



NOVEMBER 6, 2018

TECHNICAL MEMO #1 (EXISTING & FUTURE CONDITIONS)

Mn 220 N Corridor Study

Prepared for:



1. Introduction

The Grand Forks-East Grand Forks Metropolitan Planning Organization (GF-EGF MPO), in cooperation with MnDOT, Polk County, and City of East Grand Forks, is advancing the MN (Mn) 220N (referred to in the following as Mn 220) Corridor Study. The Mn 220 corridor provides an important connection within the region, connecting downtown, residential and commercial areas within East Grand Forks, MN.

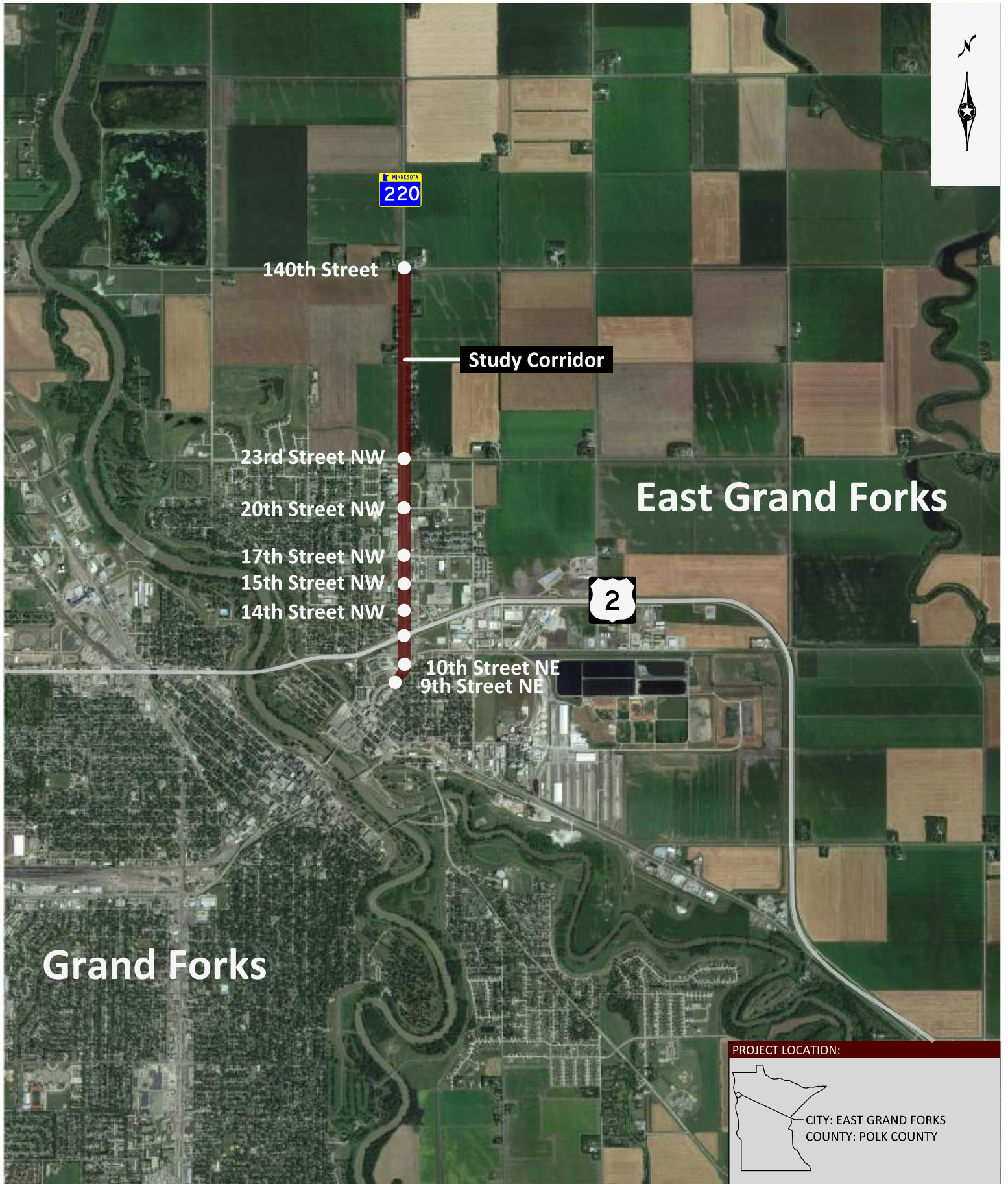
There have been several previous studies completed for the Mn 220 corridor. Recommendations from these past studies have resulted in some infrastructure improvements already and a few planned improvements identified for future investment through the Metropolitan Transportation Plan (MTP). Recent developments of the MnDOT District Safety Plan and Polk County Safety Plan have found concerns at the Mn 220/US 2 intersection which will be further investigated. In addition, the recent development of the 2045 East Grand Forks Land Use Plan anticipates future redevelopment of agriculture areas north of 23rd Street NW, which may influence the transportation and multimodal needs of the corridor. The purpose of the study is to update previous evaluations and develop a document which will provide recommendations for future transportation facility needs along Mn 220 and its crossroads.

1.1 Study Area

The Study Corridor comprises about 2 miles of Mn 220 on the northerly edge of the city of East Grand Forks and the county of Polk in Minnesota. The study area limits are approximately from the intersection of 140th Street SW (township road/north levee) on the north of Mn 220, south along Mn 220 (Central Avenue) to its transition at 9th Street NE to DeMers Avenue. The study area is illustrated in **Figure 1-1**. Nine intersections will be evaluated:

- Mn 220 at 140th Street SW
- Mn 220 at 23rd Street NW
- Mn 220 at 20th Street NW
- Mn 220 at 17th Street NW
- Mn 220 at 15th Street NW
- Mn 220 at 14th Street NW
- Mn 220 at US 2 (Gateway Drive)
- Mn 220 at 10th Street NE
- Mn 220 at 9th Street NE

The street quadrant labels (e.g., NW, NE, SW) are listed for reference above and apply to all intersections discussed throughout the document, though they may not be specifically denoted in the following.



Mn 220 N Corridor Study

*Figure 1-1
Study Area*

1.2 Study Purpose

Although Mn 220N (Mn 220) services a regional transportation need, most of the study corridor traverses through a dense commercial center with residential neighborhoods adjoining. However, 23rd Street serves as a dividing line between urban and rural land uses, with agricultural activity currently located in the northern end of the corridor. This agricultural area could serve as an ideal location for urban development, so understanding any planned land use changes or potential land use changes will influence investment within the corridor.

Specific goals of the project are:

1. Goal 1: Examine traffic operations at key intersections and develop potential options to improve mobility, access, and safety. Evaluate the current locations of lane drops (at 20th Street and north of 17th Street) and evaluate current plans to extend the four-lane to 23rd Street and to expand to a three-lane segment north of 23rd Street to 140th Street.
2. Goal 2: Review past study recommendations and develop potential improvements to access management strategies.
3. Goal 3: Improve pedestrian crossing opportunities and safety at key locations along the corridor.

The outcome of the study will provide a recommended transportation plan showing recommended infrastructure improvements, capital improvement programming costs, and an implementation plan that will be consistent with the Planning and Environmental Linkage (PEL) for transportation projects.

1.3 Previous and Concurrent Studies

key element of the Mn 220 Corridor Study is to evaluate current programmed improvements and past recommendations in consideration of an updated technical analysis based on the current and forecasted conditions of the corridor. Key supporting studies include:

- Central Avenue Corridor Study¹
- East Grand Forks 2045 Land Use Plan²
- Grand Forks-East Grand Forks Metropolitan Transportation Plan³
- Grand Forks Northwest Street Network Study⁴

1.4 Study Approach

The Mn 220 Corridor Study will be developed in three primary phases, as documented in **Figure 1-2**.

- Phase 1 will collect data, document, and review the existing and future conditions. The findings of Phase 1 will be used to inform the development of intersection and corridor alternatives that address the studies purpose and need statement.
- Phase 2 will identify improvement alternatives and define the evaluation criteria that will be used to for selection of preferred improvements.

¹ Central Avenue Corridor Study, December 2007, JLG Architects

² East Grand Forks 2045 Land use Plan, March 2016, SRF Consulting Group

³ Grand Forks-East Grand Forks Metropolitan Transportation Plan, October 2018, WSB/Kimley-Horn

⁴ East Grand Forks Northwest Street Network Study, February 2012, Alliant Engineering, Inc.

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Existing and Future Conditions Assessment

- Phase 3 will develop an implementation plan to support the final transportation plan and documentation of prioritized infrastructure investment within the corridor.

The process also includes a review of existing environmental factors with the study area. These factors are reviewed as part of the evaluation criteria to determine potential impacts as a result of any alternatives evaluated. This evaluation, along with the purpose and need statement help to inform future National Environmental Policy Act (NEPA) documentation during project development.

