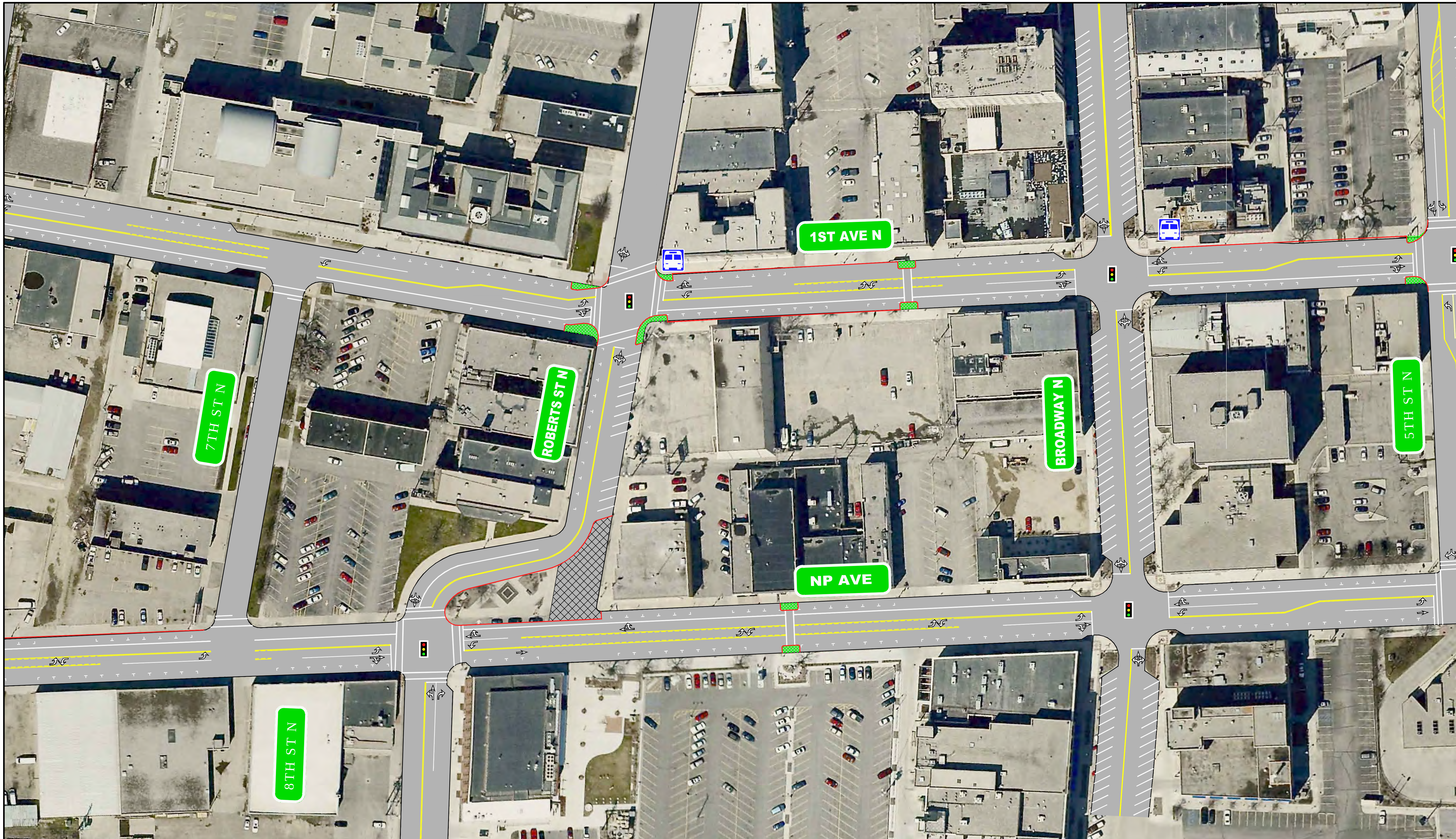

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ALTERNATIVE #2

TWO-WAY; 2-LANE WITH BIKE LANE

SHEET 2 OF 3

DRAFT

EXHIBIT 5

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ALTERNATIVE #2
TWO-WAY; 2-LANE WITH BIKE LANE

SHEET 3 OF 3

DRAFT

EXHIBIT 6

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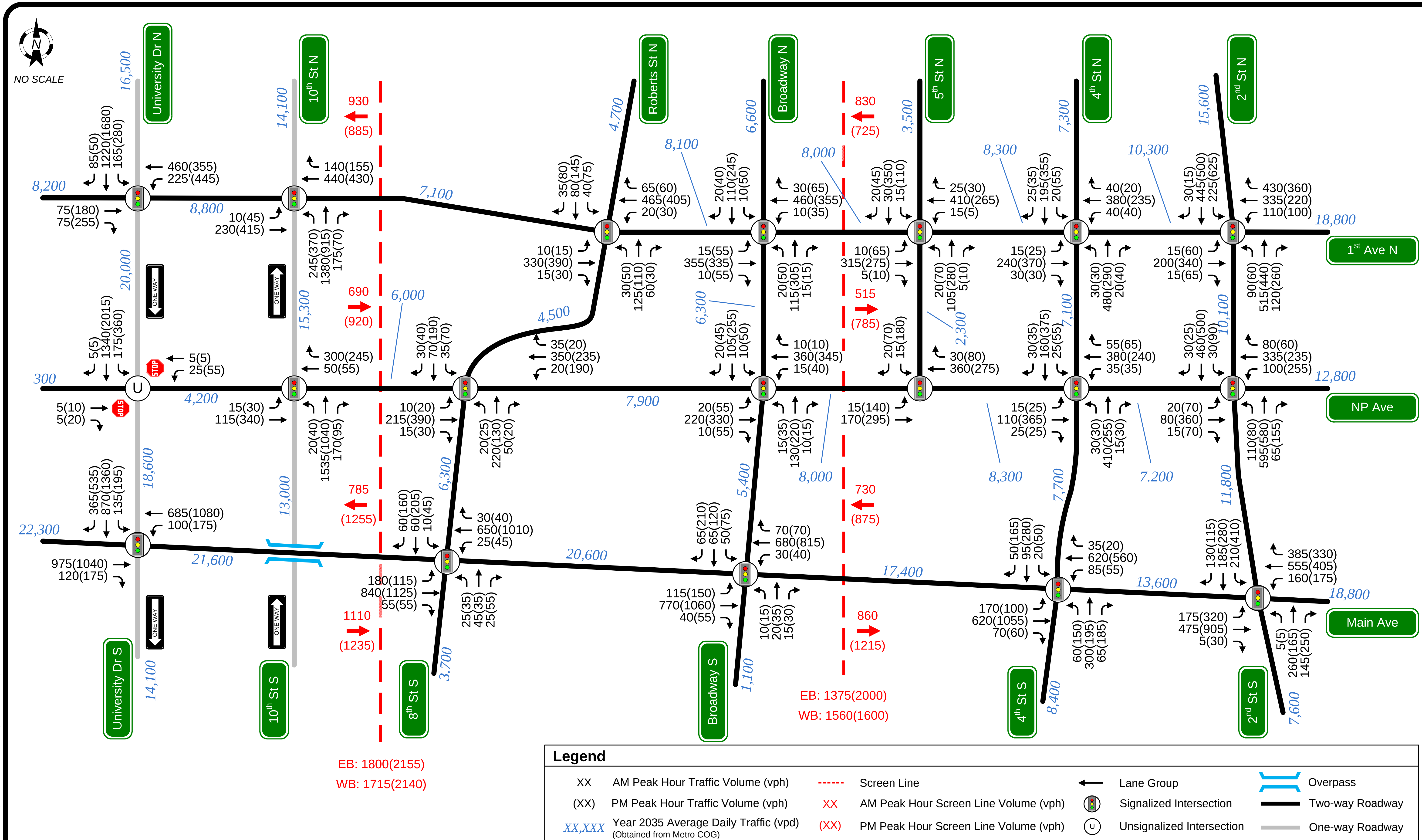

