



## *Engineering Department*

**DATE:** March 16, 2021

**FROM:** Gabe Schell, City Engineer

**ITEM:** US 83 and ND 1804/71st Avenue NE Future Interchange Discussion

### **REQUEST**

Receive information from staff and provide direction regarding future interchange preservation at the intersection of US 83 and ND 1804/71st Avenue NE.

Please place this item on the 3/23/2021 City Commission meeting agenda.

### **BACKGROUND INFORMATION**

As Bismarck has grown to the north along the US 83/State Street corridor, planning studies have been conducted to help determine the transportation needs. These studies have looked at number of lanes, access control, intersection spacing, interchanges and implementation timing of those proposed improvements. At the intersection of US 83 and ND 1804/71st Avenue NE, these studies have discussed various types of intersection traffic control.

Below is a summary of the issue of the US 83/ND 1804/71<sup>st</sup> Avenue intersection as it relates to previously planning efforts.

#### **Northern Bridge Corridor Study** – 2005

Summary: No specific mention of an interchange or at grade intersection at US 83/71st Avenue but does recommend a good connection with US 83.

#### **US 83 Corridor Study** – 2006

Summary: Recommendation for interchange at US 83/ND 1804 to address level of service and delay expected at the intersection. Multiple interchange concepts were discussed with additional evaluation recommended as the first step towards implementation. Study also recommended 6-lane of US 83 from ND 1804 to the south.

### **71<sup>st</sup> Avenue-Centennial Road Corridor Study** – 2008

Summary: Primary goal was to develop short and mid-term improvements to improve safety and traffic flow on this corridor. As such, concepts of longer-term interchange improvements at US 83/ND 1804 were not discussed.

### **Bismarck-Mandan Regional North South Beltway Corridor Study** – 2009

Summary: Purpose of study was to define a regional corridor to promote mobility and safety between the communities of Bismarck, Mandan and Lincoln within Burleigh and Morton counties. The objective was to document justification of the concept as well as select optimum alignments. The conclusion of the study included jurisdictional acceptance of preferred alternatives and implementation strategies.

The 71<sup>st</sup> Avenue/US 83 intersection was noted that it would continue to operate into the future as an at-grade intersection with turn lanes. It was noted that while the need for an interchange at this location has not been substantiated, preservation of adequate right of way is recommended. The study stated further analysis would be needed prior to NDDOT supporting construction of an interchange at this location.

### **2010-2035 Long Range Transportation Plan** – 2010

Summary: Fiscally constrained transportation plan with need analyzed out to 2035 and recommended improvements planned to meet the anticipated need. Interchange was not identified as a need by 2035. Corridor preservation for beltway corridor as well as right of way for interchange at 71<sup>st</sup> Avenue/US 83 were recommended.

### **Fringe Area Road Master Plan** – 2014

Summary: Intent of study was to lay out locations for arterial and collector level roadways throughout MPO to support anticipated growth and development. Specific intersection traffic control was not an analysis item of this study.

### **Envision 2040** – 2015-2040 Long Range Transportation Plan – 2015

Summary: Fiscally constrained transportation plan with need analyzed out to 2040 and recommended improvements planned to meet the anticipated need. Interchange was not identified as a need by 2040. Alternative at-grade intersection design considered preliminarily but not carried forward into fiscally constrained plan.

### **US Highway 83 Alternative Study** – 2019

Summary: Study evaluated viable highway alternatives for US 83 to serve existing and future stakeholders in the region. Study also analyzed if additional State Street corridor improvements would help alleviate congestion on the existing corridor. Study concluded that there may be viable routes for an alternative US 83 alignment, many of the trips that utilize current US 83/State Street would not opt to use a revised route. Alternatives were developed to cluster interchanges at 43<sup>rd</sup> Avenue and 71<sup>st</sup> Avenue along with access modifications on State Street in order to improve mobility on State Street. Recommendations from the study provided decision makers with concepts of both at-grade intersection or interchange intersections along this corridor.

## **Arrive 2045** – Bismarck-Mandan Metropolitan Transportation Plan – 2020

Summary: Fiscally constrained transportation plan with need analyzed out to 2040 and recommended improvements planned to meet the anticipated need. The State Street options developed in the 2019 US Highway 83 Alternatives Study were analyzed as clusters of improvements to determine the benefit to the regional travel demand model. 6-lane State St from 71<sup>st</sup> to I-94 was compared to a 4-lane State St expressway concept with interchanges at 43<sup>rd</sup> Avenue and 71<sup>st</sup> Avenue. Model results indicate that 6-lane concept had the highest benefit and the lowest cost to construct.

The landowner in the southwest quadrant of the US 83/ND 1804/71<sup>st</sup> Avenue intersection has proposed a plat with plans to develop. If the concept of an interchange at this location is to be maintained, the platting action would need to accommodate that request. From a purely technical standpoint, preserving additional right of way is encouraged. However, preserving right of way for an improvement that upon more in-depth analysis conducted in the Arrive 2045 plan, may not be the preferred improvement any more, is not recommended.

The MPO has performed additional modeling exercises at the request of the City of Bismarck regarding this issue. I will update the Board regarding the outputs of this analysis at the commission meeting.

If it were the Board of City Commissioners desire, staff could be directed to approach the MPO Technical Advisory Committee and Policy Board to remove the interchange from future consideration. This request would be heard by the MPO Policy Board (which Mayor Bakken serves on behalf of the City of Bismarck) for an opportunity to the other jurisdictional partners to provide their input on the issue. NDDOT has provided guidelines relating to access onto US 83 and ND 1804 but these guidelines are dependent on the community's desire for an interchange as there would need to be additional separation of access points from each other to accommodate an interchange.

### **RECOMMENDED CITY COMMISSION ACTION**

Receive update and provide direction to staff on future interchange preservation at the intersection of US 83 and ND 1804/71<sup>st</sup> Avenue NE.

### **STAFF CONTACT INFORMATION**

Gabe Schell, PE | City Engineer, 355-1505 or [gschell@bismarcknd.gov](mailto:gschell@bismarcknd.gov)