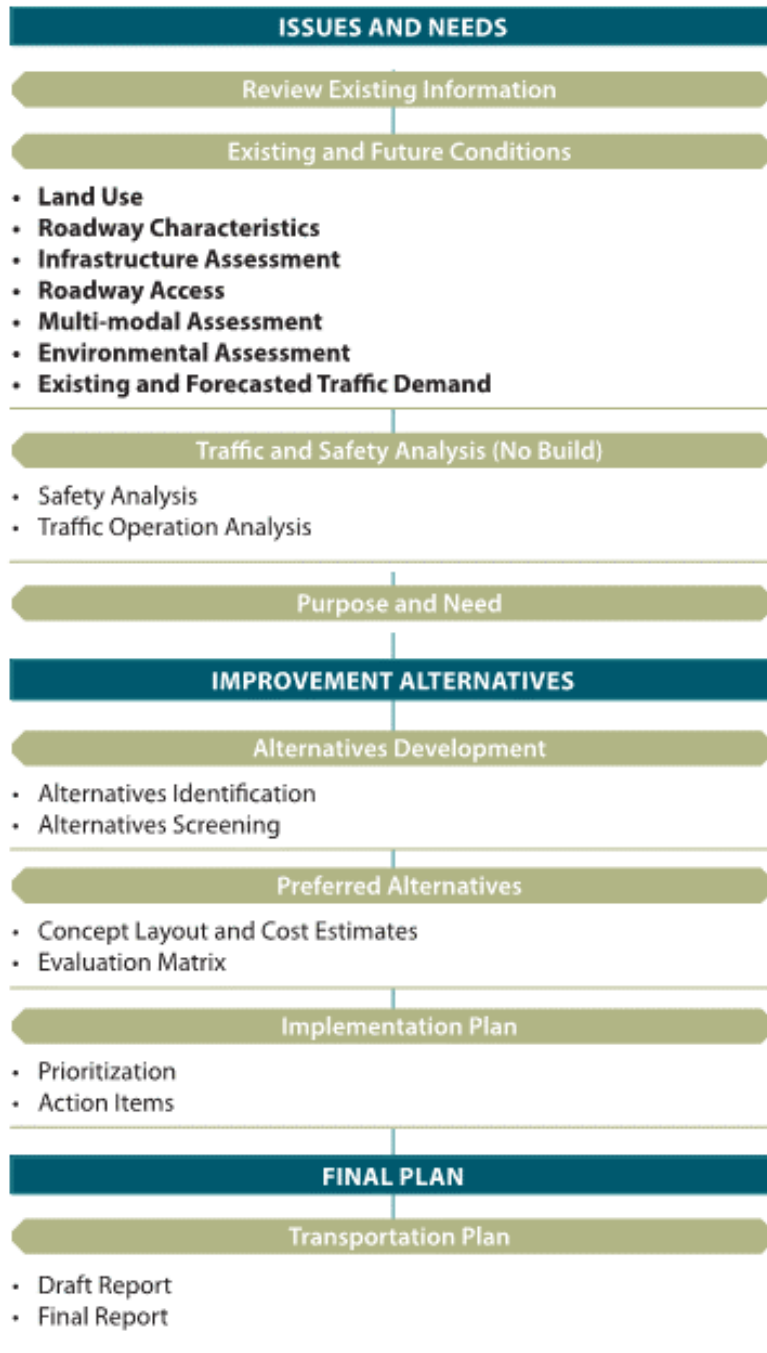


Figure 1- 2. Study Approach

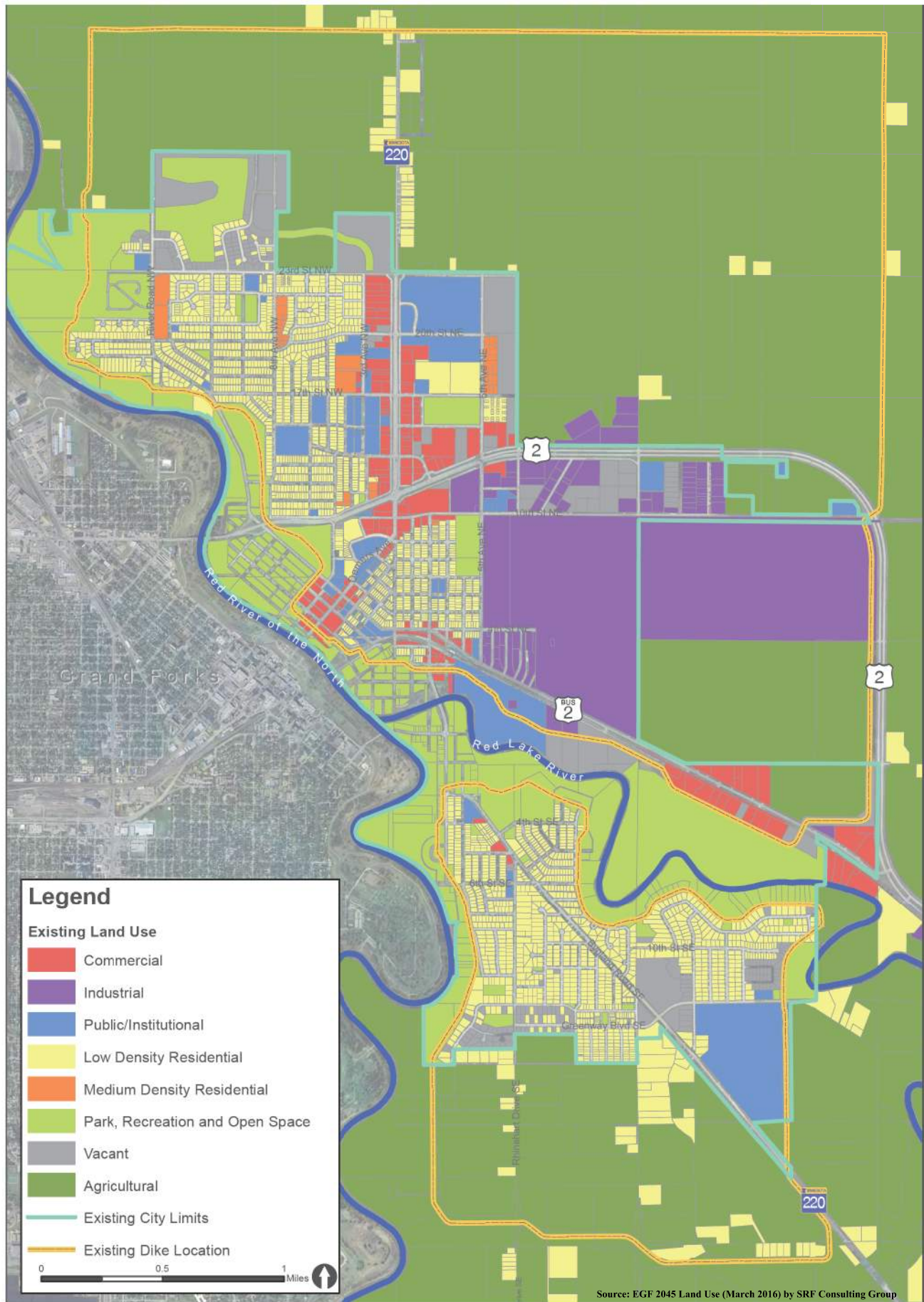
2. Existing and Future Conditions

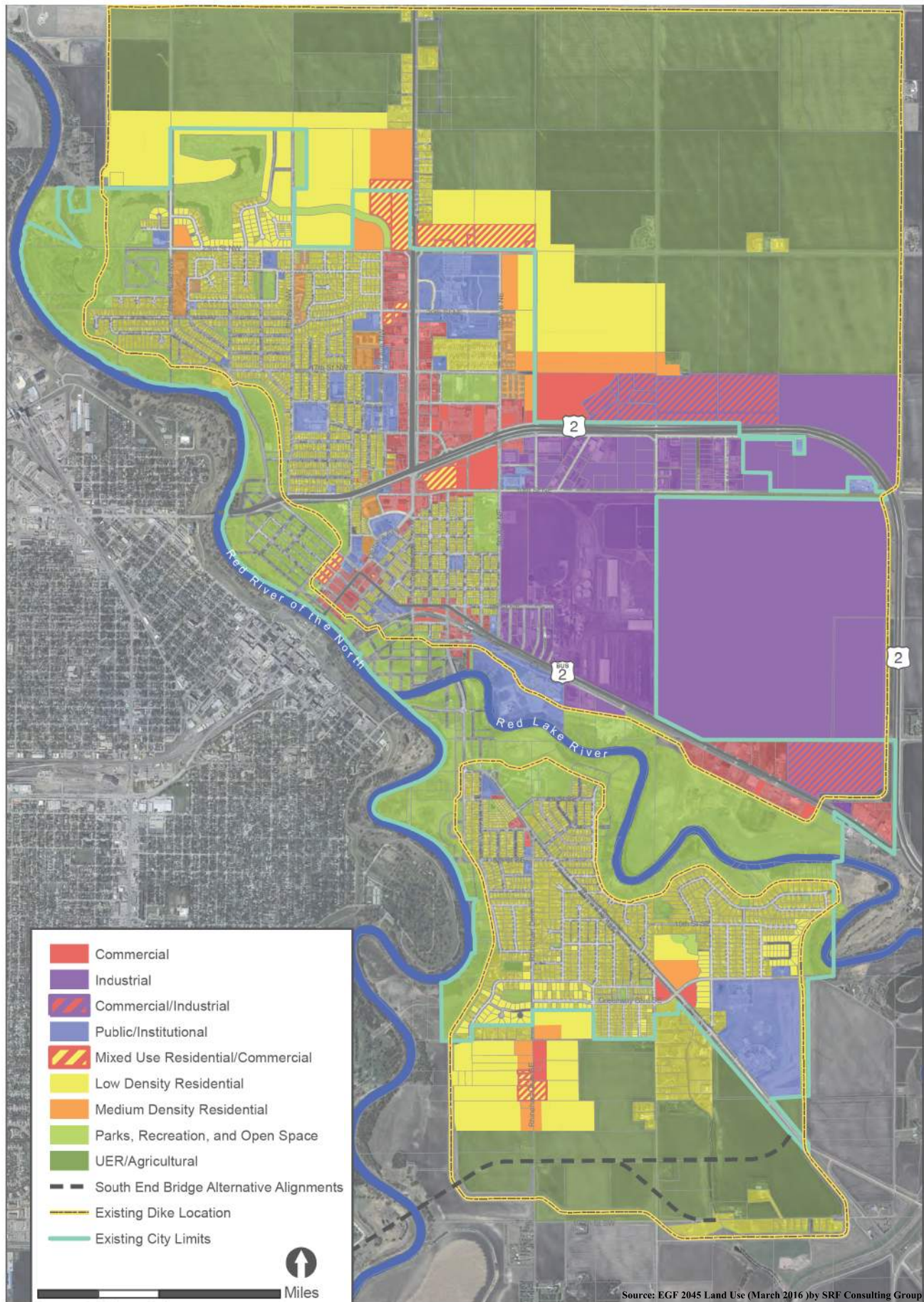
Key components of the existing and future conditions for the Mn 220 Corridor Study include land use, corridor characteristics, infrastructure, public/private access, multimodal characteristics, environmental characteristics and motor vehicle demand. The existing and future transportation network conditions are documented in the following sections.

2.1 Land Use

The Mn 220 study corridor traverses through a concentrated commercial area and plays a major role in connecting a variety of land uses. Currently, the northern portion of the corridor (north of 23rd Street) has a multitude of single-family residences along the corridor. North of 23rd Street, the land use is largely agricultural requiring access to agricultural equipment and related challenges, particularly during the harvest season. South of 23rd Street, the land use is predominantly commercial with some public/institutional buildings. The major institution along the corridor is the Northland Community and Technical College. There is also the East Grand Forks Senior High School and the Civic Center (among other public/institutional facilities) located in close proximity to the corridor. The specific land use sites quite varied and include fast food restaurants, financial institutions, and automobile repair, among industrial type uses. The existing land uses within East Grand Forks area are illustrated in **Figure 2-1**.

According to the East Grand Forks 2045 Land Use map, much of the commercial uses adjacent to the corridor south of 23rd Street are expected to remain as such. Some residential and commercial growth is planned less than half a mile east of the corridor beyond year 2025. Similarly, residential and some commercial growth is anticipated to occur in the northwest quadrant of Mn 220/23rd Street intersection. This area immediately adjacent to the corridor has been identified as a priority development site and is proposed to have a large variety of single-family housing, multi-family housing, and commercial land uses. The 2045 East Grand Forks Land Use plan adopted in 2016 is illustrated on **Figure 2-2**.





Source: EGF 2045 Land Use (March 2016) by SRF Consulting Group

2.2 Roadway Characteristics

The following sections define the key roadway characteristics including the functional classification, roadway geometrics, traffic control devices and right of way.

2.2.1 Function Classification

Roadways serve two major functions: access and mobility. The function of a roadway is dependent on its classification. Interstates and principal arterials provide the highest degree of mobility but are limited in providing land access. Local streets provide a high degree of land access with less mobility. **Figure 2-3** shows a comparison of the different functional classifications relating access to mobility.