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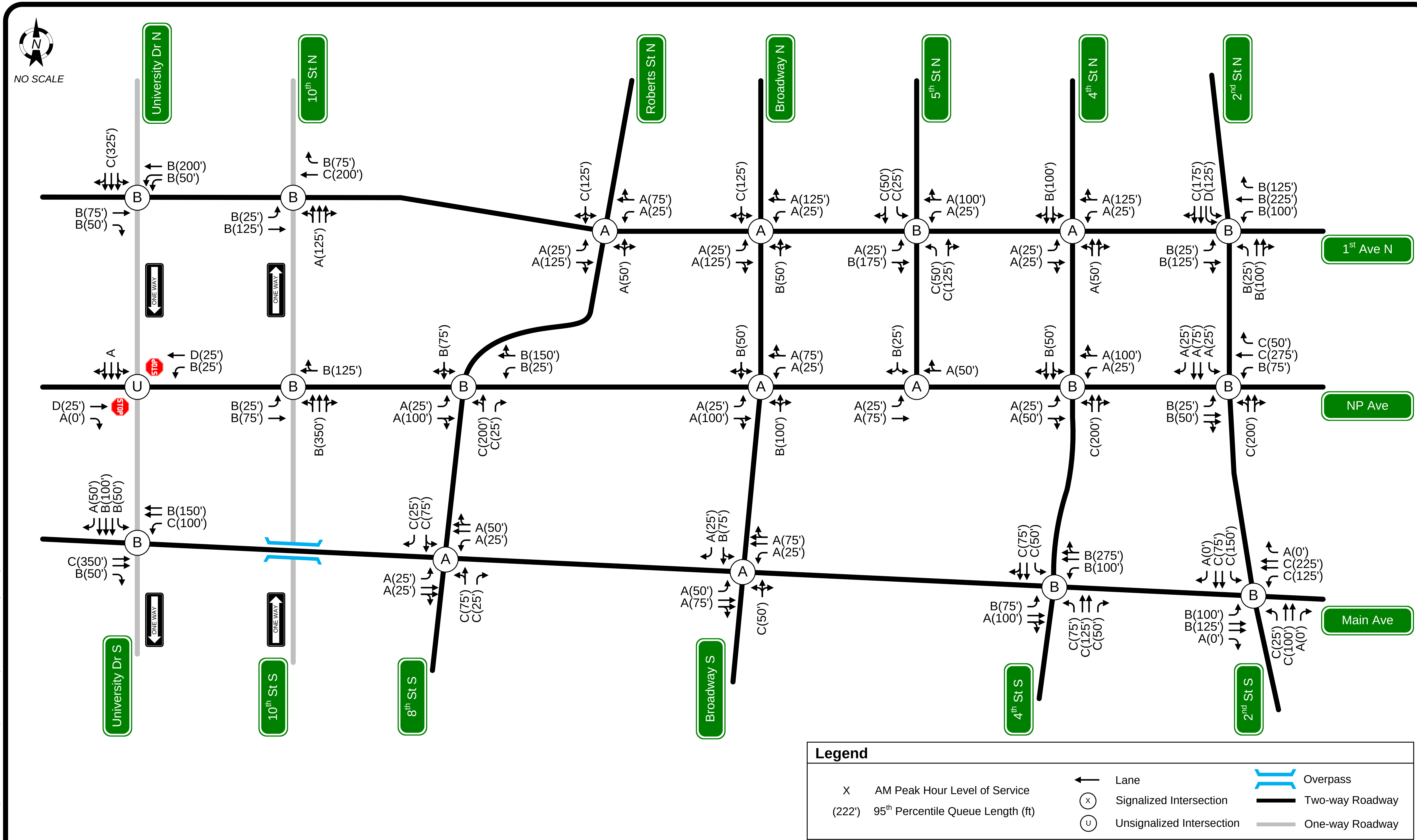
Year 2035

Two-way Two-lane Traffic Volumes

Figure 15



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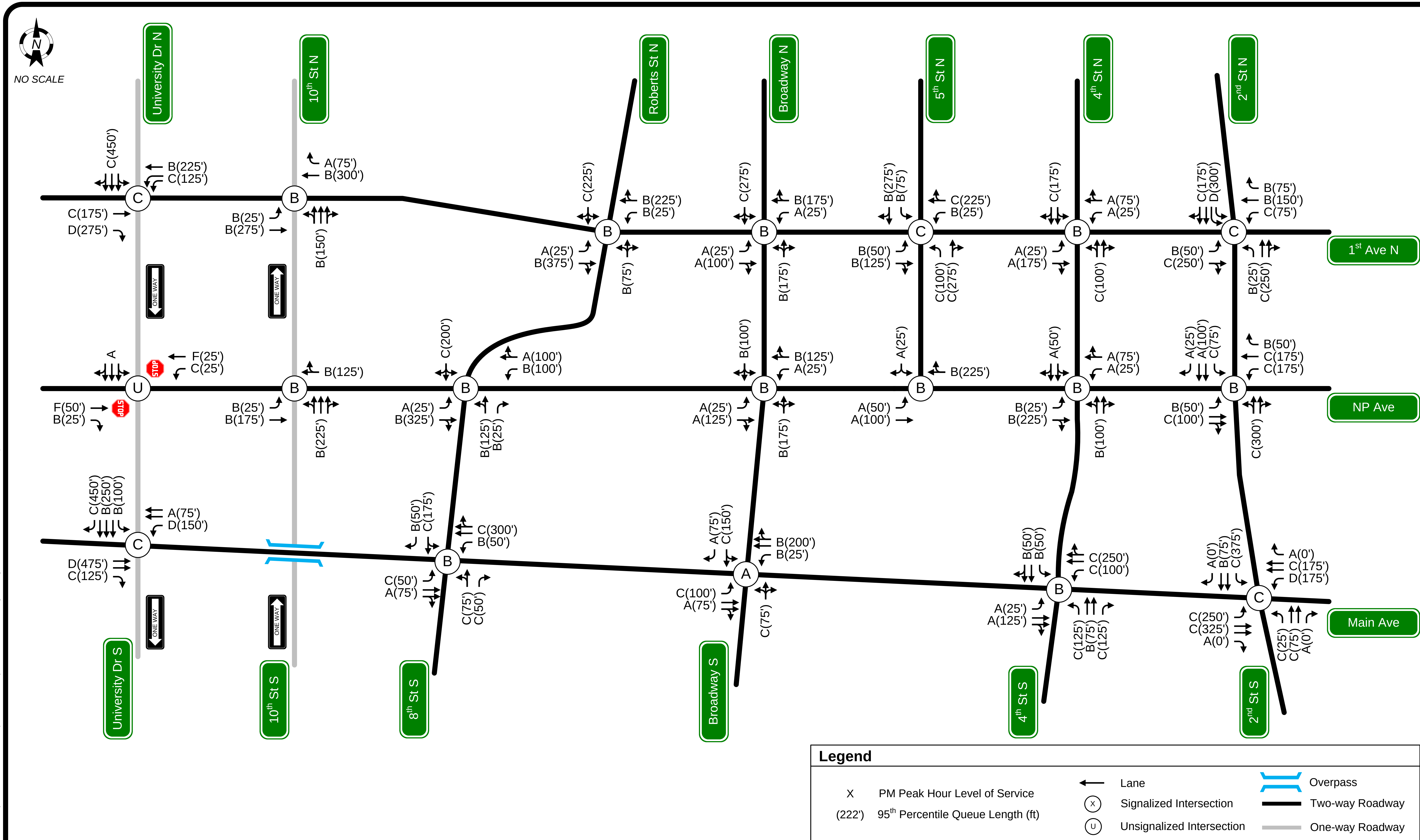
Year 2035

Two-way Two-lane AM Level of Service and Queue Length

Figure 16



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Year 2035

Two-way Two-lane PM Level of Service and Queue Length

Figure 17

O:\Proj\55291291 NP & 1st Corridor Study\04 Alternatives Development and Analysis\02 Tech Memo Figures\Figure 17 Year 2035 TWLTL PM LOS-Queue.vsd, 10/18/2010

2.3.3 Alternative 3 – One-way, Two-lane

The eastbound and westbound one-way streets for 1st Avenue North and NP Avenue will remain but will be reduced from three lanes to two lanes. The parking will be changed from parallel parking to diagonal parking on the left side of the street and a proposed bike lane on the right side of both NP Avenue and 1st Avenue North. **Exhibit 7**, **Exhibit 8**, and **Exhibit 9** display the proposed One-way, Two-lane configuration and the subsequent changes to 1st Avenue North and NP Avenue.

The projected year 2035 traffic volumes are displayed in **Figure 18.** The results of the capacity analysis of the 2+1 alternative are shown in **Figure 19** and **Figure 20**. Based on the results of the capacity the analysis, the following intersections experienced a significant change in level of service and delay:

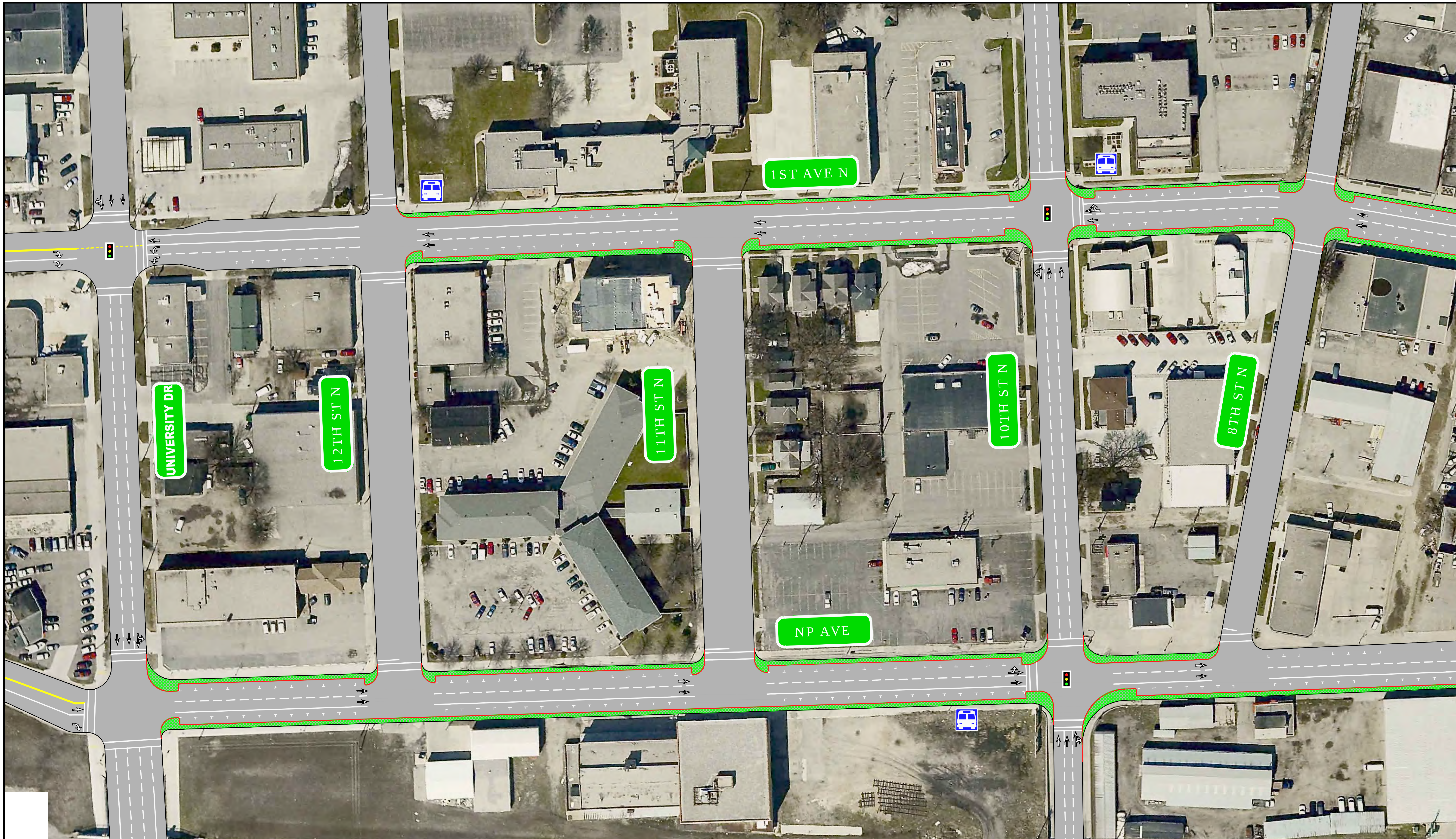
- **1st Avenue North & 2nd Street North –** As previously discussed, the year 2035 southbound-to-eastbound left-turn movement is projected to be significant. An additional southbound left-turn lane should be considered in the future to help improve the overall level of service of the intersection. For these reasons, the One-way, Two-lane scenarios were analyzed with a dual southbound left turn at 1st Avenue North & 2nd Street North.

