

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

North Dakota Department of Transportation

September 2017

## North Dakota State Freight Plan



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

## **North Dakota State Freight Plan Amendment Overview**

This amendment covers North Dakota Department of Transportation efforts and freight plan changes in order to be in compliance with the freight-related provisions of the 2015 Fixing America's Surface Transportation (FAST) Act. The FAST act provided additional planning guidance and requirements that this document will address. For example, the FAST Act provides for states to identify criteria for, and proposing, an accompanying Critical Rural Freight Corridor (CRFC) network as well as a Critical Urban Freight Corridor (CUFC) network.

The FAST Act also requires that states evaluate pavement management systems and Statewide Transportation Improvement Program (STIP) processes and document how current methods or proposed changes comply with the Act.

In addition, this amendment proposes a 3-level urban corridor network to provide continuity across the urban and urbanized areas of North Dakota. The prior version of the North Dakota Freight plan provided for 3 levels of freight corridors across the state system but connecting corridors across major cities were not initially proposed.

---

# CONTENTS

1. Critical Rural Freight Corridor Criteria and Process .....	1
1.1. Background Information.....	1
1.2. FHWA Criteria as Required by The FAST Act .....	2
1.3. State Criteria Identified by NDDOT.....	2
1.4. CRFC Designation and Update Process.....	2
2. Critical Urban Freight Corridor Criteria and Process.....	3
2.1. Background Information.....	3
2.2. FHWA Criteria as Required by The FAST Act .....	3
2.3. NDDOT CUFC Designation Process .....	3
2.4. CUFC Update Process .....	4
3. Urban Strategic Freight System - Highways.....	8
3.1. Background Information.....	8
3.2. ND Urban Strategic Freight System - Highway Designation Process.....	8
4. Pavement Management System and Planning/STIP Process .....	19
4.1. Pavement Management .....	19
4.2. Planning/STIP Process.....	19
5. ND State Freight Plan Compliance with NHFP 23 USC 167(b) and NMFN 49 USC 70101(b) .....	20
5.1. Background Information.....	20
5.2. Federal Policy Goals and Compliance Statements .....	20
6. North Dakota Investment plan .....	25
6.1. Background Information.....	25

# 1. CRITICAL RURAL FREIGHT CORRIDOR CRITERIA AND PROCESS

## 1.1. Background Information

As stated in the introduction, the FAST Act requires states to identify criteria for establishing a Critical Rural Freight Corridor Network (CRFC). The act also provides states use required FHWA criteria along with optional state identified criteria for developing a network for use of National Highway Freight Program (NHFP) funding. This funding does not provide additional spending authority, however, and is subject to each state's current obligational authority limits. The current National Highway Freight Network is shown below. North Dakota is allowed to designate a CRFC network of up to 150 miles. The CRFC network can be adjusted as conditions change within the state. The following sections will discuss FHWA and NDDOT proposed criteria for establishing a network.

Figure 1. National Highway Freight Network



### **1.2. FHWA Criteria as Required by The FAST Act**

The FHWA criteria offers that a state may designate a road as a critical rural freight corridor if the road is not in an urbanized area and meets one or more of the following seven elements –

- A. is a rural principal arterial and has a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent from trucks;
- B. provides access to energy exploration, production, development, installation or production areas;
- C. connects the Primary Highway Freight System (PHFS) to the Interstate System or facilities that handle more than –
  - a. 50,000 20-foot equivalent units (a.k.a. semi-truck trailers) per year; or
  - b. 500,000 tons per year of bulk commodities;
- D. provides access to:
  - a. A grain elevator;
  - b. An agricultural facility;
  - c. A mining facility;
  - d. A forestry facility; or
  - e. An intermodal facility;
- E. connects to an international port of entry;
- F. provides access to significant air, rail, water, or other freight facilities in the State; or
- G. is determined by the state to be vital to improving the efficient movement of freight of importance to the economy of the state.

### **1.3. State Criteria Identified by NDDOT**

NDDOT will use and the following criteria in addition to the FHWA criteria when identifying its CRFCs. As a road vital to improving the efficient movement of freight in North Dakota, it should meet one or more of the following elements –

- A. is designated a State Freight Level 1 (As defined in the current State Freight Plan);
- B. has a State Freight Plan identified constraint, as noted in the Freight Constraints Map;
- C. support Military Access;
- D. connects the road to other state routes, major urban areas, and/or other high priority routes;
- E. is designated an NHS High Priority Corridor, or Congressionally Designated High Priority Corridor;
- F. is on the National Network of Long Combination Vehicle (LCV) routes; or
- G. is identified as 129,000 lb. permitted.

### **1.4. CRFC Designation and Update Process**

NDDOT is not designating CRFC routes at this time beyond the already eligible NHS and Interstate System routes through the state. NDDOT will review potential rural freight corridor segments using the critical rural freight criteria designated in this document. The resulting corridors will be evaluated with the intent of maximizing freight investments and Federal funding utilization.

## **2. CRITICAL URBAN FREIGHT CORRIDOR CRITERIA AND PROCESS**

### **2.1. Background Information**

Critical Urban Freight Corridors (CUFCs) are important corridors that provide critical connectivity to the National Highway Freight Network (NHFN) in urban areas. Through designation of CUFCs, NDDOT can strategically direct resources in order to improve the system performance and efficient movement of freight through the NHFN. Designating a CUFC network will allow NDDOT expanded use of NHFP formula funds and FASTLANE Grant Program funds eligible for projects satisfying national goals identified in USC 117 (a)(2).

### **2.2. FHWA Criteria as Required by The FAST Act**

The following criteria for designating CUFCs is identified in 23 USC 167 (f)(3). The urban roads must meet one or more of the following four elements –

- A. connects an intermodal facility to:
  - 1. the Primary Highway Freight System (PHFS);
  - 2. the Interstate System; or
  - 3. an intermodal freight facility;
- B. is located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement;
- C. serves a major freight generator, logistic center, or manufacturing and warehouse industrial land; or
- D. is important to the movement of freight within the region, as determined by the MPO or the State.

CUFCs must be in an urbanized area with a minimum population of 50,000 and must fall within the urbanized areas. For North Dakota, the three Metropolitan Planning Organizations (MPOs) meet this designation as of the 2010 US Census. To designate CUFCs, FHWA requires that for MPOs with less than 500,000 in population, the DOT in consultation with the MPOs will designate CUFCs. For ND, the total mileage available to be designated as CUFCs is 75 miles (centerline miles) statewide.

### **2.3. NDDOT CUFC Designation Process**

NDDOT contracted with the Upper Great Plains Transportation Institute (UGPTI) to facilitate the designation of CUFCs with the respective MPOs. The process for designating CUFCs involved one meeting between NDDOT and the MPOs and two meetings between the MPOs and UGPTI. The NDDOT and the MPOs met during the regularly scheduled MPOs Director's Meeting on March 23<sup>rd</sup>, 2017 and included other interested entities like the local FHWA office. At the meeting, UGPTI presented additional quantitative criteria in addition to the four criteria above that could be used to designate CUFCs.

After discussions with all parties, it was decided that each MPO would use only the four criteria identified by 23 USC 167 (f)(3). It was also accepted that MPOs should approach CUFCs from a project-based perspective since the CUFC designation would be treated on a rolling basis and could be changed as projects get completed. NDDOT has final authority on designating the CUFCs.