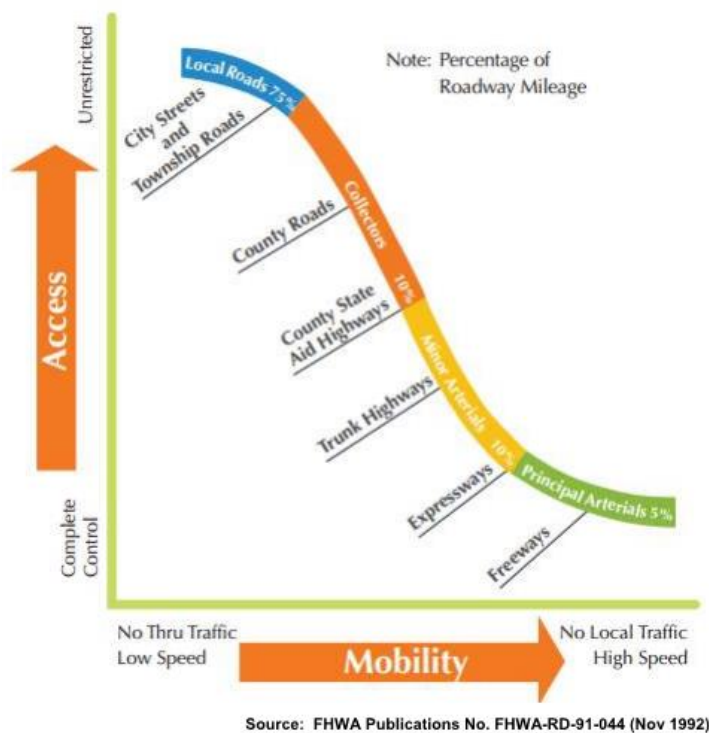
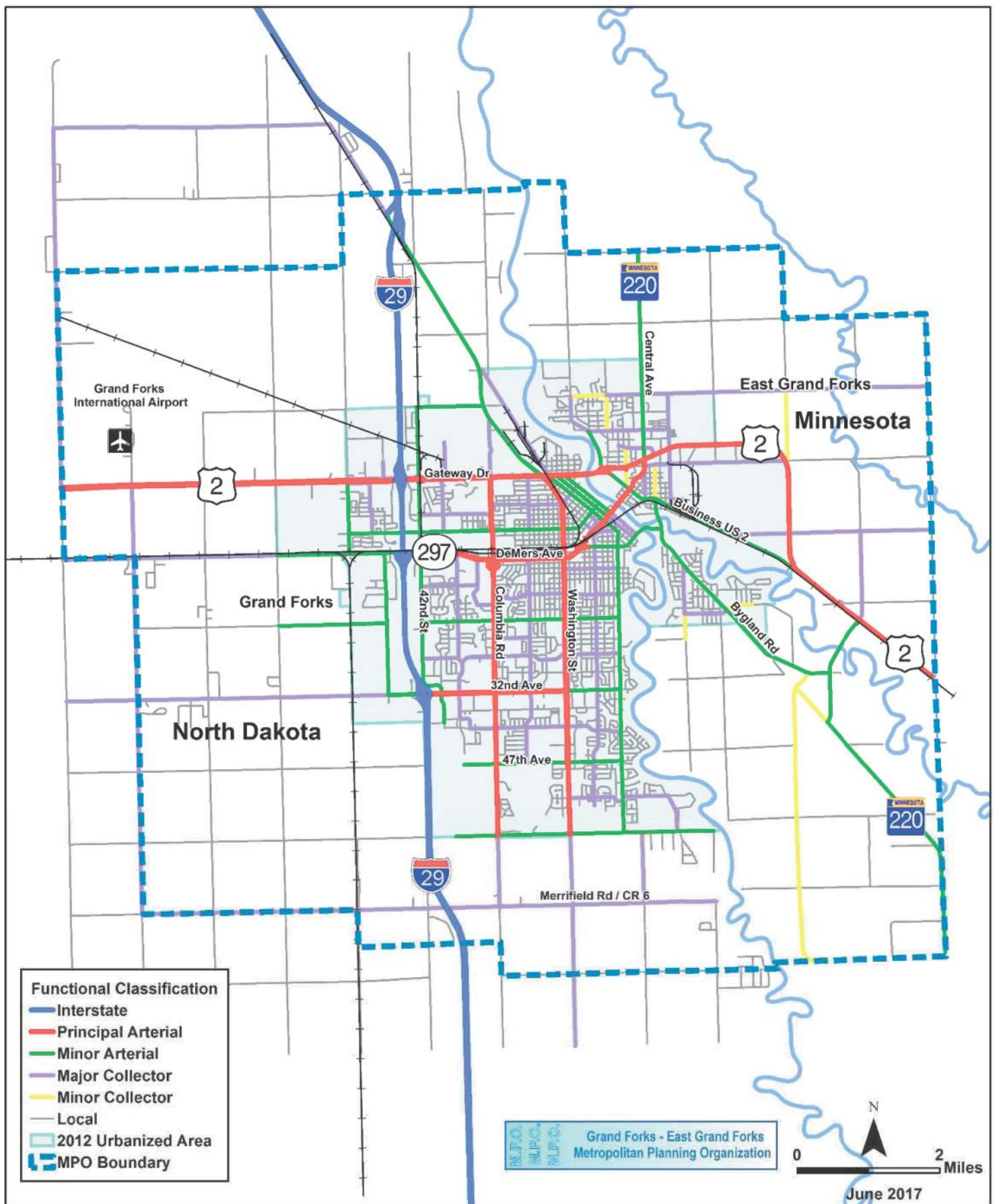


Figure 2- 3. Access and Mobility Relationship to Functional Classification

Mn 220 is classified as a principal arterial south of 23rd Street and a minor arterial north of 23rd Street (Access Management Category 5B), as detailed in the GF-EGF 2045 Metropolitan Transportation Plan (MTP). **Figure 2-4** shows the transportation system functional classification of the surrounding roadway network.



Source: 2045 Metropolitan Transportation Plan - Chapter 3 - Grand Forks/East Grand Forks MPO

Mn 220 N Corridor Study

Figure 2-4

Metropolitan Area Transportation System Functional Classification

2.2.2 Lane Geometrics, Traffic Control, Typical Sections and Street Lighting

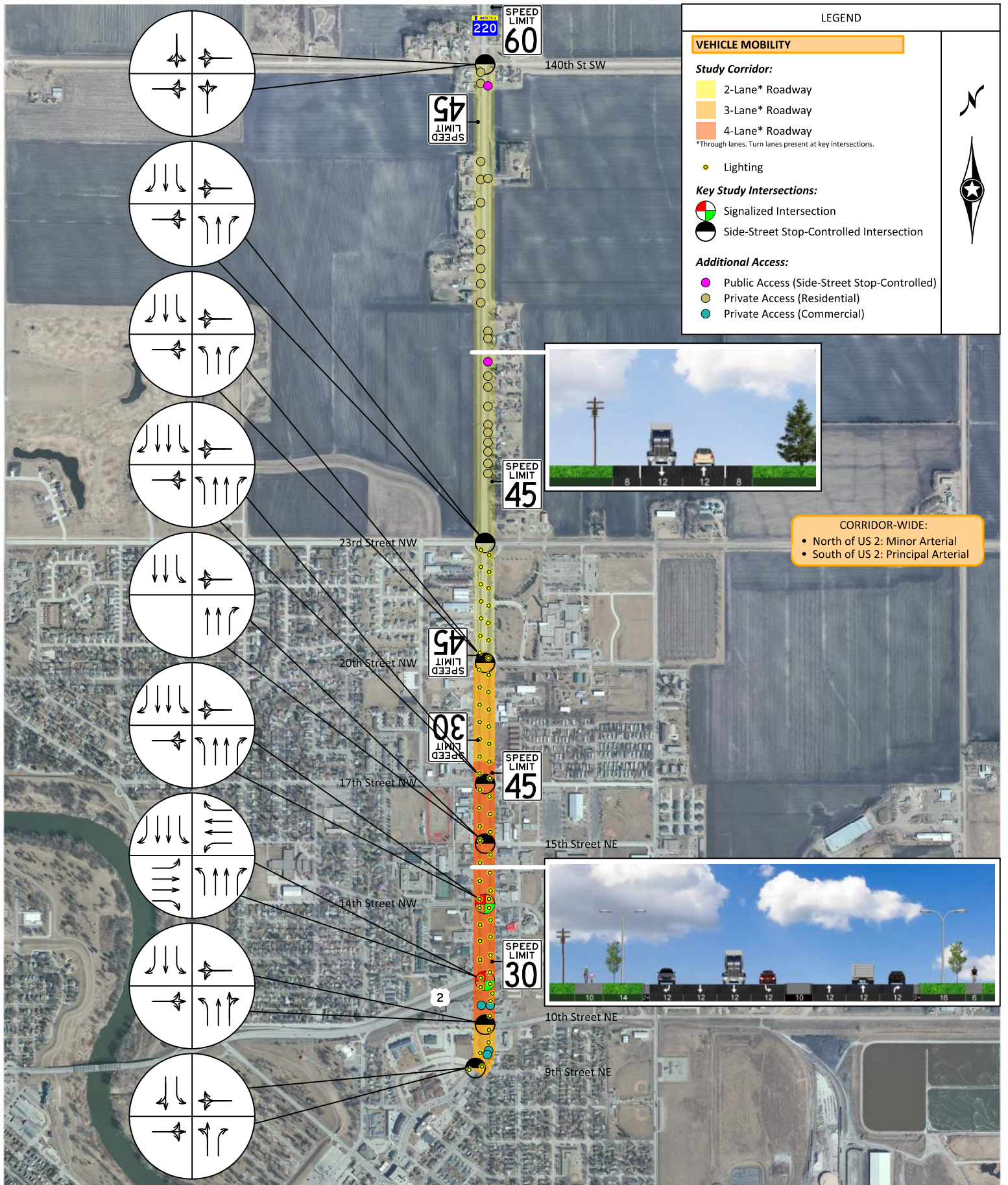
The Mn 220 corridor consists of a varying typical section with the study area. The following general characteristics are present:

- **9th Street NE and 10th Street NE:**
Three lane divided urban design (two lanes northbound and one lane southbound) with key turn lanes and a 30-mph posted speed limit. Traffic control consists of through stop control (side street stop signs).
- **10th Street NE to just north of 17th Street NW:**
Four lane divided urban design roadway with left and right turn lanes and a 30-mph posted speed limit. Traffic control consists of through stop control (side street stop signs), with exception of the US 2 and 14th Street intersections where traffic signal systems are in operation.
- **Just north 17th Street NW to 23rd Street NW:**
The roadway transitions from a four-lane divided typical section to a three-lane divided urban design roadway (two lanes southbound and one lane northbound) with left and right turn lanes. The posted speed limit increases to 45 mph. Traffic control consists of through stop control (side street stop signs).
- **North of 23rd Street NW:**
Two lane undivided rural design roadway with eight-foot shoulders and a posted speed limit of 45 mph.

Roadway lighting standards are provided along both sides of Mn 220 between 9th Street and 23rd Street. **Figure 2-5** illustrates the key roadway lane geometrics, typical sections, traffic control devices and roadway lighting locations.

2.2.3 Right of Way and Above Ground Utilities

Right of way parcel mapping was provided by the GF-EGF MPO. MnDOT maintains approximately 100 feet of right of way south of US 2, 230 feet of right of way between US 2 and 23rd Street (including the frontage roads) and approximately 150 feet of right of way north of 23rd Street. Above ground utilities in the corridor consist primarily of transmission power lines along the west side of Mn 220, electric transformer pads and drainage structures and features. A small retaining pond and overflow basin is present on the southwest corner of 9th Street and culverts are provided below each residential driveway accessing Mn 220 north of 23rd Street. **Figure 2-6** illustrates the estimated right of way (property parcels) and above ground utility features.



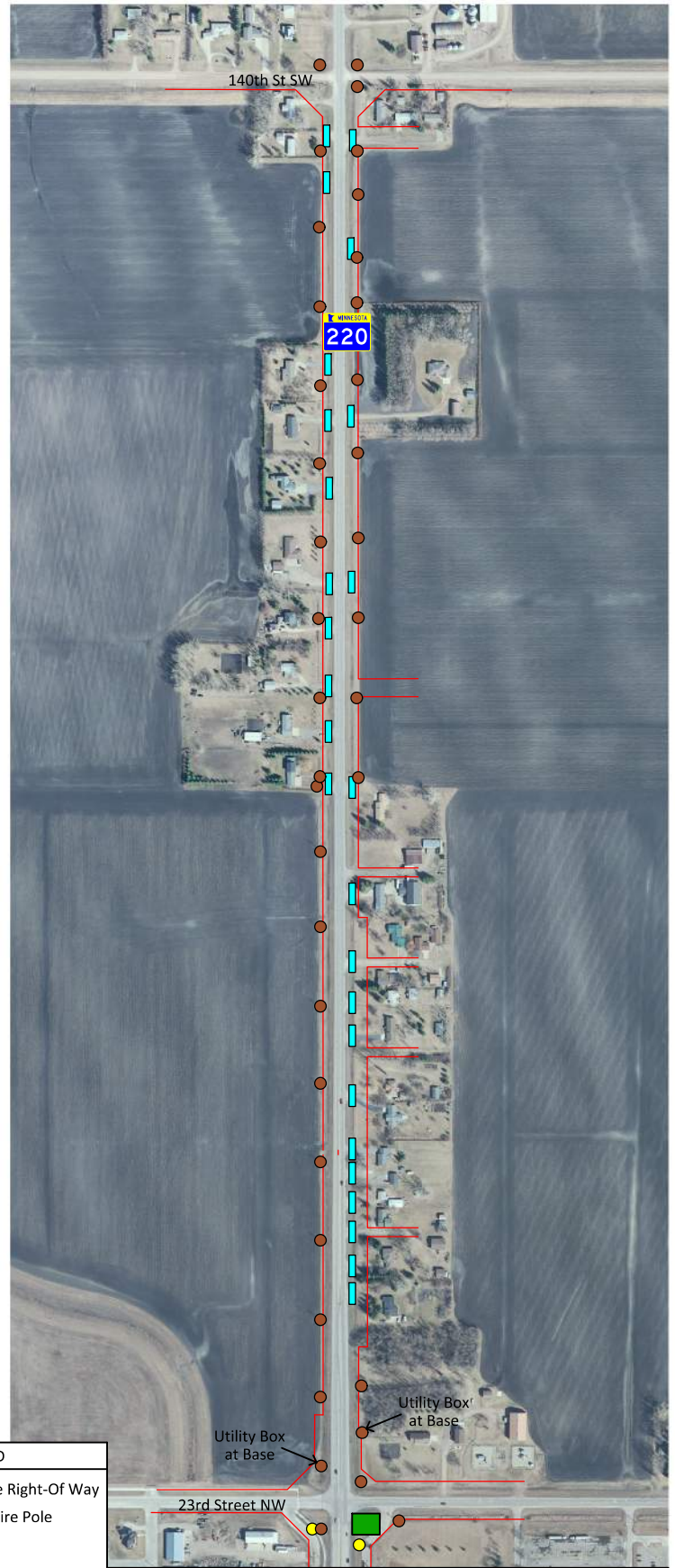
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Figure 2-5
Roadway Geometric, Traffic Control and Lighting Characteristics

-- MATCHLINE --



LEGEND	
	Approximate Right-Of Way
	Overhead Wire Pole
	Fire Hydrant
	Cabinet
	Electrical Box
	Culvert



-- MATCHLINE --

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Figure 2-6
Right of Way and Above Ground Utilities

2.3 Infrastructure Assessment

The following sections provide an assessment of the existing infrastructure (roads and signals) along with documentation of the planned future infrastructure investments within the corridor.