2.3.3.1 Advantages of the One-way, Two-lane

Overall, the analysis results indicate similar operations to the future No Build conditions, with slight increases in delay and degradations in level of service. There would need to be little or no roadway user education with Alternative 3 due to the similarity to the existing configuration.

2.3.3.2 Disadvantages of the One-way, Two-lane

Parking can only be on one side of the street; there cannot be parking on both sides of a one-way, two-lane street because of the possibly of vehicles maneuvering in and out of parking stalls completely obscuring the flow of traffic. Parking on a single side of block is not advantageous to the business community. Vehicular speeds on a one-way facility are typically greater a two-way facility, meaning crashes can be more severe on a one-way street.



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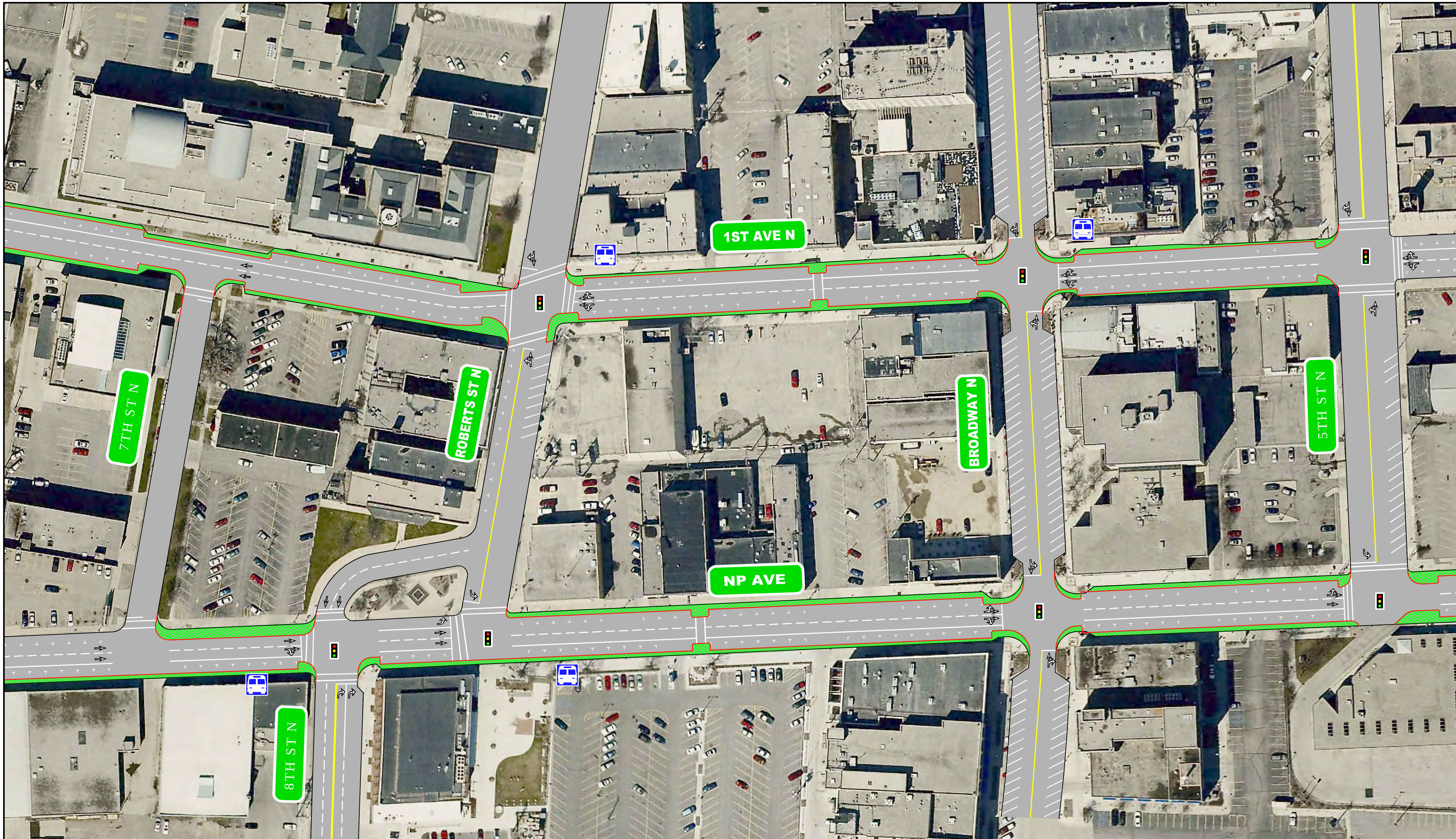
ALTERNATIVE #3
ONE-WAY, 2-LANES WITH BIKE LANE

SHEET 1 OF 3

DRAFT

EXHIBIT 7



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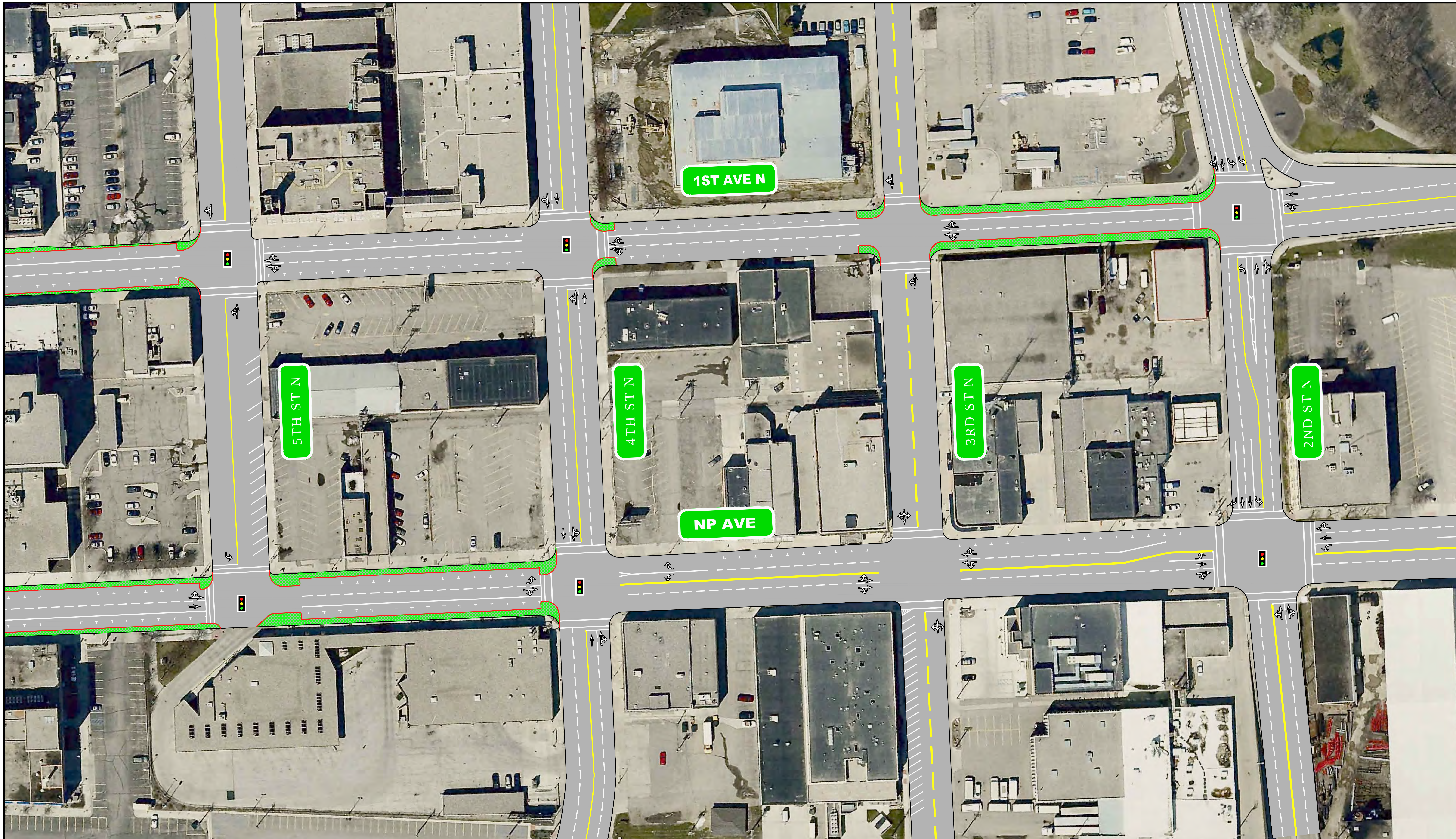
ALTERNATIVE #3

