



TO: Mayor Shaun Sipma
Members of the City Council

FROM: Stephen Joersz P.E. P.T.O.E., Traffic Engineer

DATE: September 3rd, 2019

SUBJECT: 31ST AVENUE SW AND 10TH STREET SW SIGNAL WARRANT REVIEW (4393)

I. RECOMMENDED ACTION

1. Recommend the Council to approve the removal of the span wire traffic signal at the 31st Avenue SW and 10th Street SW intersection.
2. Recommend the Council to approve an ordinance on modifying the 31st Avenue SW and 10th Street SW intersection from Signal control to Two-Way Stop control. With 10th Street SW being the stop street and 31st Avenue SW being the free street.

STOP STREET

10th Street SW

AT ITS INTERSECTION WITH (FREE STREET)

31st Avenue SW

II. DEPARTMENT CONTACT PERSONS

Lance Meyer, City Engineer	857-4100
Stephen Joersz, Traffic Engineer	857-4100

III. DESCRIPTION

A. Background

As part of the 2006 16th Street SW and 37th Avenue SW reconstruction project, a temporary span wire traffic signal was installed at the intersection of 31st Avenue SW and 10th Street SW. The initial purpose of this intersection was to aid in the detour of traffic. After the South Broadway reconstruction was completed, the neighborhood surrounding the traffic signal in question lobbied for the span wire signal to stay, even though it was unwarranted.

Currently, the traffic signal is operated as pre-timed. Meaning that 31st Avenue SW and 10th Street SW are both allotted a certain amount of green signal time per signal cycle. The signal cabinet and controller are significantly outdated and were originally obtained from the City of Bismarck excess stockpile. Spare parts are difficult, if not impossible, to obtain.

Additionally, this span wire traffic signal has required constant maintenance and attention from the Traffic Department. Each year our staff has to measure the height and tighten the suspension cables. On average, one or two cables per year have been snapped, requiring the Traffic Department to replace a suspension cable.

In the spring of 2019, the Traffic Department conducted a signal warrant analysis for the study intersection. Based on existing traffic volumes, the intersection of 31st Avenue SW and 10th Street SW did not meet traffic signal warrants. Furthermore, this intersection is not anticipated to meet signal warrants within the next five years.

B. Proposed Project

Should the Council approve the traffic signal removal and conversion to two-way stop control; the following procedure will be followed:

1. For a minimum of a 90-day study period starting September 30th, 2019. Temporary Stop Signs would be implemented on 10th Street SW and the traffic signal would be set to operate in flash.
2. After 90-day study period and a review of the data that was collected. The span wires and signal heads would be covered. The signal poles, span wires and signal heads would be removed as part of the Storm Sewer District 123 construction.

C. Consultant Selection

N/A

IV. IMPACT:

A. Strategic Impact:

Studies have been proven to show that removing unwarranted signals can eliminate unnecessary delay and disobedience of signal indications along with a reduction in crashes by 25 percent.

While the study intersection is not directly on the North Dakota Department of Transportation (NDDOT) state system, it could be eligible for federal funding since 31st Avenue SW is classified as an urban road. If a project were to occur on 31st Avenue SW, the NDDOT would not allow an unwarranted signal to be installed if federal funds were allotted for the project.

B. Service/Delivery Impact:

The Traffic Department can start the signal removal process yet this fall. However, with winter approaching the signal poles may have to wait to be removed until the spring of 2020. Engineering will also work with the Storm Sewer District 123 engineer to coordinate design implications with the span wire signals removal.

C. Fiscal Impact:

If the City Council approves as recommended by the Engineering Department, the costs associated with the materials (i.e. signs, removals) will be incorporated in the Storm Sewer District 123 projects budget.

If the City Council recommends altering the Engineering Departments recommendation, there may be unknown cost.

Project Costs

Approved as Recommended	\$0
Alternative 2	\$250,000

Project Funding

Approved as Recommended	
Storm Sewer District 123	50%
Traffic Department Signal Maintenance Funds	50%
Alternative 2	To Be Determined
Storm Sewer District 123	

V. ALTERNATIVES

Alt 1. The City Council could approve to keep the span wire signal as-is. Knowing that the signal is operating on borrowed time and will eventually need replacement as parts will not be available.

Alt 2. The City Council could approve that a permanent traffic signal be installed at the 31st Avenue SW and 10th Street SW intersection. A funding source will need to be identified for this alternative. Such an improvement would cost approximately \$250,000.

VI. TIME CONSTRAINTS

Council's approval of the recommendation or of an alternative would allow the switch in traffic control or the design and improvements to be included in the Storm Sewer District 123 project.

VII. LIST OF ATTACHMENTS

- A. Existing Signal Warrant Summary
- B. Forecasted 5-Year Signal Warrant Summary
- C. NDDOT Signal Warrant Form
- D. Proposed Ordinance 31st Avenue SW and 10th Street SW