2.3.1 Existing Pavement and Traffic Signal System Condition

The existing roadway pavement conditions and traffic signal system infrastructure was reviewed. **Table 2-1** summarizes this assessment.

Table 2- 1. Existing Pavement Rating and Traffic Signal Conditions

Pavement Condition

Location	Length	Width	Pavement	Last Reconstruction	Last Rehab	Ride Quality Index (RQI)	Ride Quality Index Rating
	(miles)	(feet)	Type	Year	Year		
US 2 to 23rd Street	0.91	34/32	Concrete	1991	2013	2.8	Fair
23rd Street to Northern Limits	4.97	28	Bituminous over Concrete	1951	2010	2.8	Fair

Source: MnDOT

Traffic Signal Systems

Intersection Location	Original Traffic Signal Installation	Last Rebuild	Typical Service Life Cycle
		Year	
US 2 at Mn 220	1953	2003	25 years
Mn 220 at 14th Street	1992	2003	25 years

Source: MnDOT

MnDOT evaluation of the Mn 220 corridor pavement conditions indicates a Ride Quality Index (RQI) of 2.8, which is given a “fair” rating. MnDOT has completed a full capital project assessment and found that over next 50 years this segment of highway will require a concrete rehabilitation in 2033 and concrete reconstruction in 2058. The traffic signal systems are approximately 15 years old and can be expected to reach the end of their useful life by year 2030.

2.3.2 Planned Infrastructure Improvements

Improvements are planned for the Mn 220 corridor area in the near term through the adopted 2019-2022 Transportation Improvement Plan (TIP), City of East Grand Forks Capital Improvement Plan (CIP) and MnDOT State Transportation Improvement Plan (STIP). Illustrative projects are identified within the 2045 Metropolitan Transportation Plan (MTP). Based on a review of these documents and previous planning documents **Figure 2-7** illustrates the anticipated infrastructure improvements and to occur by year 2030 and year 2045. **Figure 2-7** also highlights key recommendations that have been previously made for the corridor that are currently not planned. It should be noted there are no improvements programmed for the immediate five years.

PROGRAMMED AND PLANNED IMPROVEMENTS

2019 - 2022 Transportation Improvement Program (TIP)

Improvement Number	Future Improvements	Status
--	No Programmed Projects	--

2045 Metropolitan Transportation Plan

Improvement Number	Future Improvements	Program Details
1	2nd Avenue NE/14th Street NE (3/4 Access with US 2. North leg constructed; southside pending)	
2	DeMers Avenue (Reconstruction - 4th Street NW to US 2)	REP-204 Illustrative (Pending Turnback)
3	US 2 at Mn 220 (Right turn/merge geometric modifications and signal timing)	PSO-014 & DIS-001 Illustrative (Study to Determine)
4	US 2 at 5th Avenue NW (Construct full access intersection with traffic signal installation)	PSO-015 Illustrative
5	Mn 220 (Multi-use trail, sidewalks, traffic signal installation at 23rd Street and 4-lane to 2-lane transition north of 23rd Street)	DIS-015 Illustrative Project Plan
6	US 2 Resurfacing - 0.5 miles west of Mn 220 to 0.3 miles east of CSAH 15)	REP-219 Short Range
7	10th Street NE (Reconstruction - Central Avenue to 5th Avenue)	REP-202 Fiscally Constrained
8	17th Street NE (Reconstruction - Mn 220 to 12th Avenue NE)	REP-198 Illustrative
9	14th Street NW (Mill and Overlay - 6th Ave NW to Mn 220)	REP-199 Illustrative

Previous Corridor Study Area Recommendations

Improvement Number	Future Improvements	Program Year	Notes
10	Options: 1. Reduce frontage roads by 14-16 feet on the sides closest to the businesses 2. Backage Road	Partially Implemented	A sidewalk has been placed on the median.
11	Mn 220 Corridor (Multiuse trail north of 23rd Street (west side), Sidewalk north of 23rd Street (east side))	Not Funded	
12	Mn 220 at 14th NW, 15th NW, 17th NW, 20th NW and 23rd NW). (Intersection control evaluation and potential traffic control changes)	Not Funded	ICE studies are needed to evaluate appropriate improvements and access control for each of the key intersections that have congestion or safety issues.
13	Mn 220 at 14th NW, 17th NW and 23rd Street NW (Install transit shelter)	Not Funded	
14	Mn 220 at 14th NW, 17th NW and 23rd Street NW (Improve pedestrian crosswalks)	Not Funded	
15	US 2 at Mn 220 (Confirmation lights and countdown timers per D2 Safety Plan)	Not Funded	Improvements identified to address right angle and pedestrian crossing concerns
16	Mn 220 at 15th NW, 17, 20th NW, 23rd Street NW (Improve intersection lighting)	Not Funded	
17	Mn 220 Corridor (Add pedestrian-scale lighting)	Not Funded	Along multiuse trail



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Figure 2-7
Programmed and Planned Infrastructure Improvements

2.4 Roadway Access

One of the key factors affecting the quality of mobility and the safety characteristics (motor vehicle and multimodal) on the Mn 220 corridor is roadway access. MnDOT manages roadway access along Mn 220 throughout the study area. This section discusses MnDOT access management categories and the existing access conditions.

2.4.1 Access Management Categories

Access Management is the planning, design, and implementation of land use and transportation strategies between the road and surrounding land. Appropriate spacing and design of public street intersections and private access is key to this strategy. The MnDOT Access Management Manual provides recommended access spacing for various roadway classifications⁵. A roadway classification assignment has been given to all MnDOT facilities in accordance with their function and priority. Within the study area, Mn 220 is currently assigned Category 5B. Each primary access classification is then further divided into subcategories, which is intended to allow for some variation in access spacing based on adjacent land uses.

The Mn 220 corridor is assigned a Subcategory B. This subcategory is intended for areas outside of urban cores that are either urbanized or planned for urbanization with a full range of urban services, especially a local supporting street network. This subcategory will generally apply to areas within municipal boundaries or in transition areas outside municipal boundaries.

Each access subcategory has spacing recommendations for primary full-movement intersections and secondary intersections. **Figure 2-8** provides a summary of the MnDOT street spacing recommendations which are applicable to the Mn 220 corridor.

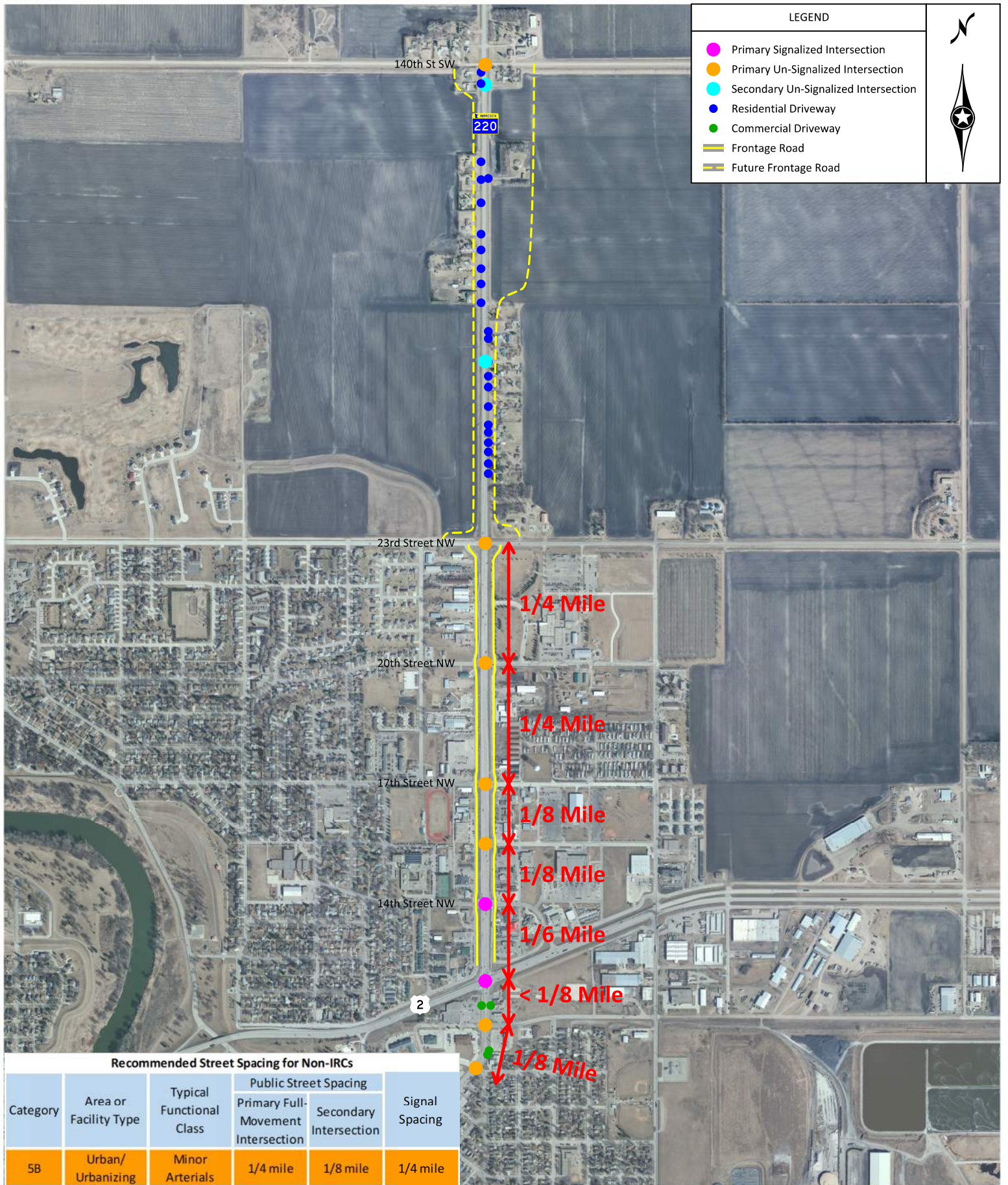
The MnDOT Access Management Manual (Section 3.3.2) provides policy regarding driveway connections to trunk highways. The policy reflects the following considerations regarding driveways and property access:

- Property access via the local street system, when available, is generally preferred over direct driveway connections to the trunk highway system, as this is most conducive to safety and mobility. However, property access via the local street system must provide reasonably convenient and suitable access.
- Within urban/urbanizing areas, MnDOT strongly encourages the development of a complete supporting local road network to serve as an alternative to direct driveway access to the trunk highway system. Urban/urbanizing areas offer the greatest opportunity to improve mobility and safety through access management.

2.4.2 Access Inventory

An illustration and description of each access point along the Mn 220 study corridor is provided in **Figure 2-8**.