ONE-WAY, 2-LANES WITH BIKE LANE

SHEET 2 OF 3

DRAFT

EXHIBIT 8



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ALTERNATIVE #3
ONE-WAY, 2-LANES WITH BIKE LANE
SHEET 3 OF 3

DRAFT

EXHIBIT 9

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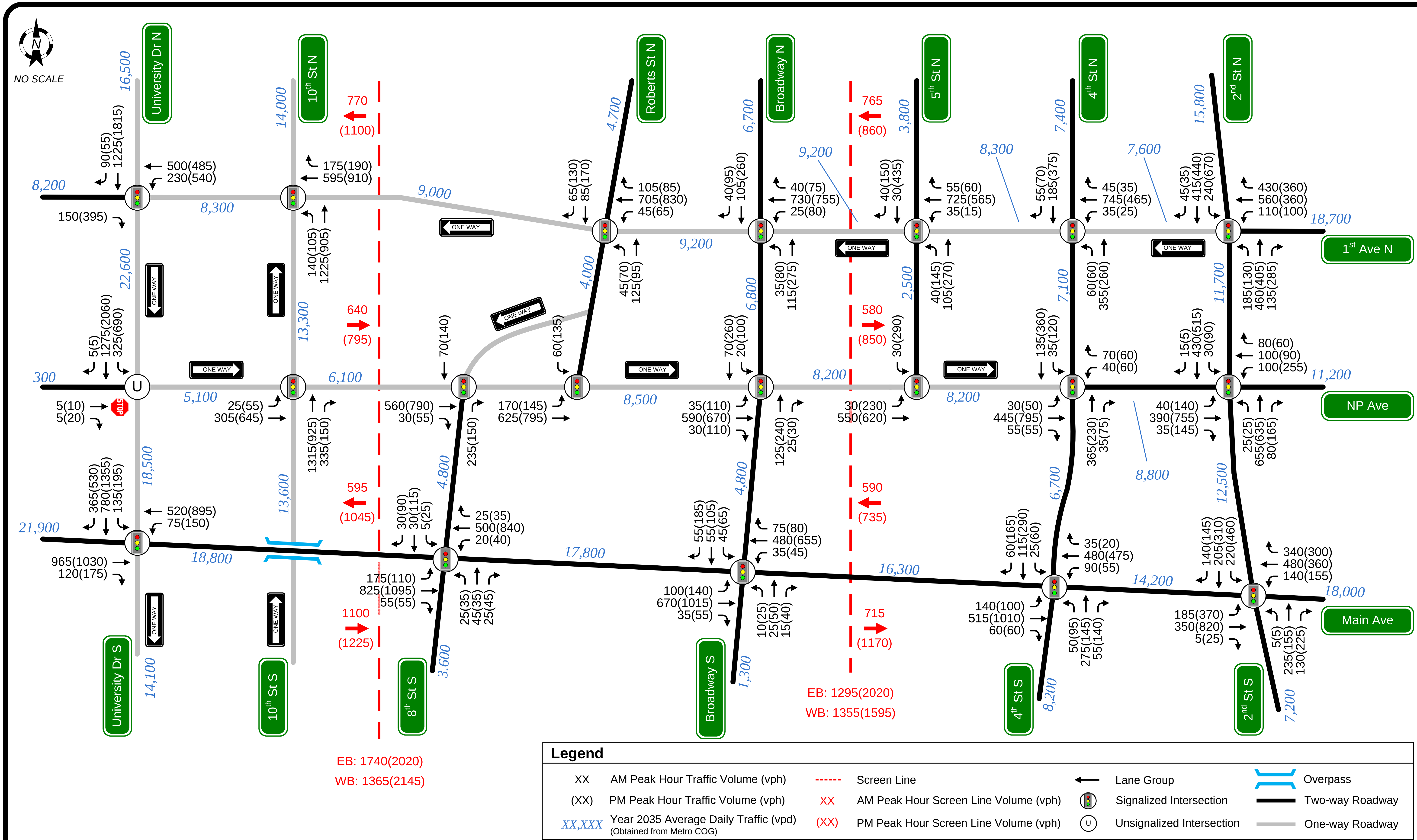

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Year 2035

One-way Two-lane Traffic Volumes

Figure 18

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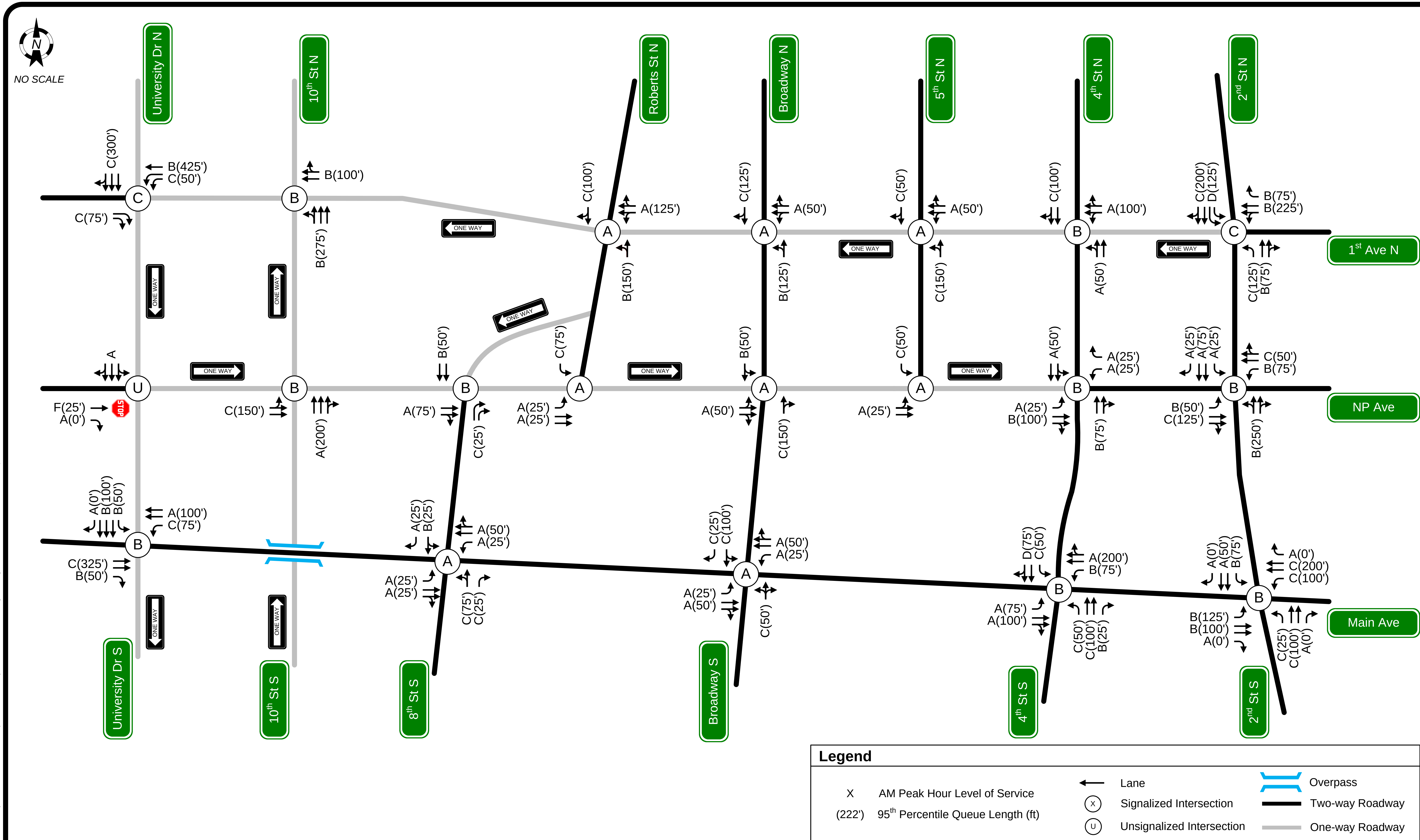