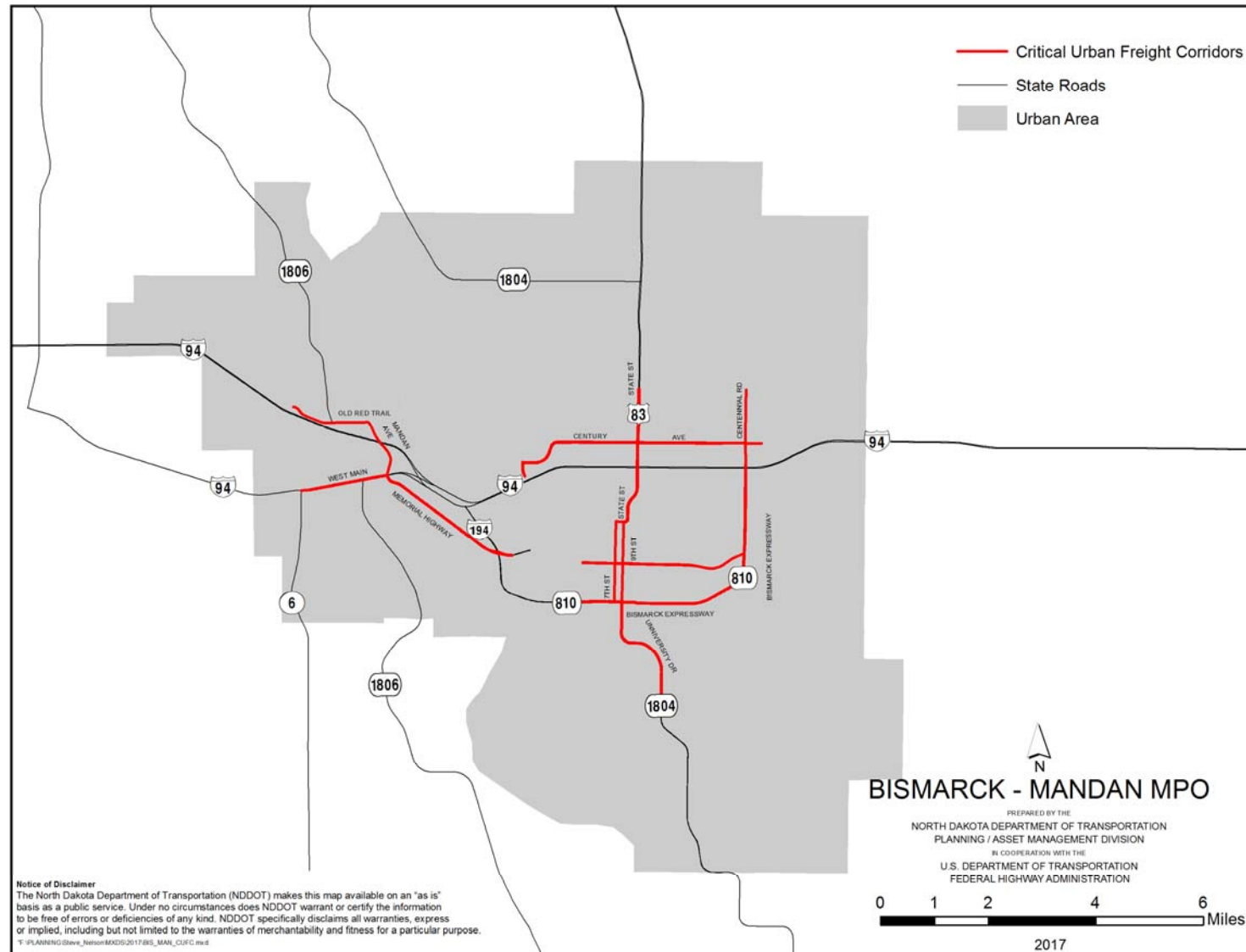
UGPTI developed an online GIS mapping tool to facilitate the MPOs in designating CUFCs and met with each of the MPOs to provide training to assign their respective CUFCs. UGPTI also provided additional support to the MPOs to address any difficulties they had in using this tool. A total of 74.71 miles were assigned by the MPOs as CUFCs (Bismarck/Mandan-29.12 miles, Fargo-20.4 miles and Grand Forks-25.19 miles). These mileage values were presented to NDDOT for approval with the adoption of this amendment.

#### **2.4. CUFC Update Process**

CUFCs will be updated periodically as projects get completed on a rolling basis. To update CUFCs, two types of updates are proposed: a comprehensive review where the process listed above is repeated and a localized review where only a portion of the CUFC is reviewed upon request by either the NDDOT or the MPOs. A comprehensive review of CUFCs is proposed to occur following the STIP cycle. For the localized review, either NDDOT or the MPOs could trigger the review/update of CUFCs based on significant changes in their freight system. The criteria for triggering a localized update include: major projects being completed that could significantly change the current CUFC mileage; a new freight generator developed in one of the MPO areas with significant freight generation on routes that were previously not on the CUFC system; and additional cities becoming eligible for consideration for CUFCs when they reach the population threshold of 50,000 people.