⁵ *MnDOT Access Management Manual* (MnDOT, January 8, 2008)



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Figure 2-8
Access Management Characteristics

The current locations of public and private accesses along the corridor do not specifically match the guidelines for a Category 5B corridor, which suggests 1/4-mile full access, 1/8-mile secondary and 1/4-mile signal spacing. A frontage road system is in place between US 2 and 23rd Street; however, the frontage road intersections at the major cross streets are quite close (about 50 feet) to the Mn 220 intersections, which could potentially pose both safety and operational considerations.

In a previous study, it was recommended that part of the frontage road on the east side be reconfigured into a “backage” road. However, this is not currently planned. Access management strategies as part of this study will be considered within the corridor right of way to better facilitate safe and efficient travel along the corridor. This may include reviewing different access control or potentially restrictions for certain movements. Additionally, as the area north of 23rd Street urbanizes, the plan should provide guidance to ensure access management principles are being incorporated. Currently, numerous residential homes have direct access to Mn 220 as a result of the roadway characteristics on this segment of the corridor.

2.5 Multimodal Characteristics

The existing and future characteristics of the pedestrian, bicycle and transit network was evaluated. The following sections document the key features.

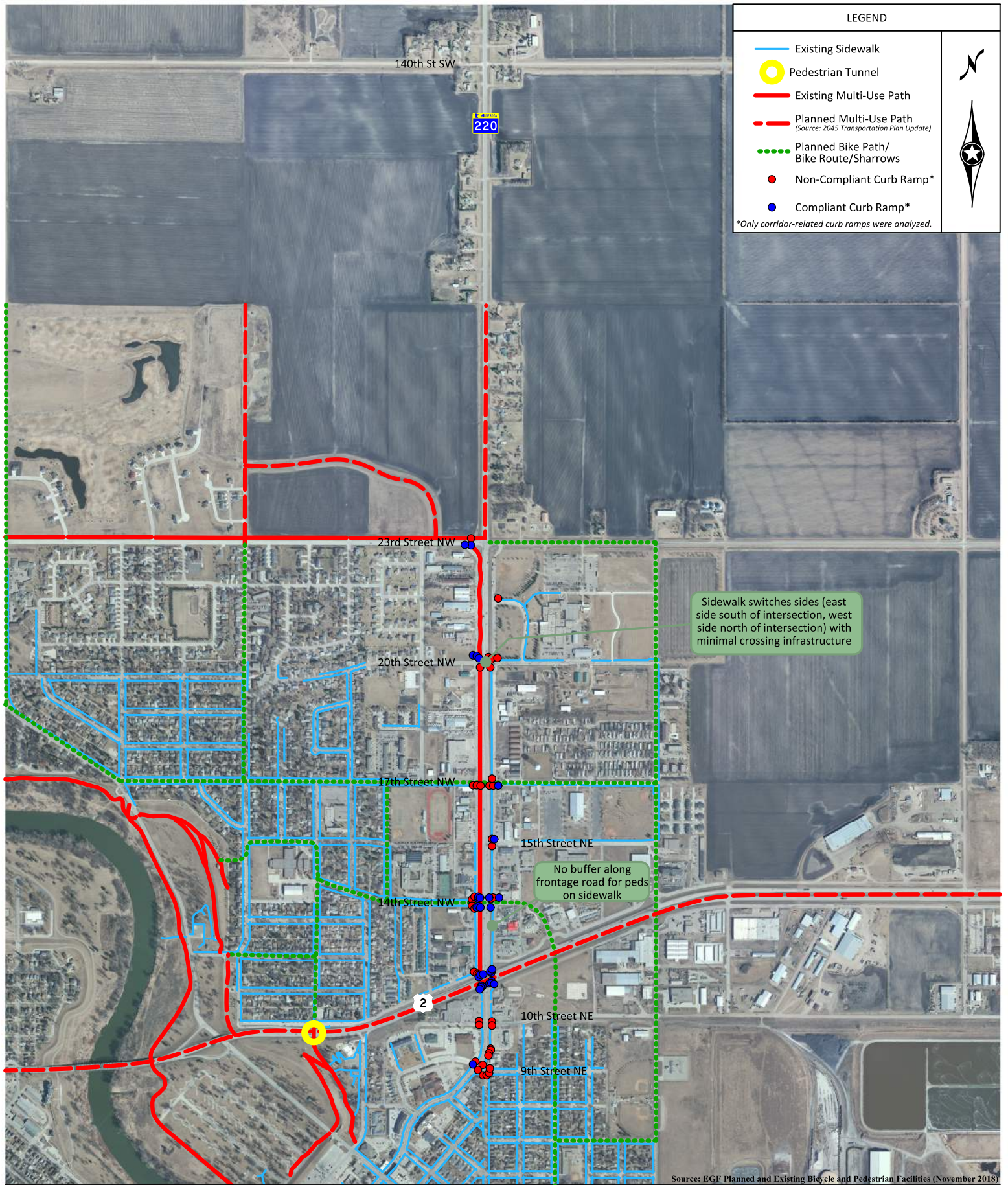
2.5.1 Sidewalk, Trails, Bike Lanes

Sidewalk or multiuse trails exist along most the Mn 220 corridor. A new segment of multiuse trail was recently constructed (fall 2018) along the western side of Mn 220 between US 2 and 20th Street NW, which connects to the existing multiuse trail extending to 23rd Street NW. This multi-use path crosses 23rd Street NW and continues west for approximately 1 mile. North of 23rd Street NW, there are currently no pedestrian or bicycle amenities other than the wide shoulders. South of US 2, there is a sidewalk on either side of the roadway. There are several gaps in sidewalks along 20th Street NW/NE, 17th Street NW/NE and 15th Street NE, resulting in poor connection of the Mn 220 corridor to the adjoining neighborhoods. Crosswalks and pedestrian ramps are provided at intersection corners; however, ADA accessibility is not ideal in all locations (e.g., ramp orientation or slopes) and positive crossing infrastructure (refuge medians or devices) are not present. Approximately 37 pedestrian ramps (greater than 50 percent) do not meet current ADA compliance. On the east side of Mn 220 (US 2 to 20th Street NE) there is a sidewalk between Mn 220 and the eastern frontage road.

Future plans have identified a multi-use path for a ½ mile segment of roadway north of 23rd NW Street. Additionally, multi-use paths, bike lanes, and bike routes are planned for connecting and nearby local streets. There are no planned bike or pedestrian improvements south of US 2. Evaluating gaps or barriers in the pedestrian/bicycling network and exploring opportunities to improve the existing infrastructure, provide safer connections and access to/across Mn 220, and further expand the network will be an important study consideration. **Figure 2-9** illustrates the existing and planned future sidewalk, trails and bicycle facilities.

2.5.2 Transit

Cities Area Transit (CAT) is the public transportation system serving Grand Forks and East Grand Forks metropolitan area. Routes 3/4, 6/7, and 12 serve the study area with a few dedicated stops along Mn 220. **Figure 2-10** illustrates the CAT network.



LEGEND

- Existing Sidewalk
- Pedestrian Tunnel
- Existing Multi-Use Path
- - - Planned Multi-Use Path
(Source: 2045 Transportation Plan Update)
- ⋯ Planned Bike Path/
Bike Route/Sharrows
- Non-Compliant Curb Ramp*
- Compliant Curb Ramp*

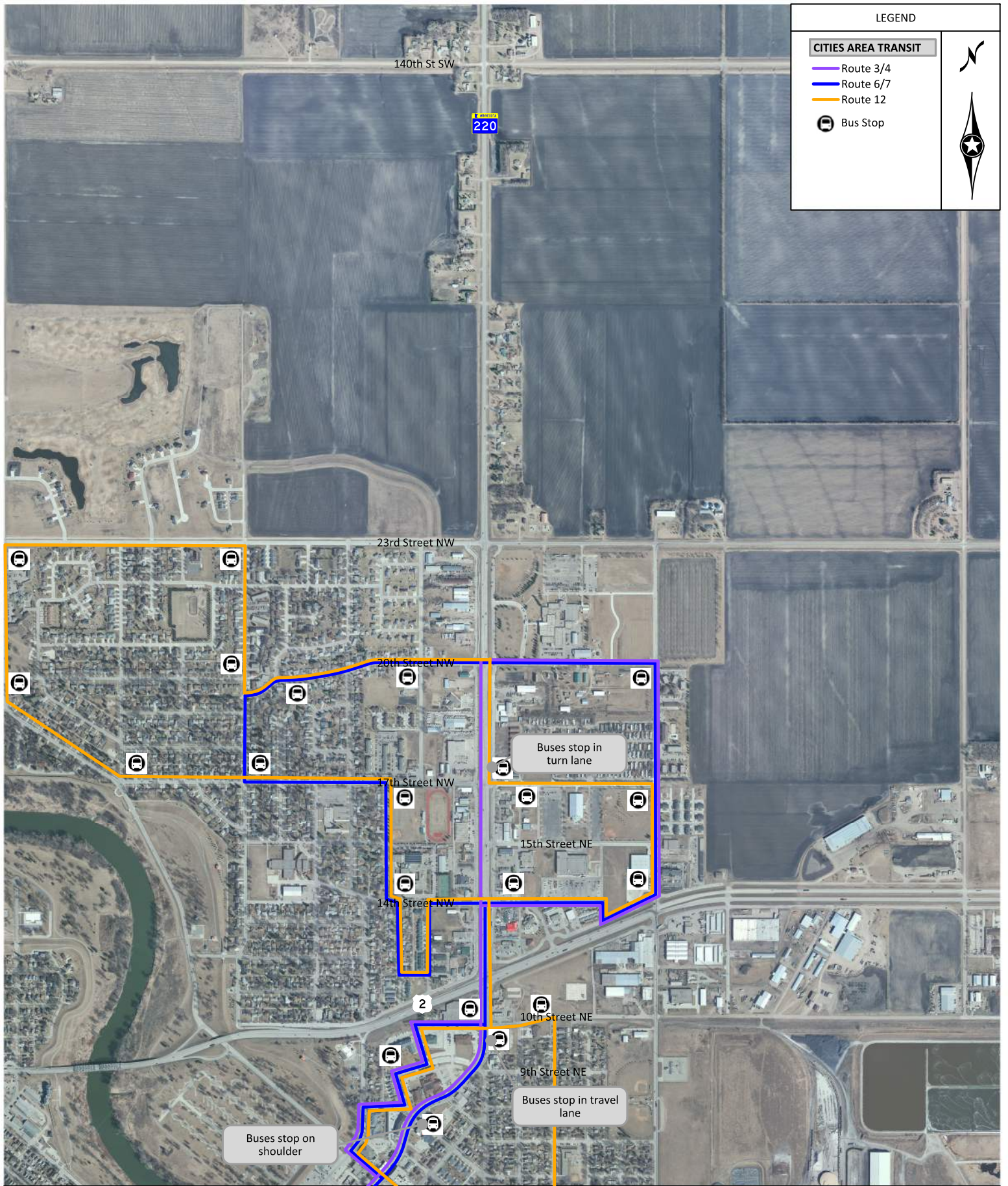
*Only corridor-related curb ramps were analyzed.

Sidewalk switches sides (east side south of intersection, west side north of intersection) with minimal crossing infrastructure

No buffer along frontage road for peds on sidewalk

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Figure 2-9
Existing and Planned Sidewalk, Trails and Bicycle Facilities



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*Figure 2-10
Existing Transit Routes and Bus Stops*

2.6 Environmental Assessment

A review of the existing environmental characteristics within the scope of the Mn 220 corridor was completed. Key elements reviewed are summarized below.

Farmland

Agricultural production is a significant industry for East Grand Forks and Polk County. The portion of the Mn 220 corridor north of 23rd Street is partially bordered by land currently in use for agricultural production. According to the USDA Natural Resources Conservation Service (NRCS), land in agricultural production within the study area is identified as prime farmland or prime farmland if drained. Potential impacts to the prime farmland areas should be considered during the review of potential improvements.

Economic/Social

Changes to the social and economic character of an area can be directly experienced by improvements to the transportation system. These changes can provide benefits and negative impacts as access changes, capacity is modified, and other changes occur. Due to the industrial and agricultural nature of the corridor, economic impacts should be carefully considered as alternatives are developed. Impacts to existing businesses along with impacts to future economic growth should be considered. These impacts may include benefits or burdens to business operations and growth as a result of modifications to access management, wayfinding, heavy commercial traffic movements and overall travel time. Impacts to the social environment shall also be considered as it relates to system linkage and changes to connectivity to and from the region.