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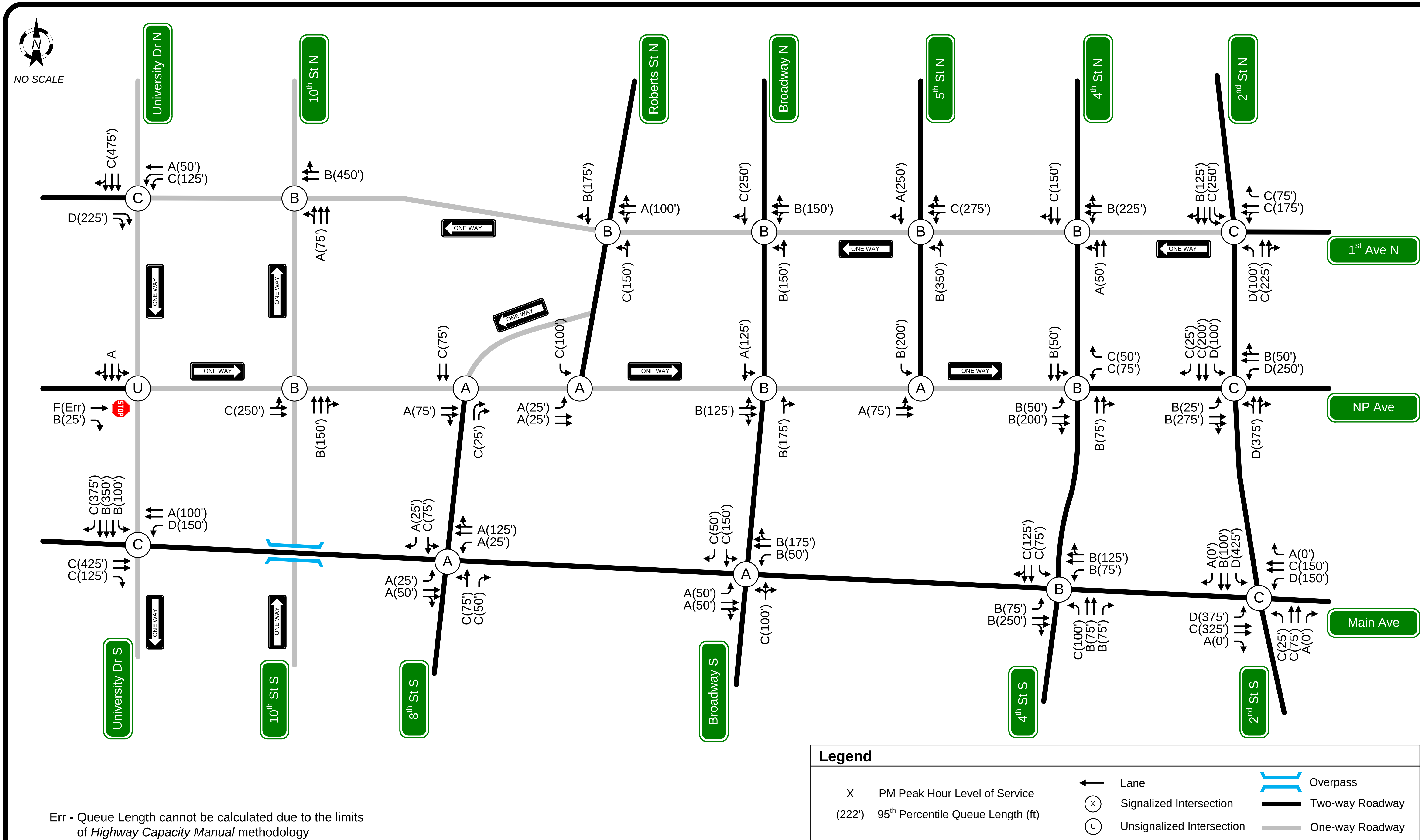
Year 2035

One-way Two-lane AM Level of Service and Queue Length

Figure 19



Err - Queue Length cannot be calculated due to the limits of *Highway Capacity Manual* methodology

NP Avenue and 1st Avenue North Corridor Development Plan - Draft

Fargo, North Dakota

Year 2035

One-way Two-lane PM Level of Service and Queue Length

Figure 20

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2.4 Alternative Analysis Summary

There is no doubt that one-way roadways move traffic efficiently. The elimination of conflicting turning movements enables unparalleled progression of traffic due to the coordinability of the traffic signals. However, delay for motorized vehicles should not be the only measure of a "good" alternative. Each of the proposed alternatives has advantages and disadvantages. To best fulfill the mission statement, though, the existing streets should be converted to two-way operations.

Two of the alternatives propose two-way operation but Alternative 2, Two-way, Two-lanes, clearly does not handle traffic as well as Alternative 1, the 2+1. The alternative that has greatest positive result to the Fargo downtown development area is the 2+1 alternative.

2.5 Recommended Alternative

It is the recommendation of the study team that Alternative 1, the 2+1 configuration, be carried forward for more detailed analysis.

Chapter 3: Economic Impact Analysis

3.1 Introduction

The conversion of NP Avenue and 1st Avenue North will do more than alter Downtown traffic flow and patterns; it will also result in significant economic impacts on Downtown Fargo, especially local businesses and the city government. The purpose of this analysis is to quantify the direct economic and employment impacts of the three street reconfiguration alternatives presented as part of this study.

Economic impacts in other cities that have converted downtown street patterns been measured and were presented as part of **Chapter 1**. The results from other cities have been reviewed and incorporated into how proposed street configurations will impact Downtown Fargo's development and redevelopment. The economic impacts on the City of Fargo have been prepared to enhance local officials' decision-making process as the community considers the proposed alternatives. The findings of this analysis are presented in this chapter of this report.

As stated in **Chapter 1**, it was concluded from the benchmark survey that the conversion of NP Avenue and 1st Avenue North in Downtown Fargo to two way traffic will have a positive economic impact on existing development and will stimulate further redevelopment in Downtown.

3.2 Existing Conditions in Study Area

In order to analyze the economic impacts of the proposed Fargo street conversion project, it is necessary to establish the base line for projections and understand the recent trends within the area. There is a total of 3,692,734 square feet of improvements in the study area scattered on 157 parcels of land.

3.2.1 Residential Development

There are a total of more than 294 residential units within the NP Avenue and 1st Avenue North corridor study area. (A listing of these properties by address is included in the Appendix.) From 2000 through 2007, the number of downtown housing units grew by 288 including 8 condominium developments with 81 owner occupied units, 27 new rental units and 180 rehabilitated rental units. The most recent has been the construction of 17 apartments on Roberts, five condominiums at 300 Broadway project and the new NDSU dormitory.

3.2.2 Office Development

The most significant addition to the study area has been the renovated NDSU classrooms and offices. In 2009 there was a total of 1,106,000 square feet of office in the Fargo Central Business District including 161,500 square feet of vacant space. Approximately 56 percent of this total, or 619,663 square feet, is within the corridor study area. This amount of office vacancy represents an increase from 105,400 square feet reported in 2000 by Konrad Olson Commercial Real Estate. Office rental rates in the central business district have increased since 2000 by an annual average of 2.6% per year and ranging from 2.1% to 2.7% depending on the class of space.

3.2.3 Retail Development

There is more than 350,000 square feet of retail in the corridor study area. Retail vacancy in Downtown Fargo is reported to be 13 percent according to NAI Global Real Estate Services. The corridor has a mixed record of retail success with certain eating establishments and jewelry stores doing very well, while other small, independent businesses are performing below the retail industry average. This higher retail vacancy rate is almost twice the 7.0 retail vacancy rate reported in the rest of Fargo.

Existing sales among the retail businesses and restaurants within the study area in 2010 are estimated to be approximately $40 million. Retail sales range from approximately $50 per square foot for art-related uses to around $300 per square foot for some restaurants.

3.2.4 Industrial Development

There is 282,249 square feet of industrial building in downtown Fargo including 232,244 square feet located within the corridor study area.

In total, there are 157 parcels in the corridor study area with a total of 3,692,734 square feet of improvements. **Table 10** summarizes these parcels by land use, square feet of improvements, land and building value.

Table 10. Summary of Corridor Study Area Property by Use and Value 2010

Land Use	Number of Parcels	Built Square Feet	Residential Units	Appraised Land Value	Appraised Value of Improvements
Residential	32	342,947	291	$1,649,000	$13,551,600
Office	48	619,663	N / A	$4,559,400	$35,982,000
Industrial	14	232,244	N / A	$1,110,300	$4,348,900
Mixed Use (a)	12	304,578	3+	$2,099,500	$19,856,800
Retail & Restaurant	41	346,935 (b)	N / A	$3,285,600	$13,497,201
Public (c)	10	1,846,367	N / A	$1,335,300 (d)	$3,285,600 (d)
Total	**157**	**3,692,734**	**294+**	**$14,039,100**	**$90,522,101**

Source: City of Fargo Assessment Department.

(a) Includes retail, office, residential and restaurant uses.
(b) Includes 58,800 of restaurant space.
(c) Includes private parking lots and railroad right of way.
(d) Non tax-exempt parcels only.

Rental and leases rates are influenced by the market value of the particular property. As displayed in **Table 11**, property values vary widely in Downtown Fargo because of wide differences in building conditions and characteristics. In addition, market demand, specific location, configuration and use also factor into establishing property values. Industrial buildings have the lowest average assessed values while new or renovated retail and residential properties are the highest assessed properties within the corridor according to the City of Fargo Assessor's Office.

This range of values can serve as a financial incentive for owners of lower valued properties to renovate and/or redevelopment their property. The following table present the range of assessed values within the corridor. These values exclude lands in public use and railroad owned parcels.

Table 11. Corridor Study Area Assessed Value by Use 2010

Major Use	Lowest Assessed Per Square Foot	Highest Assessed Per Square Foot	Median Assessed Per Square Foot
Residential	$32	$180+	$70
Office	$22	$150+	$68
Retail	$20	$200+	$50
Industrial	$12	$105	$30

Source: City of Fargo Assessor's Office.

3.3 Projected Changes to Study Area

The basis for the projected absorption of new development in this economic impact analysis reflects a combination of factors and independent sources. These include:

a. Experience from analysis of other downtowns that have completed two-way street conversion projects and/or projected the economic impact of converting major streets as described elsewhere in this chapter;
b. A review Fargo's prevailing market conditions, including the amount and types of new development and redevelopment in Downtown Fargo;
c. Prevailing retail, office and residential occupancy rates and tax collections for Fargo as published by Fargo real estate companies, the City of Fargo, the North Dakota Office of State Tax Commissioner and Cass County;
d. The market data and analysis of Downtown Fargo published by Maxfield Research, Inc. (hereinafter referred to as the Mayfield study) prepared for the City of Fargo;
e. The proposed streetscape improvements along NP Avenue and 1st Avenue North that will be a part of the street conversions;
f. The slower vehicle travel which will increase business visibility to drivers, bicyclists and bus riders;
g. The increase in the number of on-street parking spaces which will enhance access to retail and restaurants;
h. New bike lanes which will attract additional riders, shoppers and diners to Downtown businesses;
i. The increase in new residents and workers which will strengthen the area's retail and restaurant business activity; and
j. New streetscape on NP Avenue and 1st Avenue North which will enhance the ability of restaurants to offer seasonal outdoor dining.