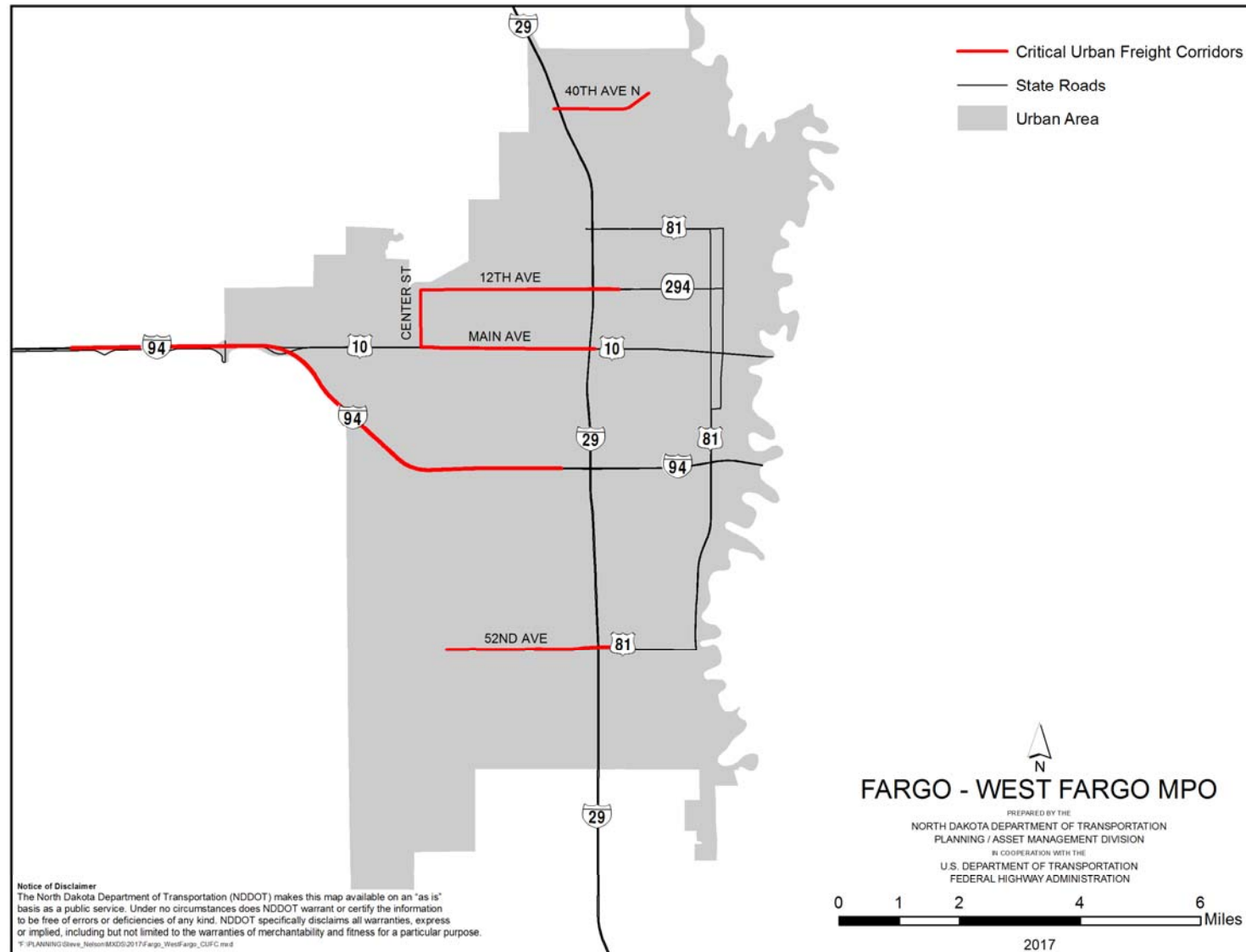


## CRITICAL URBAN FREIGHT CORRIDORS - BISMARCK-MANDAN URBAN AREA

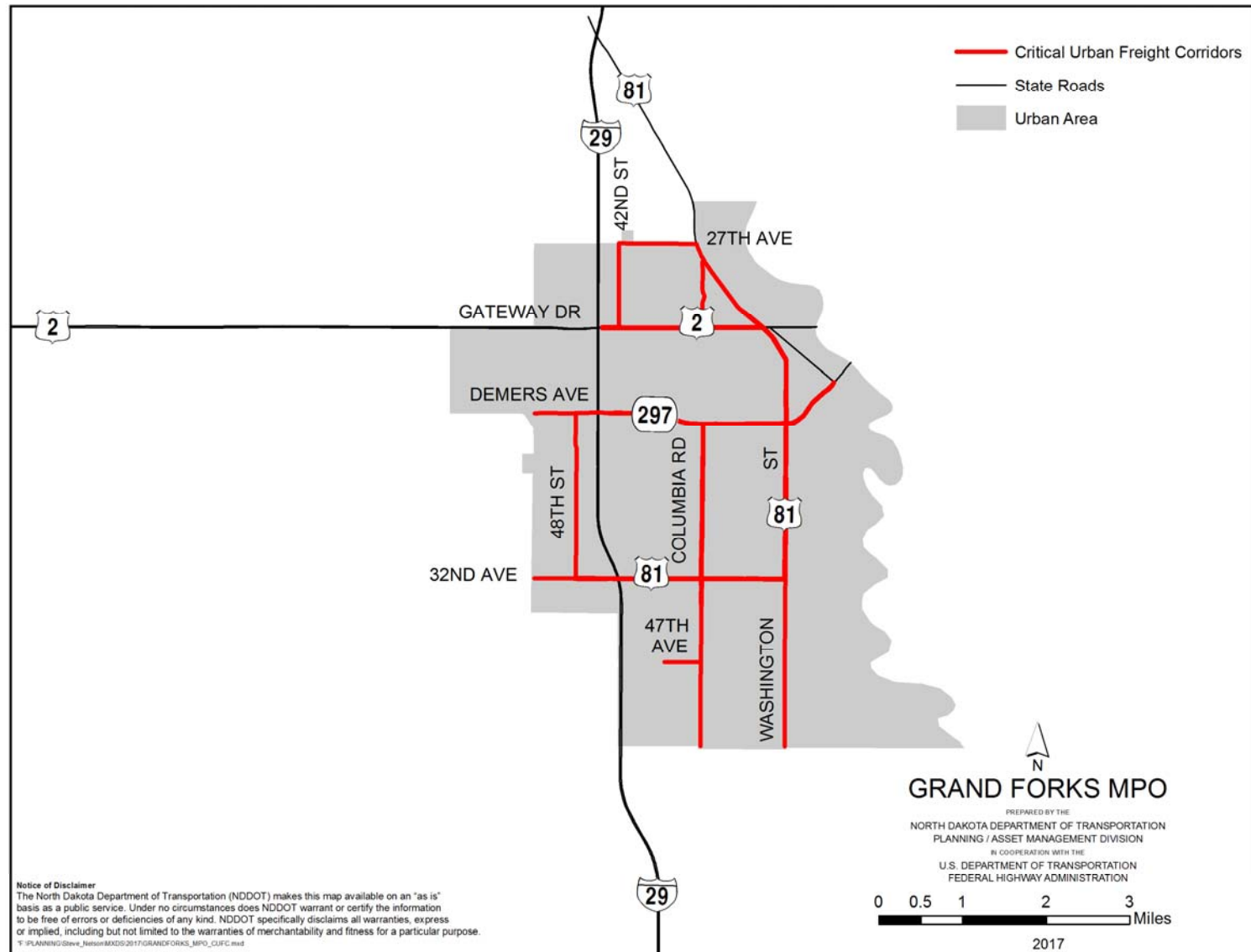




## CRITICAL URBAN FREIGHT CORRIDORS - FARGO-WEST FARGO URBAN AREA



## CRITICAL URBAN FREIGHT CORRIDORS - GRAND FORKS URBAN AREA



### **3. URBAN STRATEGIC FREIGHT SYSTEM - HIGHWAYS**

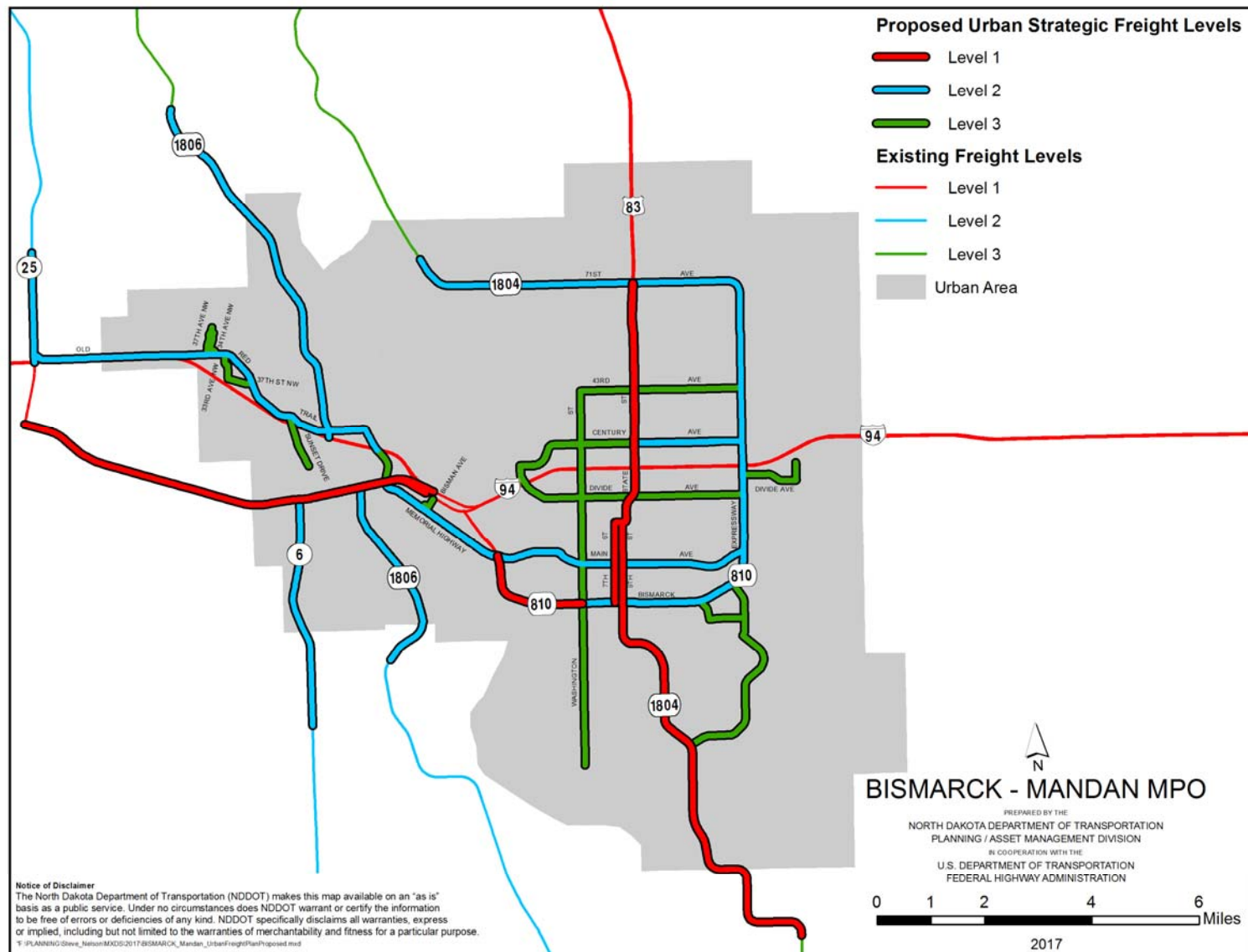
#### **3.1. Background Information**

As part of the development of the North Dakota Freight Plan, NDDOT established the North Dakota Strategic Freight System Index in order to develop the ND Strategic Freight System (SFS). The current SFS did not have urban connectors identified to locally designated freight systems within the state's urban areas. In order to create these linkages, NDDOT contracted the Upper Great Plains Transportation Institute (UGPTI) at NDSU to facilitate and work with the urban areas and MPOs to review suggested linkages and concur with their portion of the SFS.