Noise

Noise related to construction related activities, as well as increased noise in the post-construction environment can be disruptive and reduce quality of life. East Grand Forks Senior High School and Northland Community and Technical College are both located within the study area. Additionally, residential communities adjoin the study area. Impacts resulting from noise to the residential areas, schools, and businesses along the corridor should be considered as it relates to quality of life and disruptiveness of daily activities.

Wetlands

The United State Fish and Wildlife Service National Wetlands Inventory (NWI) was utilized to explore the presence of wetlands within the study area. No wetlands are indicated within the study area. The Minnesota Department of Natural Resources Public Waters Inventory does not depict any wetlands or waterbodies within the study area. Aerial imagery indicates the presence of wetlands, mainly north of 23rd Street, in roadway ditches. These wet ditch features are likely created to provide stormwater conveyance. These features should be defined by a field wetland delineation to determine the size and wetland type.

The United States Army Corps of Engineers shall complete a jurisdictional determination following the delineation to determine the jurisdiction of each of the wetlands identified within the study area during project development efforts. Similarly, the Minnesota Department of Transportation, serving as the Wetland Conservation Act Local Government Unit for areas

within the right-of-way, shall provide a Notice of Decision for the wetland delineation and any proposed exemptions or needed mitigation plan.

Invasive Plants

Invasive plant species have an impact on agriculture, native plant communities, and the natural environment. It is not known if any invasive plants are present within the study area. Every effort should be made during construction to prevent the propagation and spread of invasive plants. Prior to any construction activity a noxious weed survey should be conducted to determine the presence and extend of any plants listed on the Minnesota Noxious Weed List. If present, a noxious weed plan should be developed that outlines specific eradication plans for each species present, as well as guidelines for the prevention of spreading of seed and plant materials during construction.

Floodplain

The Red River of the North is located to the southwest of the study area. The Federal Emergency Management Agency (FEMA) has mapped the existing floodplain associated with the river. Preliminary Flood Insurance Rate Maps dated July 4, 2014 reflect changes resulting from the construction of the earthen levee. The earthen levee was constructed around the City of East Grand Forks following the historic 1997 flood, providing flood protection within the city and key growth areas.

The study area is located in Zone X, defined as areas of 500-year flood; areas of 100-year flood with average depths of less than 1-foot, or areas protected by levees from 100-year flood. Proposed changes within this floodway area will require close coordination and appropriate approvals obtained with the East Grand Forks floodplain manager during project development.

Threatened and Endangered Species

The National Heritage Information System (NHIS) is managed by the Minnesota Department of Natural Resources (DNR) and identifies the State's rare plant, animal, native plant communities, and other rare features. Rare species tracked within the NHIS include sightings of Federally listed threatened and endangered species, along with species lists as State endangered, threatened or special concern. The NHIS was reviewed for species known to occur within a one-mile radius of the study area.

The NHIS review identified three state-listed species:

- Lark Sparrow (*Chondestes grammacus*) – Special Concern bird species
This bird species is found in open, grass land areas with scattered trees and shrubs. They build their nest on the ground, in a shrub or a small tree. If feasible, avoid initial disturbance to grassland areas and tree/shrub removal from May 15th through August 15th to avoid disturbance of nesting birds.
- Black Sandshell (*Ligumia recta*) – Special Concern mussel species
- Lake Sturgeon (*Acipenser fulvescens*) – Special Concern fish species

Both Black Sandshell and Lake Sturgeon have been documented in the Red River in the vicinity of the proposed corridor study area. These species can be adversely impacted by actions which alter stream hydrology or decrease water quality. Therefore, it is important that effective erosion

prevention and sediment control practices be implemented and maintained throughout the duration of the project.

The Information for Planning and Consultation (IPaC) is an online project planning tool which streamlines the U.S. Fish and Wildlife Service environmental review process. The online tool was utilized to determine if any Federally listed species, critical habitat, or other natural resources may be impacted by a project.

The following species were identified as Federally listed. While these species may potentially be affected by a future project, no critical habitat for these species exists within the study area:

- Northern Long-eared Bat (*Myotis septentrionalis*) – Threatened bat species
- Dakota Skipper (*Hesperia dacotae*) – Threatened insect species
- Poweshiek Skipperling (*Oarisma Poweshiek*) – Endangered insect species

Additional species listed on the State’s endangered, threatened or special concern list should also be reviewed within the study area. Potential impacts to Federally and State listed species should be carefully reviewed, avoided and mitigated during project development.

Hazardous Waste

Potentially contaminated materials may be encountered during construction activities. The Minnesota Pollution Control Agency’s “What’s in My Neighborhood” searchable database of known contaminated sites and environmental permits and registrations indicates thirteen sites located within the Mn 220 right-of-way, all of which are south of 23rd Street. These sites include hazardous waste, petroleum remediation, and underground tank sites. A Phase I Environmental Site Assessment may be warranted to identify all potential hazardous waste sites within the project area that may be disturbed during construction. A Phase II Environmental Site Assessment may also be needed to further evaluate the extent and composition of contaminated materials within the project area.

Visual

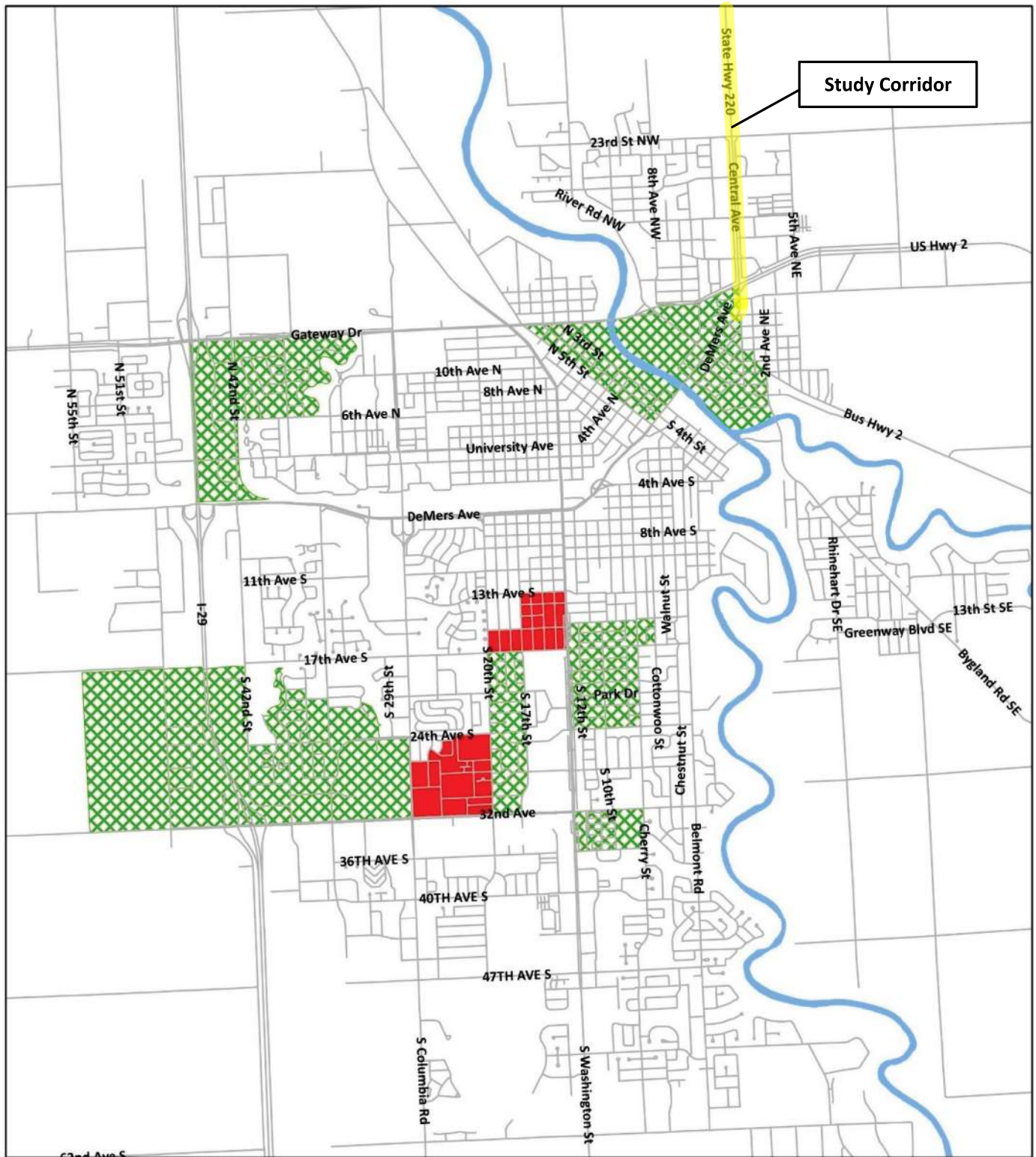
Impacts to the visual quality of the corridor should be considered as alternatives are developed for the corridor. Particularly, any improvements that include a roadway grade separation or vertical alignment shifts shall be reviewed for visual impacts to the corridor and surrounding land uses.

Trees

A limited number of boulevard trees are located along the corridor. About two dozen trees are located on the west side of Mn 220, south of 23rd Street. These trees appear to be younger and possibly planted within the past decade or so. A majority of these trees appear to be directly below the electrical transmission line corridor. It is unclear if the trees are in compliance with the transmission line right-of-way. Any future landscape plan associated with the Mn 220 corridor should consider the transmission line right-of-way requirements for the electrical utility company where a no planting buffer and maximum height requirements are generally mandated. Any proposed tree removal should be conducted outside the bat roosting season. The U.S. Fish and Wildlife Service provides guidance for tree removal to avoid bat impacts.

Environmental Justice

The GF-EFG MPO's Environmental Justice Program Manual outlines the procedures for delineating the presence of environmental justice populations within a study area. Based on this guidance and the 2015 American Community Survey Estimates, a 50 percent and greater presence of low-income demographics was identified southwest of the Mn 220/US 2 intersection. **Figure 2-11** illustrates the Environmental Justice areas within the Grand Forks-East Grand Forks region.



Low Income
 50% and Greater



Note: Data from the 2011-2015 American Community Survey

0 0.5 1 Miles

 Grand Forks - East Grand Forks Metropolitan Planning Organization

Minority
 32.5% and Greater

Source: EGF 2045 Long-Range Transportation Plan (November 2017)

Mn 220 N Corridor Study

*Figure 2-11
 Grand Forks-East Grand Forks Environmental Justice Area*



2.7 Existing and Forecast Traffic Demand

Preserving and improving mobility of Mn 220 is an important priority and goal for the study. The motor vehicle traffic demand directly correlates to the quality of vehicle mobility at intersections and will influence the transportation roadway needs. Existing pedestrian volumes crossing Mn 220 is also documented. The existing and forecast traffic demands are documented in the following sections.

2.7.1 Existing Traffic Volumes

The GF-EGF MPO collected a variety of traffic data for the Mn 220 corridor. The field counts were collected in the fall of 2018, which included full-intersection turning movements for a 12-hour period at the 9 study intersections. The traffic counts included motor vehicles, pedestrians and heavy trucks (during beet harvest season). **Figure 2-12** illustrates the hourly traffic volume profile along Mn 220. As shown, the highest peaks occur between 7:00 and 8:00 a.m. and 4:30 to 5:30 p.m. The existing a.m. and p.m. peak hour intersection traffic volumes, and pedestrians (crossing of Mn 220 volumes) are illustrated in **Figure 2-13**. The existing year 2018 average daily traffic (ADT) volumes are shown in **Table 2-2**.