Based on these factors, the absorption of new development and redevelopment has been projected. Furthermore, from the findings in other cities presented in the Two Way Street Benchmark Survey, it has been concluded that the projected amounts of new development and redevelopment by converting NP Avenue and 1st Avenue North under both Alternative #1 and Alternative #2 will result in the same economic impacts. The critical factor in analyzing the economic impacts is that both streets will have two-way traffic instead one-way traffic. The specific configuration of the two-way traffic lanes is not measurable in economic terms.

3.4 Major Assumptions

The following describes the municipal revenue and new development assumptions used in this report to project the economic impacts. All revenue projections are presented in constant 2010 dollars

3.4.1 Revenue Assumptions

Major municipal revenue assumptions included in this analysis are presented in **Table 12**.

Table 12. Summary of Major City of Fargo Revenue Rates and Assumptions

City Revenue Source	Tax Rate Assumption	Economic Impact Study Explanation
Property Tax Mill Levy	Total 380.92 (including city)	Property tax is projected at the 2009 mill levy rate throughout the projection period without any exemption applied for new businesses. The City of Fargo represents approximately 15.25% of this total. Residential property taxes are based on units valued at $160 per square foot, $200 for new office and new retail assessed at an average of $175 per square foot.
Sales Tax	2% thru June 2012; then 1.5% (assumes 1% expiring in 2028 and 0.5% expiring in 2020 will be renewed)	Projected retail sales taxes are based on a blended average of retail, restaurant and retail in mixed use ranging from $100 to $250+ sales per foot based on Urban Land Institute's average sales per square foot for businesses adjusted for local economic and demographic conditions
Parking Revenues	Average $650 per year per off-street parking space	Average annual revenue is per space based on fees ranging from $47 to $62 per month; Assumed 0.74 parking used for each 1,000 square feet of new retail and restaurant space and 0.9 parking used for each 1,000 square feet of new office space
Lodging Revenues	3%	Net increase in revenues is from increased occupancy at 168 rooms (Hotel Donaldson and Radisson Hotel); 2010 est. occupancy rate of 61% increasing to 67% for Alternatives #1 and #2 and 63% for Alternative #3
Franchise Fees	5% (Xcel Energy and Cable One for cable TV, Internet, gas and electricity)	Franchise fees are conservatively calculated at the rate of $30 per year per residential unit; $60 per year per retail business assuming one business for every 3,000 square feet and $40 per year per office business for every 2,000 square feet

These development projections also consider the prevailing national trends in downtowns that have seen increased revitalization across the United States with growing housing and dining components.

Although this economic impact analysis did not include a market study of the downtown, it is important to note recent trends and changes that have occurred, especially since completion of the Analysis of the Market Potential for Additional Retail, Office, Lodging and Housing in Downtown Fargo, North Dakota prepared for the city by Maxfield Research Inc. In the past decade, Downtown Fargo has experienced a considerable amount of public and private reinvestment. The Downtown boundaries of the Maxfield study were approximately double the size of the NP Avenue and 1st Avenue North corridor study area, although the NP Avenue and 1st Avenue North are primary business corridors in Downtown. Therefore, the market demand projections in this economic impact analysis reflect a fair share of the overall Downtown demand.

The economic impacts projected in this analysis are presented over two time frames: 10 years and 25 years. The 10 year projection period covers a realistic time frame during which the proposed street and streetscape improvements would be budgeted, financed and constructed. The 25 year time frame is used because it coincides with year 2035, the 25 year traffic projection period used in the traffic analysis portion of this report.

3.4.2. New Development Assumptions

The corridor study area represents about 50 percent of the Downtown market area assessed in the Maxfield study. Overall, this economic impact projects that the average annual growth rate will be approximately one-third of the potential demand projected in the Maxfield study under Alternatives #1 and #2. **Table 10** displaus the annual average demand incorporated in this economic impact study for the two-way conversion Alternatives #1 and #2 in comparison to the Maxfield study average annual demand projections presented in the market potential of Downtown Fargo. As noted earlier in this chapter, the projected amounts of new development and redevelopment by converting NP Avenue and 1st Avenue North under both Alternative #1 and Alternative #2 will be the same.

Table 13. Projected Two-Way Street Absorption vs. Downtown Market Study Demand

Major Use	Maxfield Market Study Projected Demand		Alternatives #1 and #2 – Corridor Study Area Economic Impact Study Projections		Projected Study Area Alternatives #1 and #2 Development vs. Maxfield Study
	Downtown 10 Year Total (square feet)	Annual Average Demand	25 Year Projected Development (Square feet)	Annual Average	
Mixed Use (a)	180,000 – 240,000	18,000 – 24,000	99,990	4,000	**43%**
Office			126,560	5,060	
Retail	150,000 – 250,000	15,000 – 25,000	86,465	3,460	**31%**
Restaurant			57,500	2,300	
Total	**330,000 - 490,000**	**33,000 – 49,000**	**370,510**	**14,820**	**36%**
Residential Units	**435 units**	**43 units**	**350 units**	**14 units**	**33%**
Lodging	**35 – 57 rooms**	**4 – 6 rooms**	**none**	**none**	**0%**

(a) Mixed use includes a combination of office, retail, and restaurant businesses.

Source: Maxfield Research Inc. 2000; RICHARD CAPLAN & ASSOCIATES 2010.

The Maxfield Research Inc. market analysis also included a projected demand for lodging in Downtown Fargo. Since the Maxfield Research study was completed, the Hotel Donaldson has entered the downtown lodging market. However, since there are no lodging facilities that immediately abut either NP Avenue or 1st Avenue North, no lodging construction is projected in this impact analysis as a result of the potential two-way street conversion. Nevertheless, additional revenues from an increase in hotel occupancy in the existing Downtown lodging properties are included in the economic impact projections.

3.5 Projected Timing and Changes in Development

The level of new development and economic impacts have been uniformly applied and calculated over 25 years for Alternative #3. However, under Alternatives #1 and #2 even with phasing of street and streetscape improvements, there will be some disruption and interim loss of business activity along the corridor. Therefore, a different rate of build out has been utilized for projecting the economic impact for Alternatives #1 and #2. **Table 14** displays the annual pace of development for which the economic impacts are calculated. The estimated net impact of the anticipated three year construction period for Alternatives #1 and #2 is presented later in this chapter.

Table 14. Development and Redevelopment Absorption Rate Assumptions by Years 1 – 25

Projection Period	Alternatives #1 and #2 Rate of New Development Built	Alternative #3 Rate of New Development Built
Years 1, 2	• 4% per year	• 4% per year
Years 3 – 5	• 2% per year (reflects street reconstruction period)	
Year 6	• 8% (boom/pent up demand after completion of street reconstruction)	
Year 7,8	• 5% per year	
Years 9 - 25	• 4% per year	
Total Years 1 - 25	**100%**	**100%**

In summary, Alternatives #2 and #3 are projected to add 326,000 square feet of new development over 25 years, a net increase of 21.8 percent in the amount of square feet within the corridor study area. Since Downtown development and redevelopment are expected to continue regardless of the potential street conversion, this analysis has concluded that under Alternative #3 there will be a projected increase of 137,000 square feet, or a net increase of 9.2 percent in the amount of square feet in the study area. **Table 15** displays these projections by land use over the next 25 years. These projections serve as the basis for determining the net economic impact for each alternative. This information is also displayed graphically in **Figure 21**.

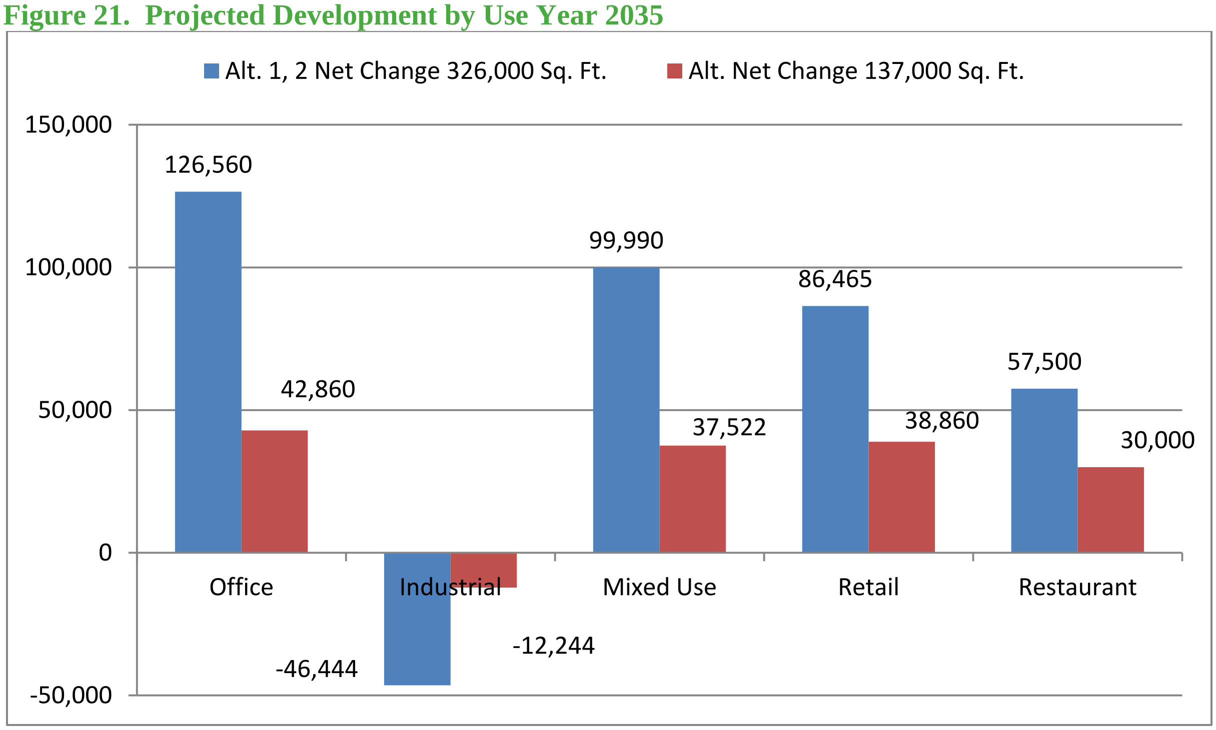
Table 15. Projected Corridor Study Area Development by Alternative and by Use Year 2035