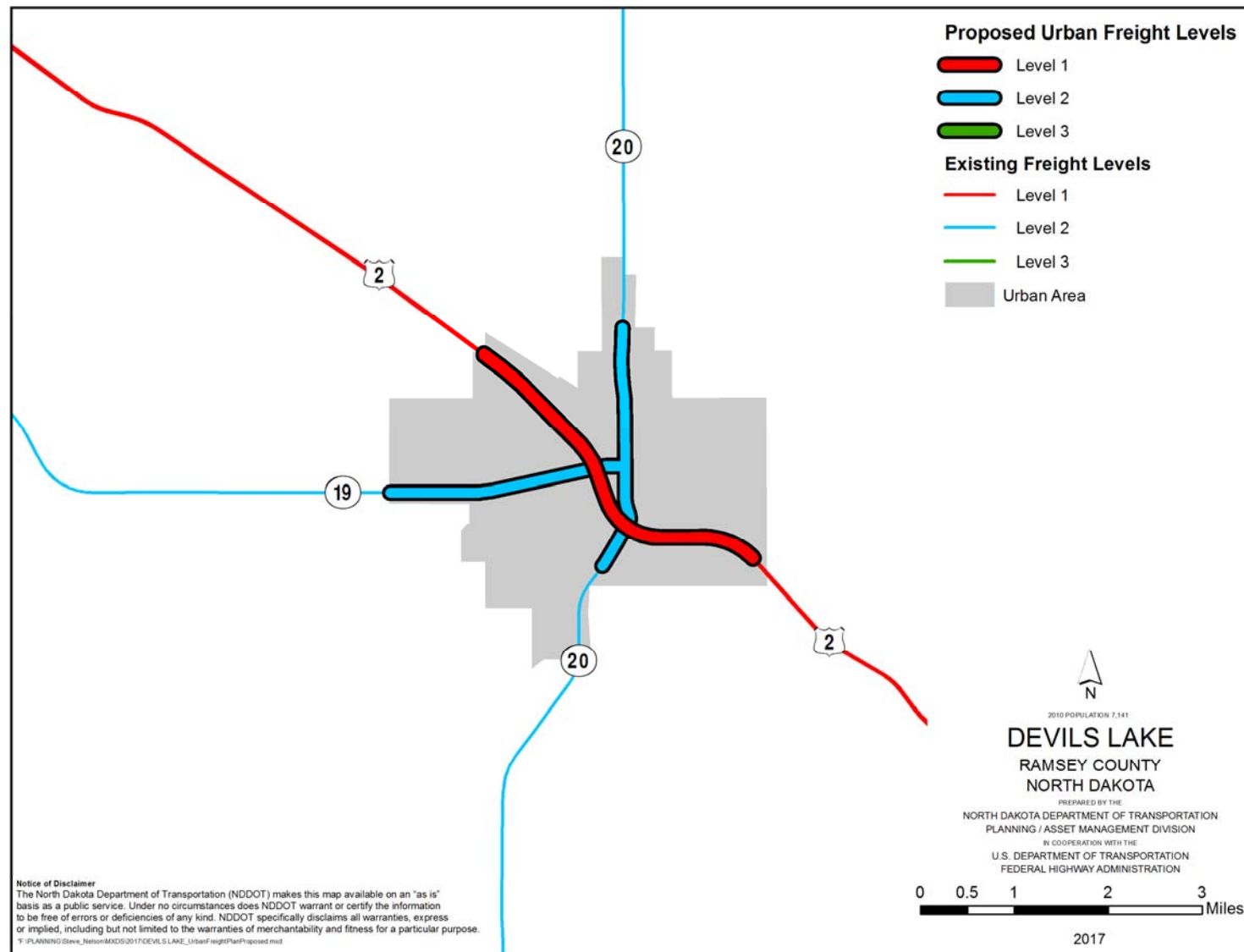
#### **3.2. ND Urban Strategic Freight System - Highway Designation Process**

To accomplish this task, UGPTI developed an online tool to facilitate the designation of the SFS for urban/MPO areas. The process for designating the Urban/MPO SFS included the development of an online tool and populating it using variables previously developed by NDDOT in the Statewide Freight Plan; providing the tool with the populated Urban/MPO area SFS to the different Urban/MPO areas for review, making changes to proposed routes based on suggestions from the Urban/MPO areas and providing the proposed Urban/MPO SFS to the NDDOT for approval. The following images show the proposed Urban Strategic Freight Level designations for these areas.