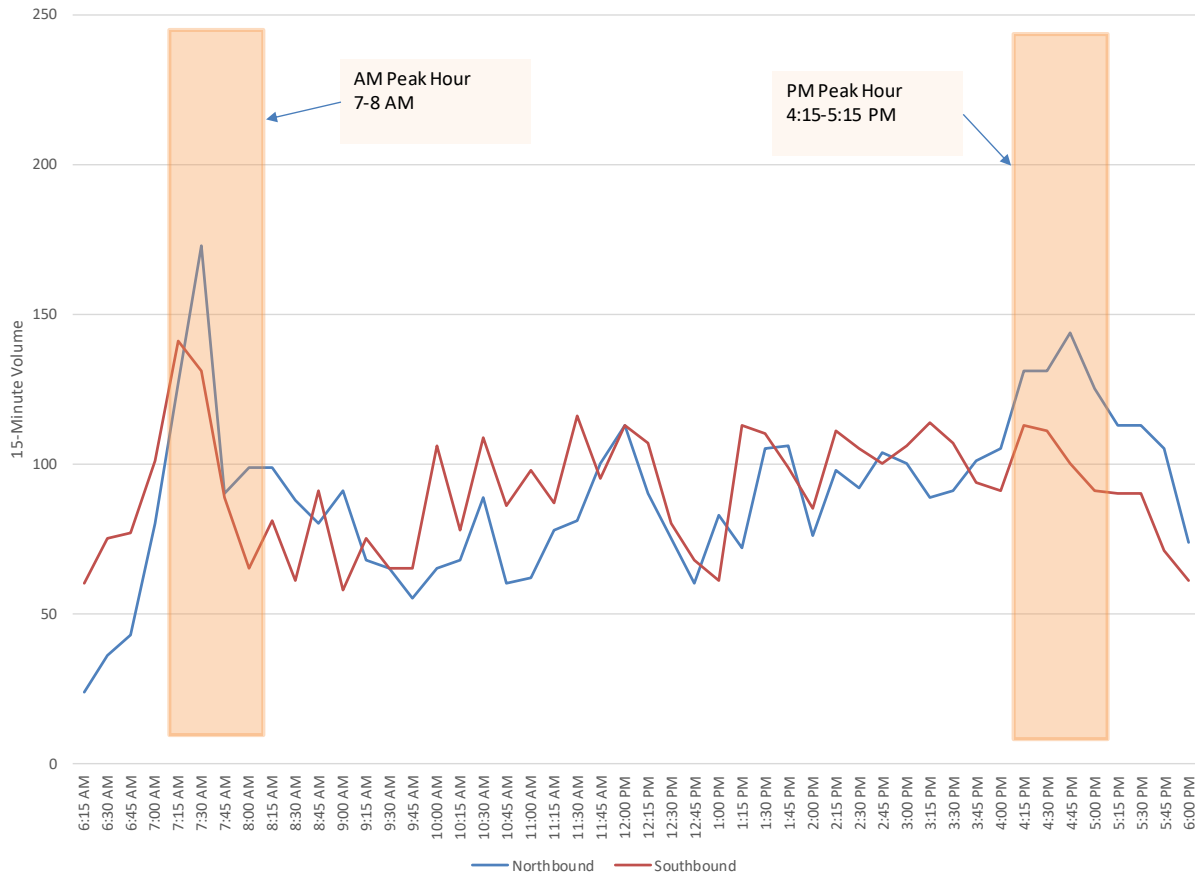


Figure 2- 12. Hourly Traffic Volume Profile

Table 2- 2. Existing Average Daily Traffic Volumes

Segment	Corridor	ADT (2018)	AADT (2030)	AADT (2045)
9th Street NE to 10th Street NE	Mn 220	9,940	10,200	11,300
US 2 to 14th Street NW	Mn 220	13,600	14,100	14,600
17th Street NW to 20th Street NW	Mn 220	7,300	8,800	11,700
20th Street NW to 23rd Street NW	Mn 220	5,600	7,200	9,900
23rd Street NW to 140th Street SW	Mn 220	3,730	5,200	7,100
West of Mn 220	US 2	12,350	16,700	21,200
East of Mn 220	US 2	8,970	9,100	12,200

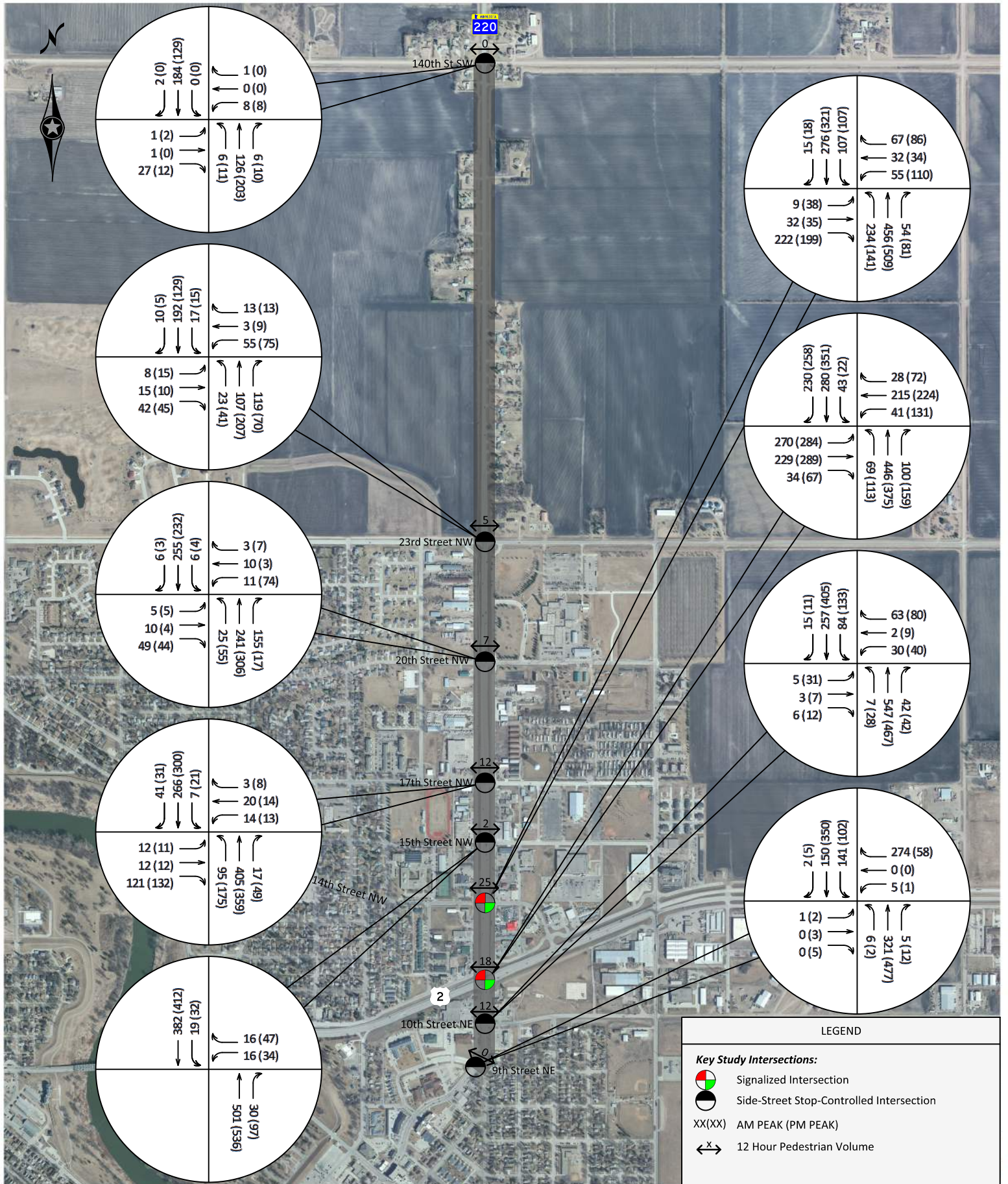
2.7.2 Institutional Traffic Volumes

East Grand Forks High School and Northland Community and Technical College reside within the Mn 220 Corridor Study area. The existing traffic volume demands associated to or with both schools are accounted for in the a.m. and p.m. peak hour turning movement volumes.

2.7.3 Heavy Commercial Compatibility

Many of the industrial land uses within the City of East Grand Forks are located along the US 2 corridor and utilize the study area intersections to gain access and to move goods and services regionally. In addition, the regional sugar beet harvest stretches from September to May of each year, generating over 4,500 heavy commercial traffic movements per day for the American Crystal Sugar plant, located to the southeast of the Mn 220 Corridor Study area. Beet deliveries are strategically timed during all hours of the day to reduce impacts to peak hour travel.

Heavy commercial traffic volumes for the Mn 220 corridor were collected during the beet harvest season, which found an average of approximately 5 percent heavy trucks during peak periods and throughout the day. Approximately 8 percent heavy truck traffic (peak observation) was observed during the mid-day time periods. The heavy truck percentages observed carry isolated impacts to mobility (i.e, when truck is present); however, has an overall negligible impact to the capacity of the system.

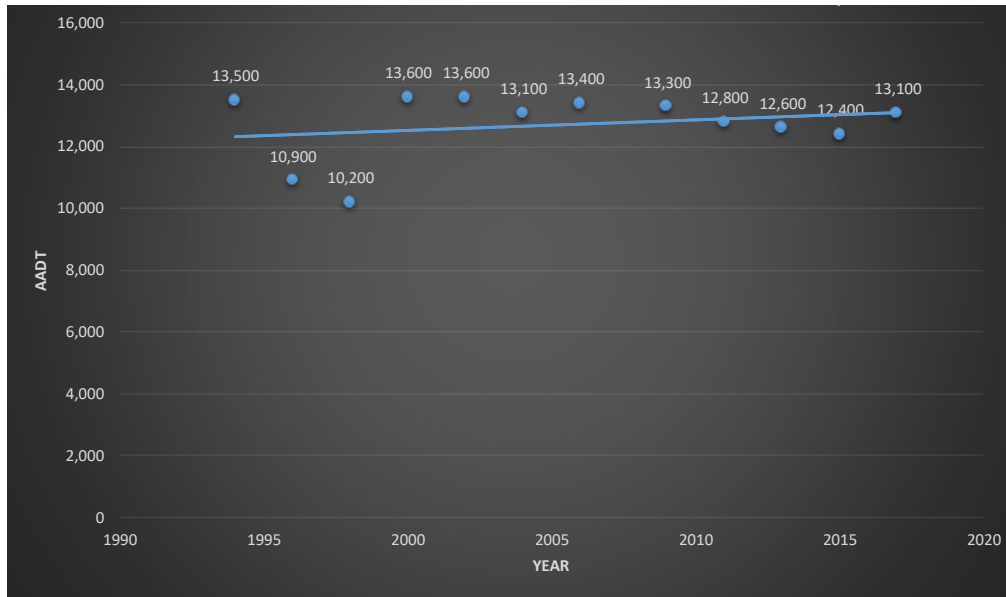


Mn 220 N Corridor Study

Figure 2-13
Existing Intersection Traffic Volumes - AM and PM Peak Hour

2.7.4 Historical Average Daily Traffic

The historical traffic volumes along Mn 220 were reviewed to observe trends in the corridor ADT over the past 20 years. This is informative information; however, are not necessarily used as the basis for projecting future traffic growth. **Figure 2-14** illustrates the historical annual average daily traffic (AADT) on Mn 220 near 14th Street. The trend indicates an approximately 0.25 percent per year growth rate has occurred, historically. Segments of Mn 220 further to north indicate closer to a 1 percent per year growth; however, the year to year AADT has shown much greater fluctuation than the southern segments of the corridor.