Land Use	2010 Square	Alternatives #1 and #2			Alternative #3		
		Projected	Net	Net %	Projected	Net	Net %

	Feet	(Year 25)	Change	Change	(Year 25)	Change	Change
Office	619,663	748,223	126,560	20.7%	662,523	42,860	6.9%
Industrial	232,244	185,800	(46,444)	(20.0%)	220,000	(12,244)	(5.3%)
Mixed Use	298,078	398,000	99,990	33.5%	335,600	37,522	12.6%
Retail	288,135	374,600	86,465	30.0%	327,000	38,860	13.5%
Restaurant	58,800	116,300	57,500	97.8%	88,800	30,000	51.0%
Total Square Feet	**1,496,920**	**1,822,923**	**326,000**	**21.8%**	**1,633,923**	**137,000**	**9.2%**
Residential; Units	342,947; 291 units	591 units	350 units	**120%**	641 units	300 units	**103%**

Source: City of Fargo Assessor's Office; Richard Caplan & Associates.

Figure 21. Projected Development by Use Year 2035



3.6 Projected Economic Impacts

In total, based on the amount of new development projected within the corridor study area, Alternatives #2 and #3 will have a net economic impact of $10.2 million over 10 years and approximately $60.4 million over 25 years. Alternative #3 is projected to generate an additional $171,070 in revenues over the first 10 years and $1,011,120 over 25 years. (See **Table 16**.)

Table 16. Corridor Study Area Combined Projected Economic Impact over 10 and 25 Years

Alternative	Net Increase in Square Feet (Year 25)	10 Years Total Economic Impact	25 Years Total Economic Impact
Total Economic Impact:			
Alternatives #1 & #2	326,000	$15,721,688	**$92,922,365**
Alternative #3-Bike Lanes only	137,000	$5,673,796	**$33,534,685**
Net Economic Impact:			
Alternatives #1 & #2 Vs. No Build	189,000	**$10,218,960**	**$60,398,800**
Alternative #3 Vs. No Build	0	**$171,070**	**$1,011,120**

Note: All revenues are presented in 2010 dollars and based on current tax rates.

As displayed **Figure 22**, approximately 43 percent of the net economic impacts will be generated by property taxes, 34 percent from sales tax, 12 percent from franchise fees, 10.5 percent from off-street parking revenues and the balance in local lodging fees.

Figure 22. Alternatives 1 and 2 Mix of Revenues

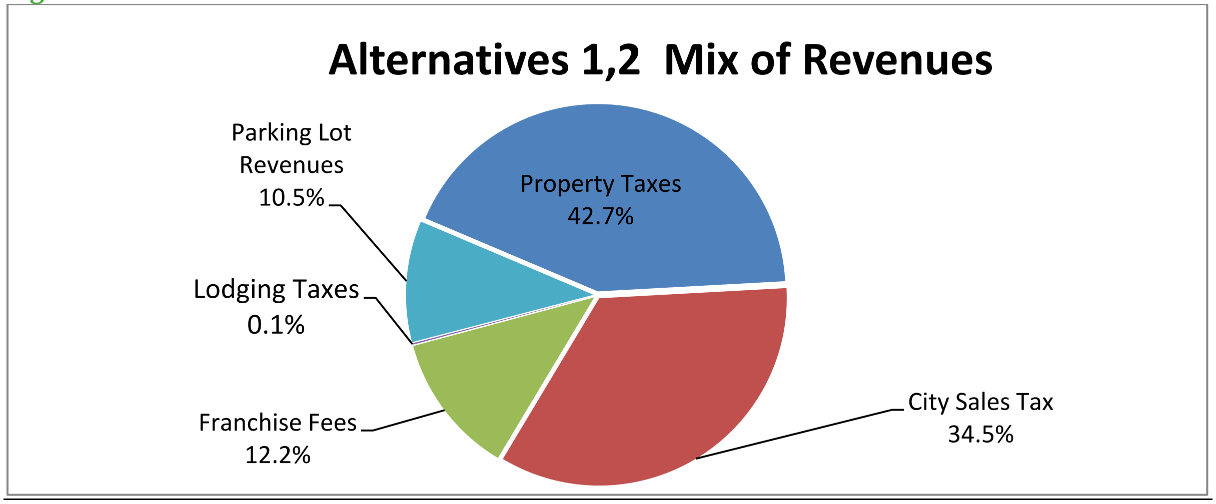


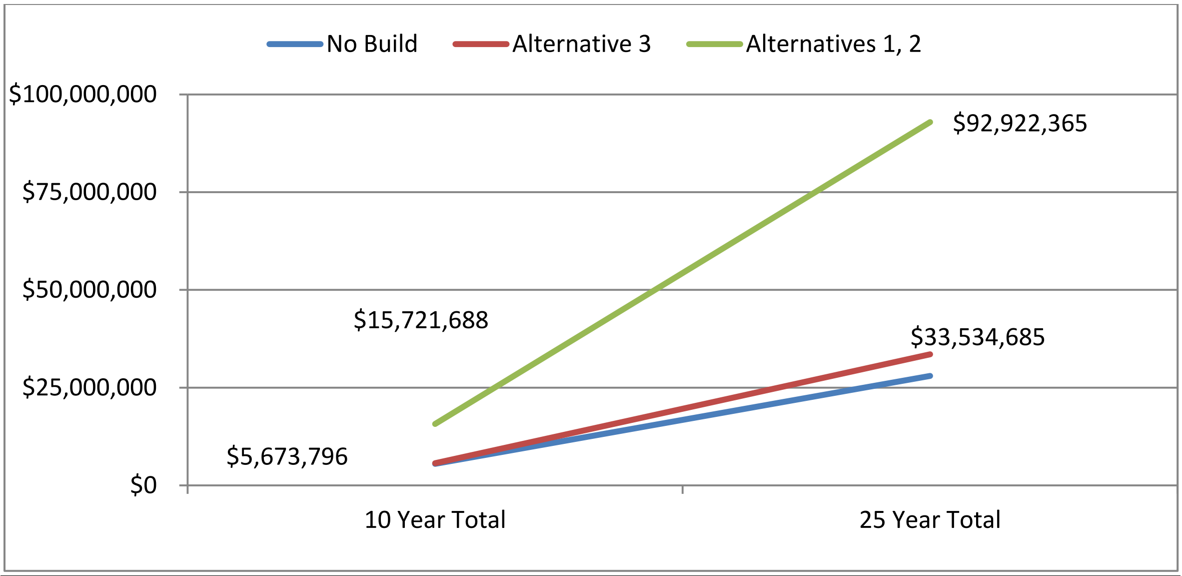
Table 17 displays the projected net revenues in year 25. This information is also displayed graphically in **Figure 23**.

Table 17. Projected Net Revenues in Year 25

REVENUES	Alternatives #1 or #2 @ Year 25	Alternative #3 @ Year 25	Net Difference (Alternatives #1 & #2 vs. Alternative #3)
Total Property Taxes:			
Office	$ 366,510	$ 122,170	$244,340
Industrial	($20,795)	($5,511)	($15,284)
Mixed Use	$ 285,000	$ 106,875	$178,125
Retail	$ 246,454	$ 110,794	$135,660
Restaurant	$ 163,875	$ 85,500	$78,375
Residential	$ 900,200	$ 771,600	$128,600
Property Tax Sub-Total (a)	$1,941,244	$1,191,428	$749,816
Annual Sales Tax: Retail, Mixed Use & Restaurant	$1,564,852	$ 811,675	$753,177
Annual Franchise Fees	$ 555,125	$ 218,980	$336,145
City Lodging Taxes	$ 5,444	$ 2,722	$ 2,722
City Off-Street Parking Lot Revenues	$ 474,956	$ 348,683	$ 126,273
ANNUAL TOTAL at Year 25	**$ 4,541,620**	**$2,573,488**	**$1,968,132**
Total Years 1 – 10	$15,721,688	$5,673,796	$10,047,892
Total Years 1 - 25	$92,922,365	$33,534,685	$59,387,680

(a) The City of Fargo represents approximately 15.25 percent of the total property tax revenues, or $296,850 of total property tax revenues for Alternatives #1 and #2 and $182,200 for Alternative #3.

Figure 23. Projected Net Revenues in Year 25



Alternatives #1 and #2 include economic costs in the form of less revenue which will likely occur during the three year period of reconstruction. The estimated net cost to the city is $323,100 in foregone sales tax ($247,870) and parking revenues ($75,230) over three years. This represents $12.4 million in lost retail and restaurant sales to local businesses. This is 33% less revenues over a three year period). The property tax projections do not include increases in assessed value for existing improvements.