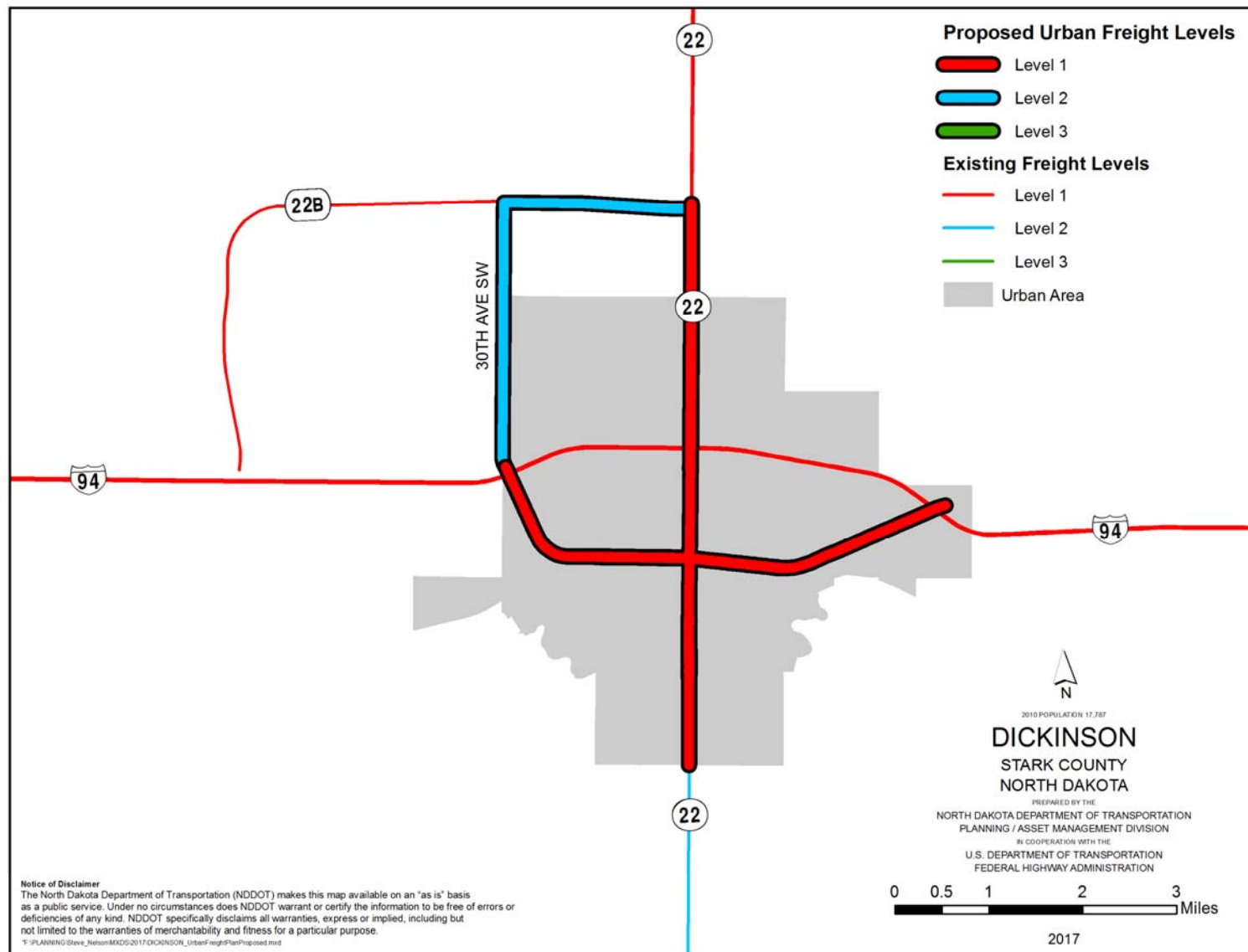
## URBAN STRATEGIC FREIGHT SYSTEM - HIGHWAYS FOR BISMARCK-MANDAN MPO



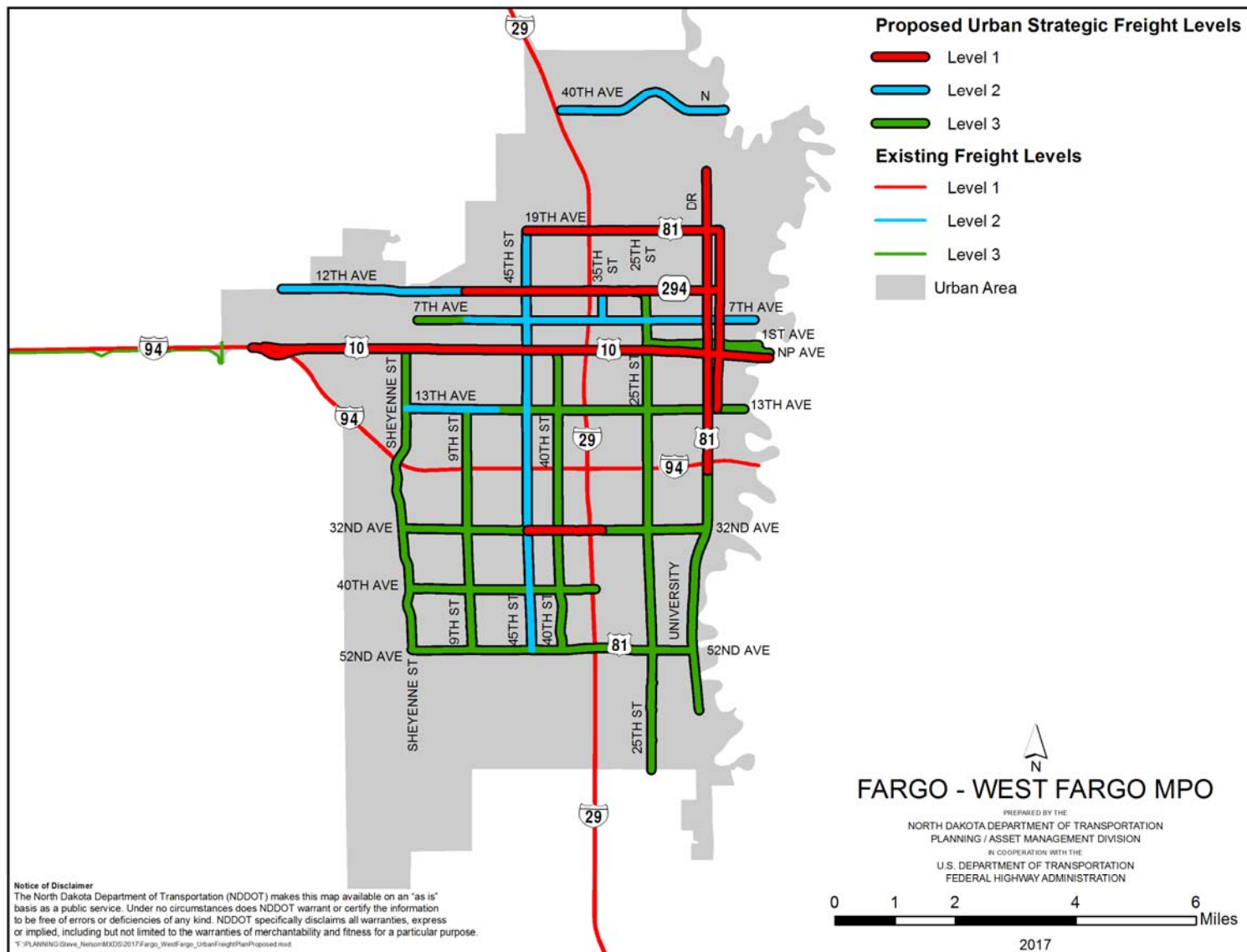
## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR DEVILS LAKE



## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR DICKINSON

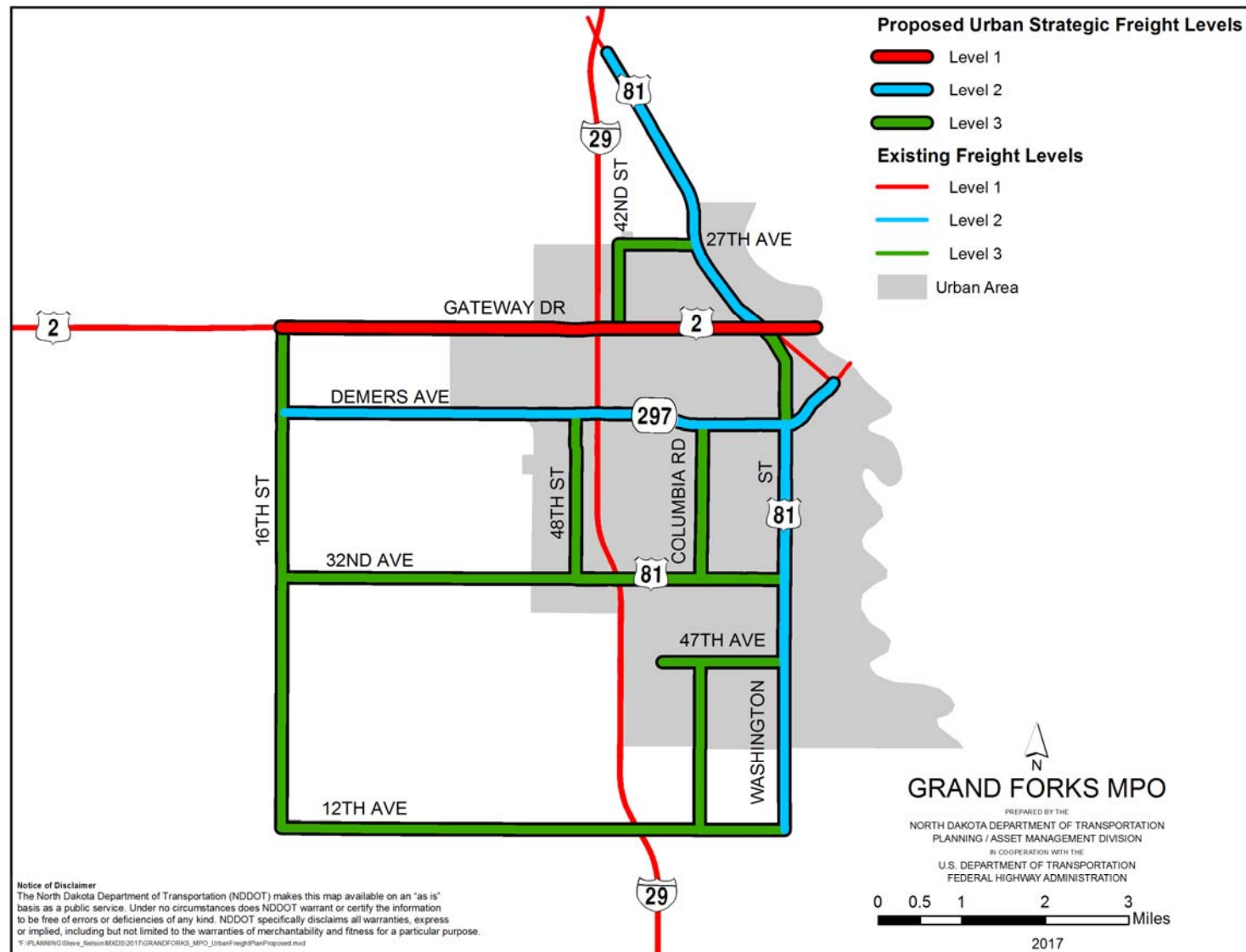


## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR FARGO-WEST FARGO

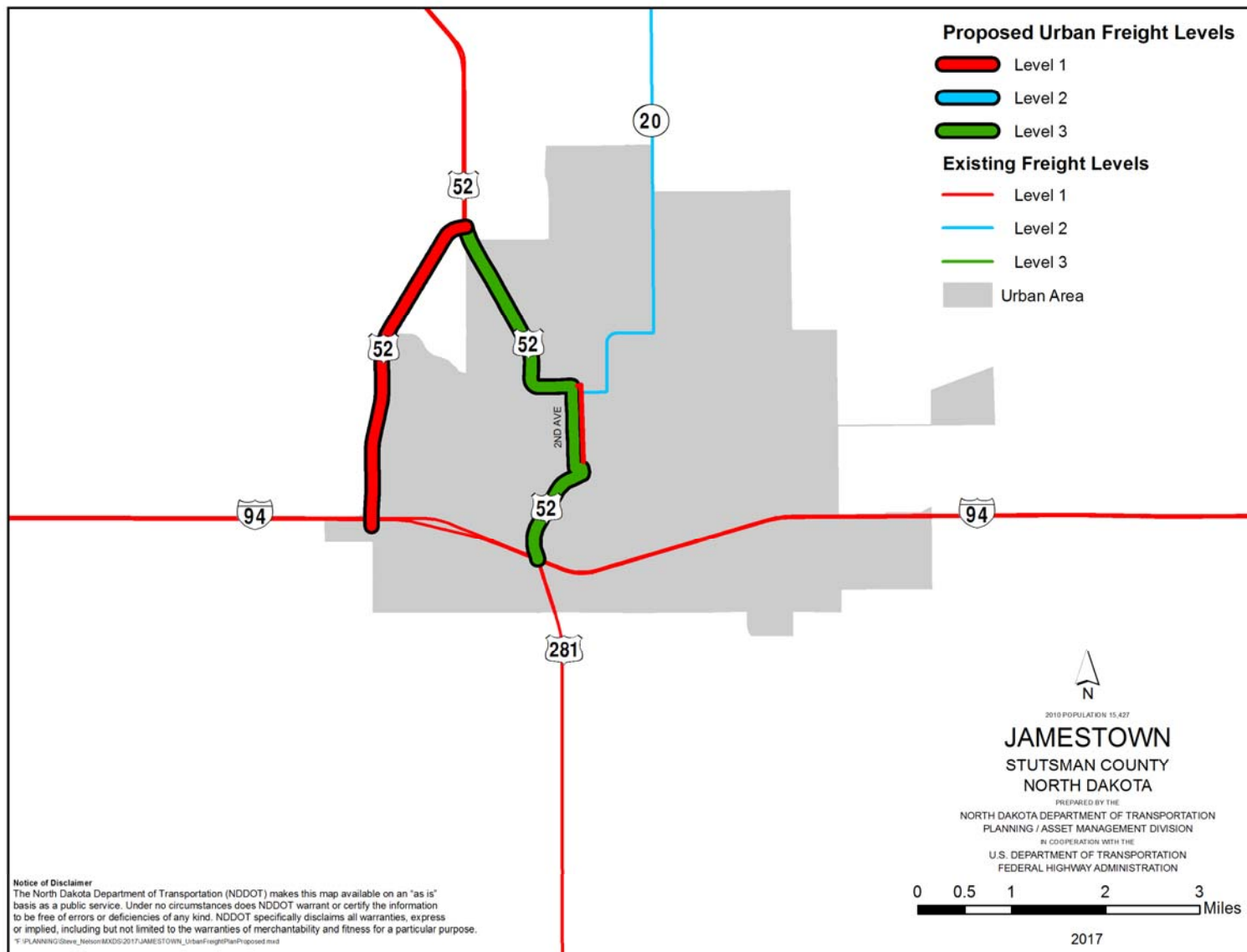




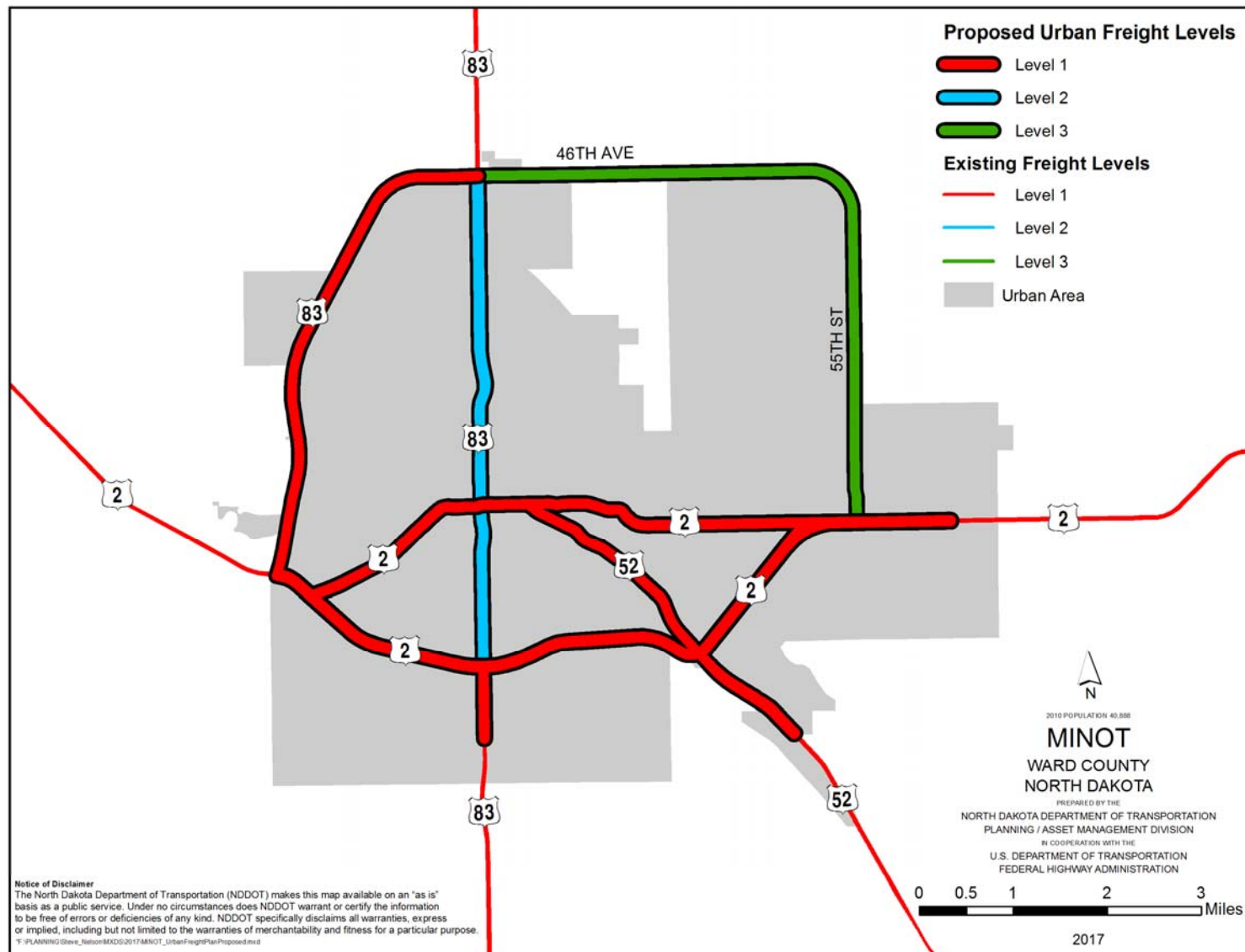
## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR GRAND FORKS