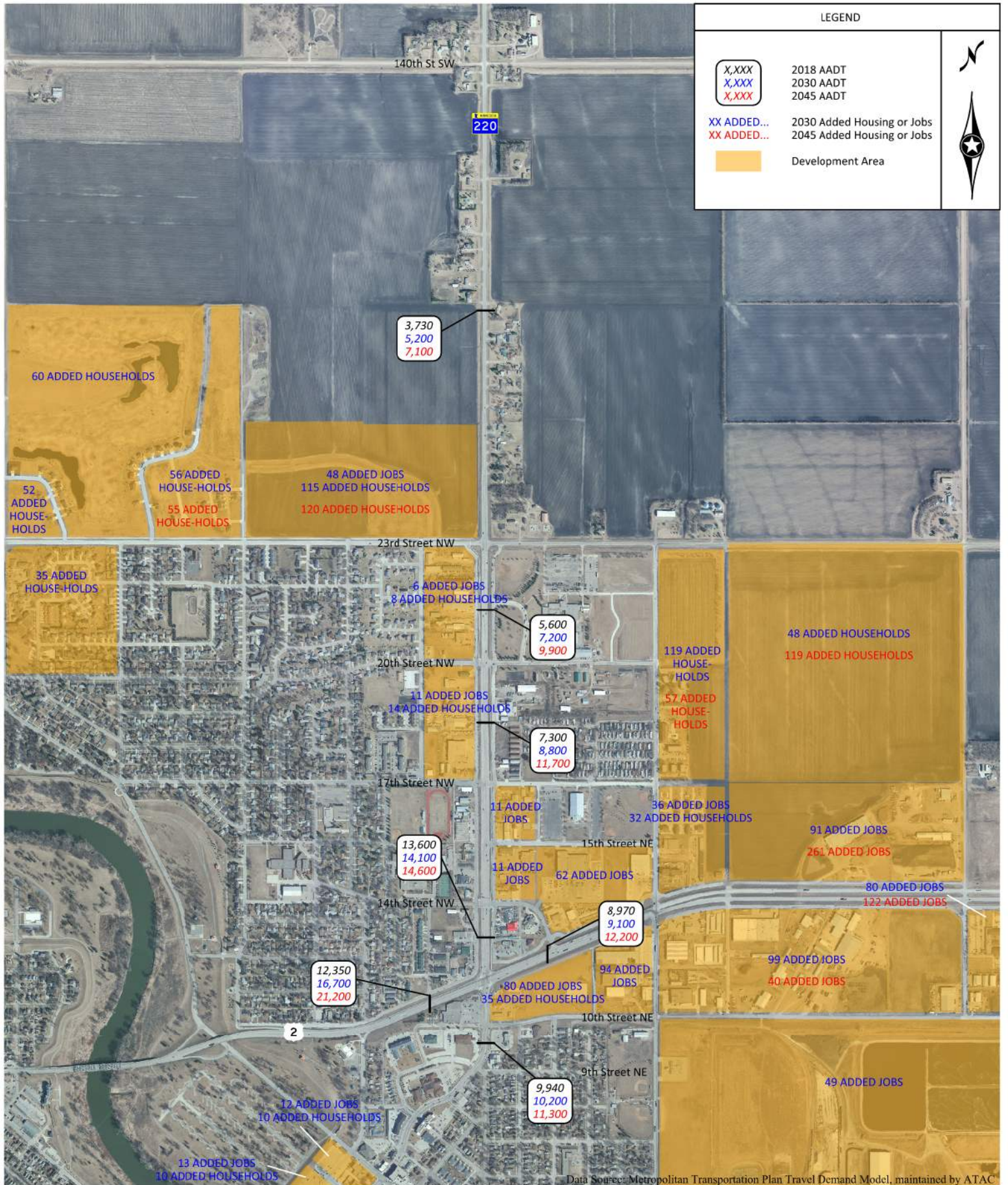
Source: MnDOT Traffic Flow Maps

Figure 2- 14. Historical Traffic Volumes – North/South Mn 220 between US 2 and 14th Street NW

2.7.5 Forecast 2030 and 2045 Traffic Volumes

The forecast traffic volumes are based on the travel demand model (TDM) developed for the 2045 MTP and maintained by the Advanced Traffic and Analysis Center (ATAC). The TDM incorporates existing and expected socioeconomic data, changes in land use, and expected roadway facilities to estimate changes in traffic volumes. The land use model assumed in the TDM includes the East Grand Forks 2045 Land Use Plan and 2045 MTP. Based on the TDM, the forecast 2030 and 2045 ADT volumes, along with key land use growth areas, are illustrated in **Figure 2-15**.

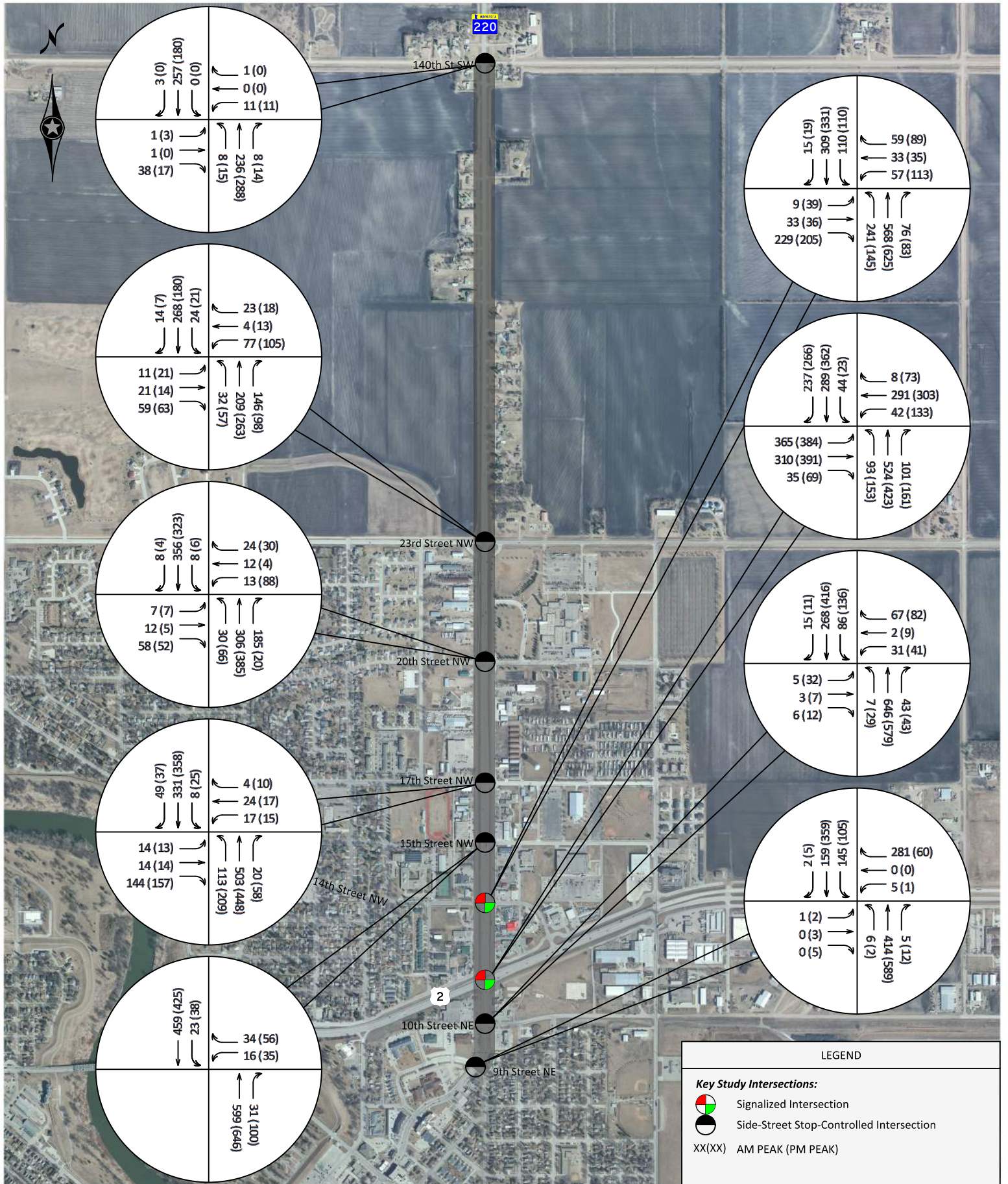
A comparison of the forecast annual average daily traffic to the existing ADT is made to estimate traffic volume level changes at each intersection. As a result, the forecast intersection turning movements can be estimated based upon applying the estimated change in AADT volume (converted to an estimated annual growth rate) to the existing intersection volumes. The forecast year 2030 and 2045 a.m. and p.m. peak hour intersection traffic volumes are illustrated in **Figure 2-16** and **Figure 2-17**, respectively.



Data Source: Metropolitan Transportation Plan Travel Demand Model, maintained by ATAC

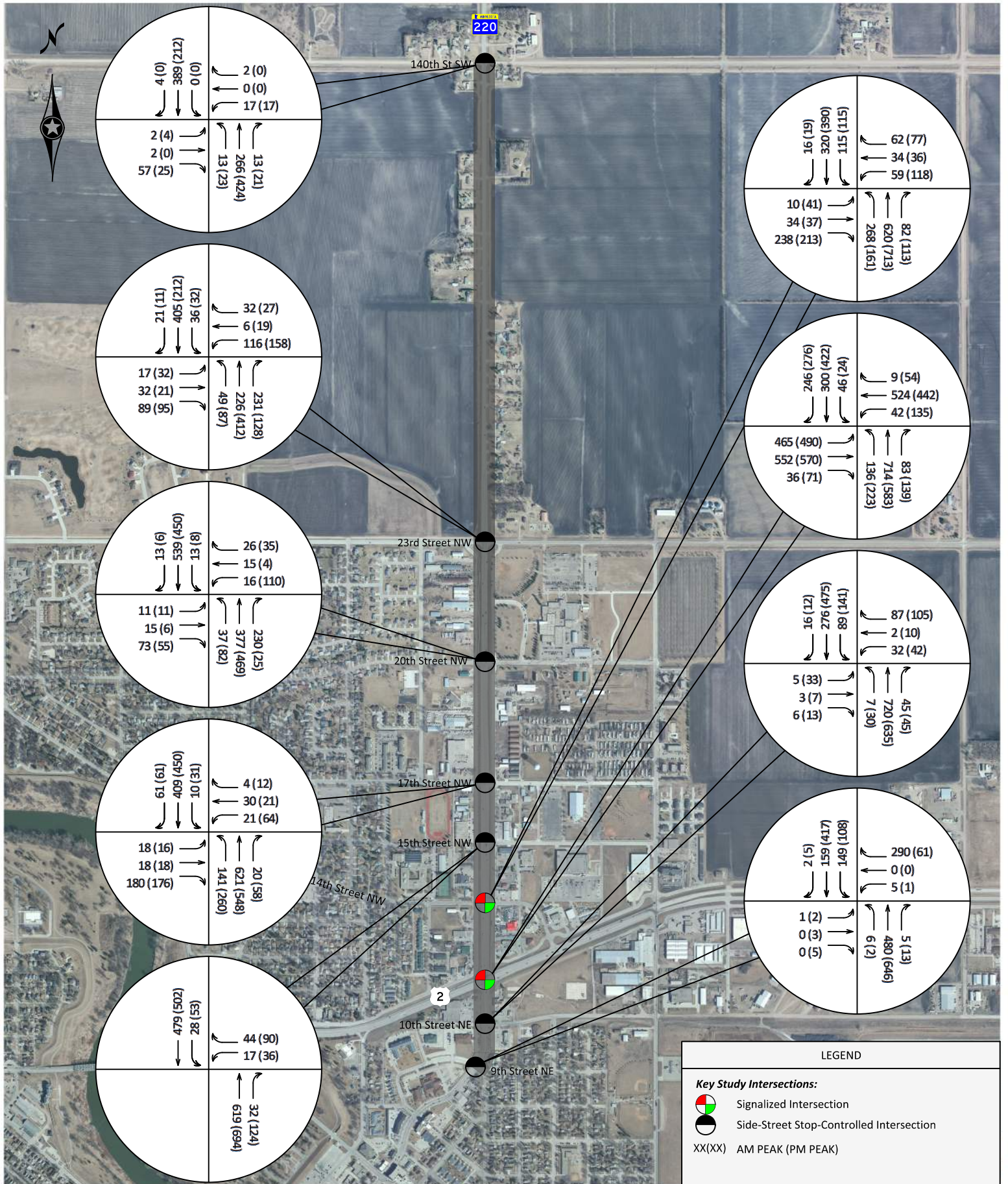
Mn 220 N Corridor Study

Figure 2-15
Forecast 2030 and 2045 Average Daily Traffic Volumes



Mn 220 N Corridor Study

Figure 2-16 Forecast Year 2030 Intersection Traffic Volumes - AM and PM Peak Hour



Mn 220 N Corridor Study

Forecast Year 2045 Intersection Traffic Volumes - AM and PM Peak Hour