3.6.1 Increased Employment and Population Projections

New development and redevelopment in Downtown Fargo will also have employment impacts on Downtown's economy. Increased employment will result from added retail, office, restaurant and mixed use development. No additional jobs are expected to be generated in Downtown hotels, from increased utilization of the off-street public parking lots or from the new residential units. Furthermore, there is a gradual decline projected in the number of Downtown industrial jobs as some older, existing industrial buildings are reused or redeveloped for non-industrial uses.

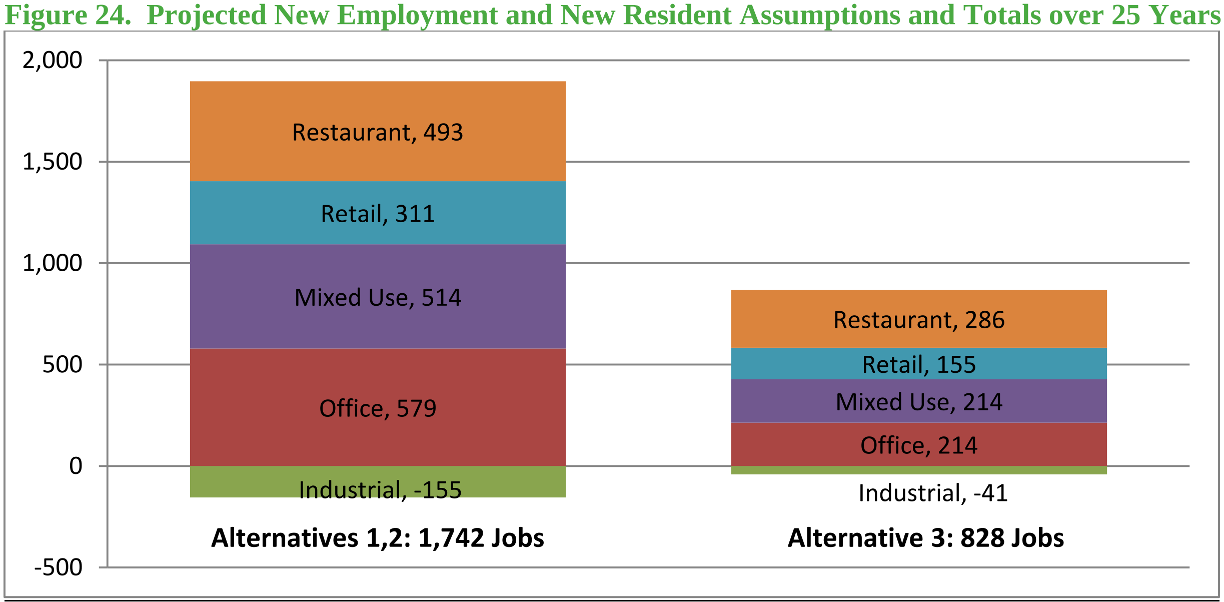
As displayed in **Figure 24** and **Table 18**, there are a total of 1,742 jobs projected with Alternatives #1 and #2 and a net of 914 new jobs in comparison to Alternative #3 as a result of converting NP Avenue and 1st Avenue North to two-way streets. These employment figures do not include one-time construction jobs associated with installing the street and streetscape improvements or private developments or redevelopment. There are 545 new residents projected by year 25 under Alternatives #1 and #2 and 467 new residents anticipated under Alternative #3.

Table 18. Projected New Employment and New Resident Assumptions and Totals over 25 Years

Land Use	New Employment / New Resident Ratios	Alternatives #1 and #2	Alternative #3	Net Difference
Office	1 job per 200 square feet	579	214	365
Industrial	1 job per 300 square feet	(155)	(41)	(114)
Mixed Use	1 job per 175 square feet	514	214	300
Retail	1 job per 250 square feet	311	155	156
Restaurant	1 job per 105 square feet	493	286	207
Total New Employees in Year 25	N/ A	**1,742 jobs**	**828 jobs**	**914 jobs**
New Residents in Year 25	1.64 persons per unit	545 persons	467 persons	**78 persons**

Note: Residential assumes 95% housing occupancy rate. The number of new residents excludes consideration of any future addition to Downtown's NDSU student dorms.

Figure 24. Projected New Employment and New Resident Assumptions and Totals over 25 Years



The employment projections do not include temporary jobs also generated during street reconstruction or related indirect construction expenditures that may occur in the study area.

3.6.2. Indirect Economic Impacts

Finally, it should be noted that there is also a multiplier effect of City of Fargo revenues not included in these benefits, which will further contribute to the Fargo economy. Multipliers are the result of dollars spent in the community on construction materials, from wages earned by the additional employees resulting from new development and redevelopment. They are not incorporated into this analysis because they do not have a directly quantifiable fiscal impact on the city government. Nevertheless, these multipliers will supplement Fargo's economy. As money entering the economy is used over and over again because of the expanded development, enhanced level of employment and shopping and living in Downtown Fargo, many people and businesses will benefit, even if they are not direct property and/or business owners.

3.6.3 Commercial Rental Rates

Commercial rental rates in Downtown are projected to increase at least by an average of 2.5 to 3% annually over the next decade. This projected increase will match, if not exceed, the average increase of 2.6% per year rate reported for the central business district since 2000. These increases in rental rates will be driven by a combination of the following factors:

a. An increase in demand as streetscape improvements and other public investment enhances Downtown Fargo to shoppers, diners and as a place to conduct business;
b. A gradual upgrading in the quality of the office and retail products as renovation of older properties and/or new in-fill occurs; and
c. An improved ability by local landlords to attract new tenants, satisfy expansions and/or relocations from outside of Downtown to coincide with highly visible public investment.

3.7 Alternative Economic Impacts Summary

In summary, the Alternatives #1 and #2 to convert NP Avenue and 1st Avenue North to two-way will have a significant economic impact on Downtown Fargo. The projected economic impact of Alternatives #1 and #2 exceeds either the "no build" or Alternative #3 options by $10 to $10.2 million over the first decade and by $59 to $60.3 million over 25 years.

3.8 Economic Impact from Adding Bike Lanes to Major Streets

The economic impact of adding bike lanes is somewhat hard to quantify, due to the fact that there are few studies that have quantified the economic impact of adding bicycle lanes to streets. Implementing Alternative #3 is projected to have a minimal but positive economic impact on Downtown Fargo's retail and restaurant sales. However, it will not directly impact property values, franchise fees, lodging tax revenues nor stimulate any new development or redevelopment.

This conclusion is based on the results of three recent studies on the economic impact of bicycle lanes in Toronto, North Carolina and Texas. The three recent studies that specifically examined bicycle lane economic benefits or impacts include:

a. Bike Lanes, On-Street Parking and Business. A Study of Bloor Street in Toronto's Annex Neighborhood completed in 2009 by the Clean Air Partnership;
b. Economic Impact of Investments in Bicycle Facilities. A Case Study of the North Carolina Northern Outer Banks (2004) by the Institute for Transportation Research and Education at North Carolina State University;
c. An economic impact analysis completed in April 2010 which assessed adding bicycle lanes to Nueces and Rio Grande Boulevards in Austin, Texas by an Austin-based economic development consulting firm.

A brief summary of these three assessments are as follows:

a. Toronto, Ontario, Canada - The Toronto bicycle impact analysis was based on a survey of local bicycle users along a major commercial street in an urban area of the city but outside of downtown. The survey found that:
   - Shoppers arriving by foot and bicycle visit the most often and spend the most money per month; and
   - The spending habits of cyclists and pedestrians, their relatively high travel mode share, and the proposed change (addition of bike lanes) will likely increase commercial activity.

b. Outer Banks, North Carolina - The North Carolina study focused on the economic benefits on an area's tourism economy. It found that bicycling activity provided substantial economic benefits to the area. The area invested approximately $6.7 million to construct the special bicycle facilities and found that the annual economic impact of cyclists ($60 million) was estimated to be almost nine times greater than the one-time expenditure to construct the bicycle facilities. The study also found that:
   - The bicycle facilities in the area are an important factor for many tourists in deciding to visit the region;
   - Visitors who used bicycles extended their stay, thereby increasing retail sales to local restaurants, lodging establishments and retail stores. Twelve percent of respondents reported that the duration of the visit was longer because of bicycling;
   - Nearby property values along areas that feature bike paths and trails were enhanced;
   - Reducing congestion and enhancing motorist safety resulted in increased benefits to road users; and
   - Increased bike lanes reduced parking congestion.

In summary, the annual economic impact of cyclists in the area was calculated to be nine times the initial costs of the bicycle facilities.

c. Austin, Texas - The mix of commercial uses for the two major streets in the Austin, Texas bicycle impact study reflects similar development patterns to Downtown Fargo. A study was completed in 2010 to project the potential economic impact of adding bicycle lanes to two major commercial streets near Downtown. Businesses along the two streets currently average $13.8 million in goods and services annually. The study projected that:
   - The addition of the bicycle lanes would realize a net increase of approximately $96,000 to $264,000 annually by the 10th year after installation of the new bicycle lanes; and
   - These projections reflect an average annual increase of 0.025 to 0.77 percent over 10 years.

Additional information can be found on these studies are the following web sites:
- www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf
- www.americantrails.org/resources/economics/NCouterbanks
- www.ci.austin.tx.us/publicworks/downloads/bike_blvd_economic_study_042110.pdf

3.1.1 Bike Lanes Conclusion

Based on the findings of these three economic studies and surveys, it can be concluded that the inclusion of bike lanes alone would positively impact retail and restaurant sales in Downtown Fargo on NP Avenue and 1st Avenue North. However, installation of the bicycle lanes would not have any economic impact on Downtown Fargo property values, employment levels or generate any new development.