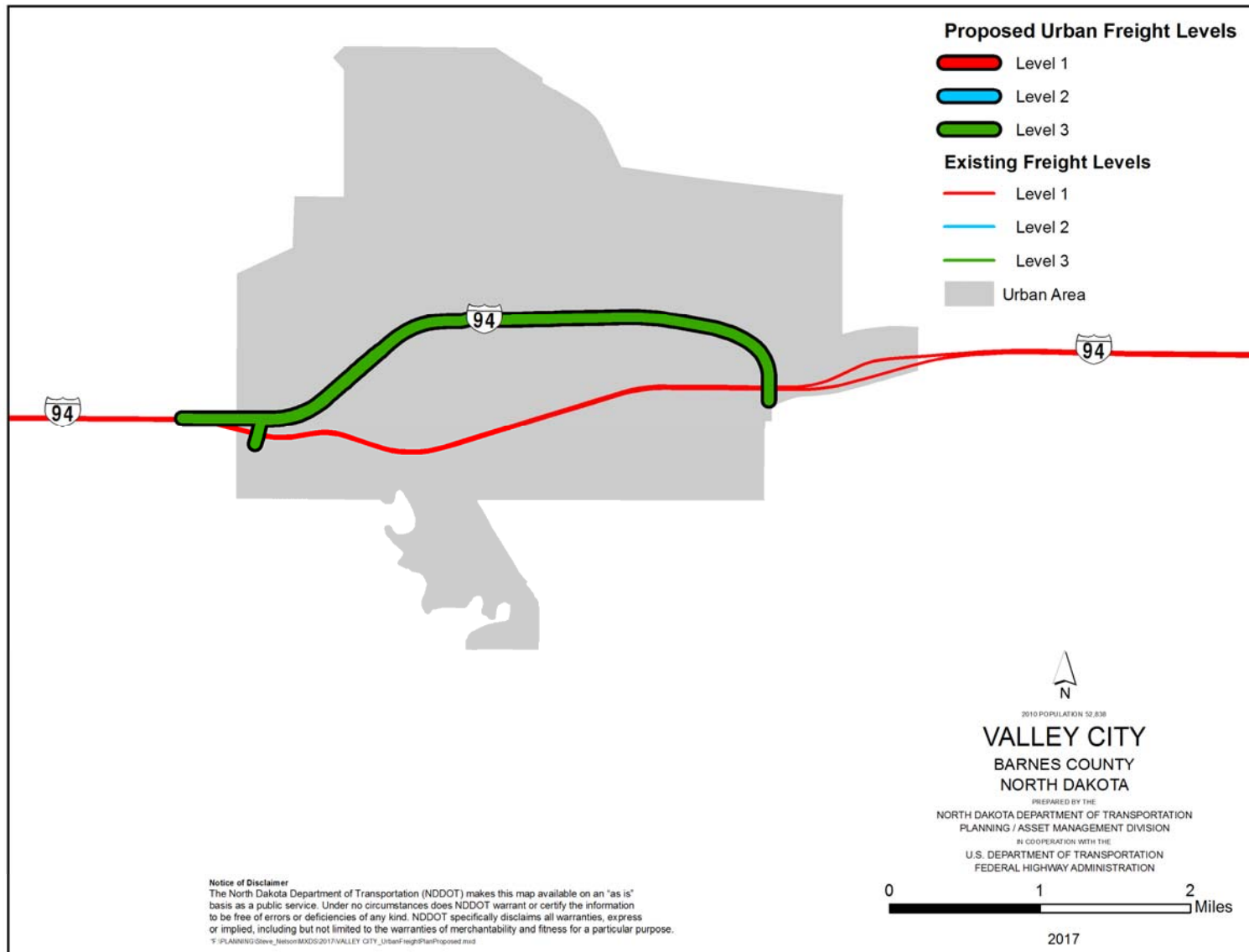
## URBAN STRATEGIC FREIGHT SYSTEM - HIGHWAYS FOR JAMESTOWN



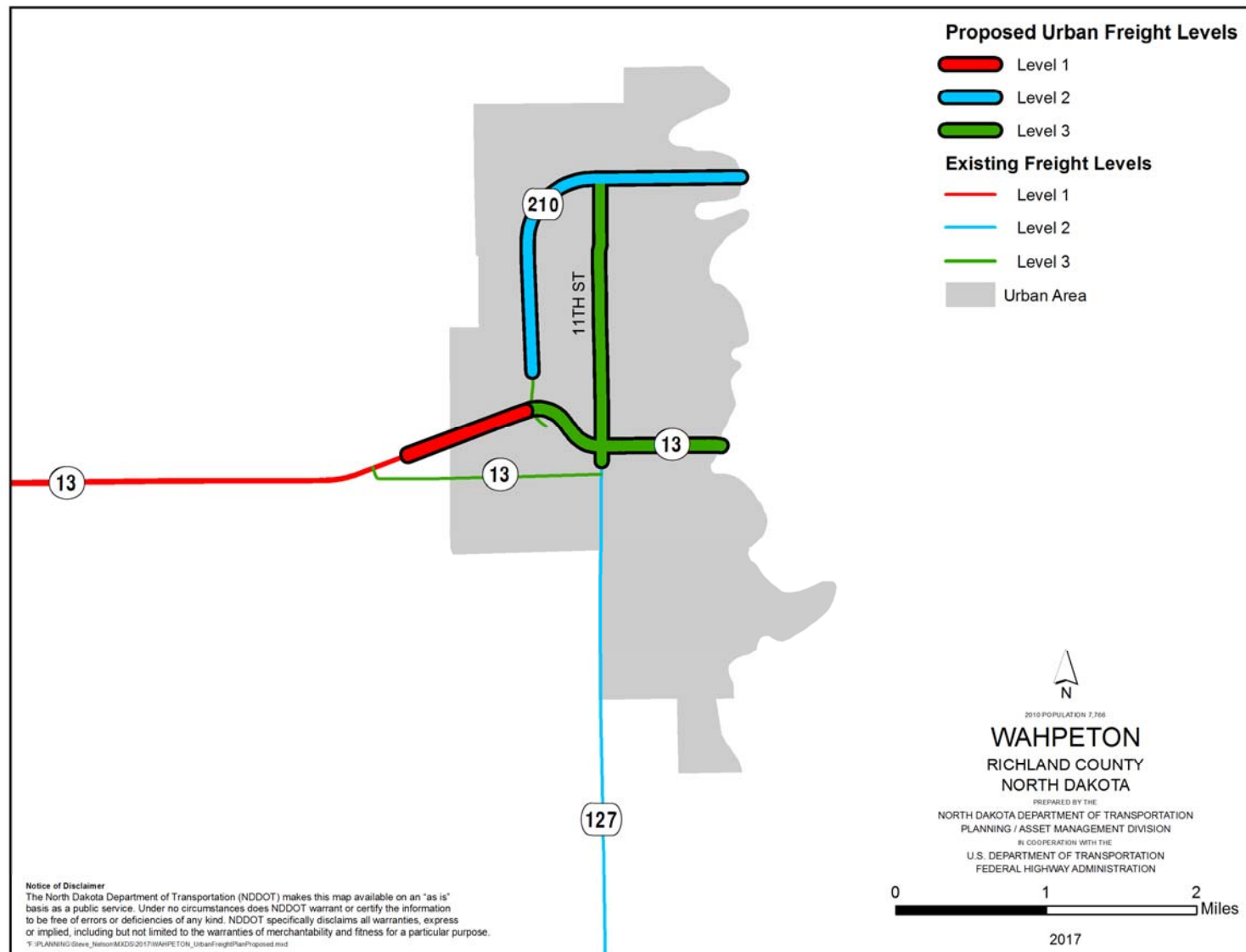
## URBAN STRATEGIC FREIGHT SYSTEM - HIGHWAYS FOR MINOT



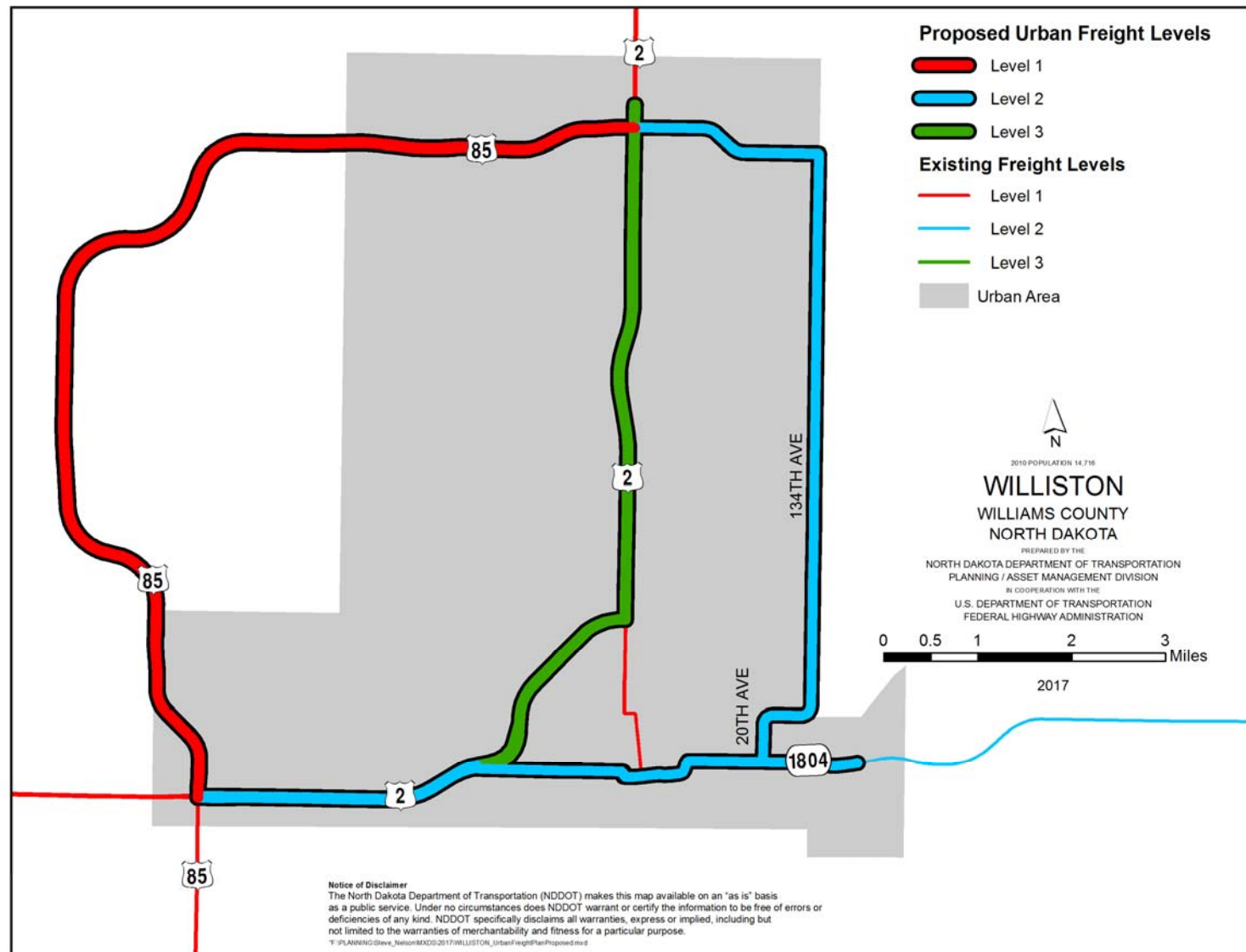
## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR VALLEY CITY



## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR WAHPETON



## URBAN STRATEGIC FREIGHT SYSTEM – HIGHWAYS FOR WILLISTON



## **4. PAVEMENT MANAGEMENT SYSTEM AND PLANNING/STIP PROCESS**

### **4.1. Pavement Management**

NDDOT asked UGPTI to review the current pavement management practices of the NDDOT and their compliance with the FAST Act. To complete this task, UGPTI staff met with NDDOT Planning and Asset Management Division and Pavement Management staff. During this meeting, UGPTI staff gathered background information on the current pavement management practices of the NDDOT. NDDOT staff provided additional sample documents of inputs and outputs along with explanation of the full process to determine the pavement management plans.

After gathering understanding of the current practices, UGPTI inferred that the current pavement management analysis system is sufficient for freight design. Truck traffic is used as a trigger in the pavement analysis. Freight itself is not the primary concern for pavement planning, but is a strong secondary concern for the projects that are recommended by the Pavement Management section.

### **4.2. Planning/STIP Process**

NDDOT also asked UGPTI to review the linkage between the ND State Freight Plan (SFP) and the Statewide Transportation Improvement Program (STIP). To understand the existing planning process, UGPTI staff met with NDDOT planning staff via video conference. During this meeting UGPTI staff presented background information regarding how other states handle freight in their planning documents and background information on the implementation of the FAST Act regulation changes regarding planning. NDDOT staff provided insight into current planning practices and how freight is incorporated currently into the STIP.

UGPTI inferred that the current planning process does incorporate freight into the planning of the STIP, but it again is not the primary driver of project planning and programming. Freight projects are given special consideration in funding priority and funding sources, but are not specifically programmed due to their freight capacity. Currently, NDDOT only considers National Highway Freight Network (NHFN) routes for additional freight funding, but will consider additional corridors when the CUFC/CRFC designations have been assigned. The NDDOT also intends to await the final FHWA rules regarding documentation of freight projects and consider incorporating further documentation if necessary.



## **5. ND STATE FREIGHT PLAN COMPLIANCE WITH NHFP 23 USC 167(B) AND NMFN 49 USC 70101(B)**

### **5.1. Background Information**

The FAST Act has established or expanded several requirements for the state freight plan content, including a requirement for a *“Description of how the plan will improve the ability of the State to meet the national multimodal freight policy goals described in section 70101(b) of title 49, United States Code and the national highway freight program goals described in section 167 of title 23”* (49 USC 70202 (b) (4)).

In October 2016, US DOT released a Notice of Guidance on State Freight Plans and State Freight Advisory Committees (81 FR 71185) providing more details on that requirement and explaining how the states could address specific goals of the two policies in their freight plans. The Notice also acknowledges that *“a State may not have specific goals or investments pertaining to all elements of the NMFP or the NHFP and notes that this is not required for a compliant SFP.”*

NDDOT asked UGPTI to review the current narrative of the ND State Freight Plan (SFP) and examined its compliance with the federal requirements and guidelines. UGPTI staff also reviewed the efforts made by other states to align their Freight Plans with the strategic goals of the NHFP and NMFN. Section 5.2 discusses the compliance of the current SFP with Title 49 USC 70202 (b)(4), identifies other efforts made by the state which correspond with the NHFP and NMFN goals.

### **5.2. Federal Policy Goals and Compliance Statements**

The current ND State Freight Plan (SFP) was developed in compliance with the previous federal transportation act, MAP-21, which was the first federal legislation to establish national freight policy goals. Therefore, the SFP already covers comprehensively a portion of the freight policy goals and provides evidence on how the NDDOT has developed the ability to meet those goals. More recently, the FAST Act has broadened the previously adopted list of goals, and incorporated them into the new NHFP and NMFN policies. The NDDOT feels the SFP provides strong evidence that North Dakota meets the additional goals and requirements implemented by the FAST Act, and will become fully compliant with those goals after incorporating this amendment to the Plan, as discussed below.

The language of the NHFP and NMFN goals is basically identical, and therefore, they are discussed together and both referred to as the “Network”.

#### **NHFP Goal 1-a and NMFN Goal 1-a**

- *Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that strengthen the contribution of the [Network] to the economic competitiveness of the United States*

The current SFP indicates the ability of North Dakota's highway network to strengthen the economic competitiveness of the U.S. by establishing the State Strategic Freight System (SFS). The SFS classifies the state's roads based on their role in sustaining the state's economic growth and competitiveness relative to international, interstate, regional, and local movements of freight. The highest ranked (Level One) portions of the highway system, having the most significant importance for the national economy, are prioritized when making investment decisions.

#### **NHFP Goal 1-b and NMFN Goal 1-b**

- *Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that reduce congestion and bottlenecks*

The current SFP identifies the common causes of congestion and bottlenecks on page 26, and outlines the monitoring and evaluation through performance measurement aimed on eliminating freight bottlenecks and delays. The plan also discusses NDDOT's continuous analysis of bottlenecks in the future using the Freight Constraints Map linked on this web page:

<https://www.dot.nd.gov/divisions/planning/freight/>.

#### **NHFP Goal 1-c**

- *Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that reduce the cost of freight transportation*

The SFP's plans and policies (e.g. bottleneck elimination) play a role in infrastructure investments that reduce the cost of freight transportation. Additionally, the North Dakota Legislature has recently increased the maximum truck weight limit on specific state highways to 129,000 pounds. The legislature also directed the NDDOT to create a process for soliciting and reviewing additional freight corridors for consideration of 129,000 pound divisible truck loads. NDDOT has begun a process for implementing 129,000 lb. routes and is working with a freight industry committee to establish additional routes. Higher weight limits definitely have an impact on reducing the costs of freight transportation and increasing its productivity.

#### **NHFP Goal 1-d and NMFN Goal 6**

- *Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that improve the year-round reliability of freight transportation*

The SFP broadly discusses the strategies aimed on improving the year-round reliability of freight transportation. The SFP implementation agenda includes elements such as improving snow removal, introducing technologies supporting safe and secure movement of freight, and other actions aimed on improving the reliability of freight transportation. The SFP also refers to the North Dakota's Highway Performance Classification System (HPCS), a tool used to maintain certain levels of reliability and performance on particular categories of highways (interstate, interregional, state, district corridor,

district collector). NDDOT continuously focuses on snow and ice control in order to ensure freight movement reliability.

#### **NHFP Goal 1-e and NMFN Goal 1-c**

- *Invest in infrastructure improvements and to implement operational improvements on the highways of the United States that increase productivity, particularly for domestic industries and businesses that create high-value jobs*

The plans and investments outlined by the SFP would definitely have a positive impact on increasing labor productivity, including high-value job businesses. The aforementioned efforts to increase the truck weight limits on the state highway system will additionally contribute to business productivity, allowing to carry larger loads with the same volume of labor force. NDDOT has implemented several city bypasses in the last four years as well as three truck-based roundabouts.

#### **NHFP Goal 2 and NMFN Goal 2**

- *Improve the safety, security, efficiency and resiliency of freight transportation in rural and urban areas;*

The SFP section on the NDDOT Freight Improvement Decision-Making Process outlines several policies and strategies oriented on improving the safety and security of freight transportation, including innovative technologies in traffic control, incident management, driver information, and other similar areas. While the theme of freight transportation resiliency is not covered explicitly by the current plan, the state has been already making considerable efforts towards improving the resiliency of the major highway network, particularly in the terms of alleviating the impacts of winter weather. Apart from the harsh winter conditions, North Dakota's infrastructure is not seriously threatened by any other natural hazards. Moreover, the state's highway network forms a well-connected grid and additionally includes bypass and auxiliary routes around most of the large and medium-sized cities. Almost all nodes of the network, including its major gateways, could be connected through at least two different routes with no significant diversions from the shortest path.

#### **NHFP Goal 3 and NMFN Goal 3**

- *Improve the state of good repair of the [Network].*

The NDDOT Transportation Asset Management Plan (TAMP) outlines the management of transportation assets to meet the performance of the overall system using the Highway Performance Classification System (HPCS). "In short, TAM is a goal-oriented, data-driven way of managing transportation systems and their components such that system managers are provided the information they need to make decisions necessary to reach desired outcomes. TAM is able to assist NDDOT management in making data-supported decisions that promote cost effectiveness by measuring the performance of an asset class and projecting the effect that potential decisions have on the asset class' long term performance in the future. As such, TAM will never truly be fully implemented. Rather, it is a continuous, cyclical process that is repeated to leverage the latest advances."

#### **NHFP Goal 4 and NMFN Goal 4**

- *Innovation and advanced technology to improve the safety, efficiency, and reliability of the [Network].*

The SFP section on the NDDOT Freight Improvement Decision-Making Process discusses numerous innovative technologies and best practices that will be employed in order to advance safe and efficient movement of freight. The SFP also mentions the NDDOT Innovation Program, aimed at developing further safety and reliability improvements.

Since 2015, NDDOT has sponsored a Transportation Innovation Program (TRIP) intended to identify and implement innovative ideas in transportation projects, processes and products. Ideas are requested in many categories and those categories related to freight include bridges, construction, operations and maintenance, roadway surfacing, environmental, safety and multimodal. NDDOT initially patterned the program after the FHWA Every Day Counts (EDC) initiative. Through March of 2017, approximately 90 ideas have been submitted and NDDOT has advanced about 1/3 of the ideas. Ideas that have been advanced that have a tie to freight include:

- Using Fiber Reinforced Hot Bituminous Pavement to prolong life
- Monitoring traffic flows with Distributed Acoustic Sensing to avoid traffic interruptions
- Using Geogrid Reinforcement under aggregate base for flexible pavement to prolong life and reduce cost
- Using Jointbond to address longitudinal asphalt pavement joint deterioration
- Using ULTRA Guard™ Safety Enhancement System on curves and guardrail for night time visibility
- Using Flexible Hoses to quickly repair the “Bump at the Ends of Bridges” without traffic interruption
- Using Roadway Drainage Geocomposite Underdrain System under concrete pavement Joints
- Using Electrically Conductive Fly Ash Geopolymer Concrete Mortar to Snow-proof Roadway Markings
- Using The SmartCone Technology in Intelligent Work Zones to communicate traffic queues
- Improving Work Zone Safety and Mobility using ITS to create an Intelligent Work Zone (IWZ)
- Innovative Culvert Repair Method to avoid traffic interruption
- Mobile Advanced Road Weather Information Sensors (MARWIS) to improve snow and ice control

#### **NHFP Goal 5 and NMFN Goal 5**

- *Improve the economic efficiency and productivity of the [Network].*

The SFP refers specifically to this goal by incorporating the elements of the state’s overall transportation policy, outlined in the *Transaction III* statewide plan. *Transaction III* outlines fundamental values that seek to lower operating costs of transportation infrastructure and improve its economic efficiency and productivity. Additionally, all of the key freight planning and investment strategies embedded within the SFP reinforce the state’s ability to meet this goal by putting emphasis on providing adequate capacity on the freight network, improving network’s performance, and ensuring that all network investments are financially feasible.

#### **NMFN Goal 6 – see NHFP goal 1-d**

#### **NMFN Goal 7**

- *Improve the short- and long-distance movement of goods that travel across rural areas between population centers; travel between rural areas and population centers; and travel from the Nation's ports, airports, and gateways to the [Network].*

The entire SFP is oriented on improving the freight movement on all of the important state's transportation corridors of international, interstate, and regional significance, as categorized by the North Dakota Highway Performance Classification System (HPCS). Those corridors connect population centers across rural areas, provide access from rural areas to population centers, and link the national freight network with its gateways located on the Canadian border and the state's major airports. Both of the state's major industries (agriculture and oil and gas production) are located predominately in rural, remote areas, and therefore, providing viable transportation infrastructure in the rural parts of the state is one of the key objectives of almost all freight investments and improvements.

The designation of Critical Rural Freight Corridors, Critical Urban Freight Corridors, and Intermodal Connectors, along with associated funding provisions, should result in further improvements of the movements of goods discussed by Goal 7

#### **NHFP Goal 6 and NMFN Goal 8**

- *Improve the flexibility of States to support multi-State corridor planning and the creation of multi-State organizations to increase the ability of States to address highway freight connectivity*

North Dakota already participates on several collaborative multi-state and international organizations to ensure highway freight connectivity with neighboring states and Canadian provinces. NDDOT will continue its efforts for collaborating with other states and Canadian provinces on improving freight connectivity and seek new opportunities for developing multi-state planning initiatives on the remaining important freight corridors.

#### **NHFP Goal 7 and NMFN Goal 9**

- *Reduce the adverse environmental impacts of freight movement on the [Network].*

The reduction of negative environmental impacts of any type of movement is one of the crucial goals of North Dakota's state transportation policy (*Transaction III*). All investments on the national highway network are subject to a comprehensive, rigorous environmental impact analysis.

The NDDOT will continue its efforts towards reducing the negative environmental impacts of freight transportation.

#### **NMFN Goal 10**

- *Pursue the goals described [above] in a manner that is not burdensome to State and local governments*

The SFP and other state planning documents indicate goals of the national freight policies will be pursued within the State of North Dakota with a significant support of federal funds. Qualifying North Dakota for federal freight-related funding serves as one of the major objectives of the SFP. Additionally, all of the important freight investments will be incorporated into the Statewide Transportation Improvement Program (STIP), and therefore they will be a subject to a comprehensive financial and funding analysis.

In the terms of planning and coordination, the State of North Dakota is actively collaborating with the counties and cities on maintaining and enhancing the sections of the national highway network located within those entities. The assistance provided for the local government also includes other elements of the infrastructure that are critical for safe and efficient freight movement, for example, the last-mile connectors between state highways and important industrial or agricultural facilities. Apart from funding provisions, the local entities also receive technical support and planning assistance from the state government and state research institutions.

## 6. NORTH DAKOTA INVESTMENT PLAN

### 6.1. Background Information

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

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

# NORTH DAKOTA STATE FREIGHT PLAN PROJECTS

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



## NORTH DAKOTA STATE FREIGHT PLAN PROJECTS

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

## NORTH DAKOTA STATE FREIGHT PLAN PROJECTS

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