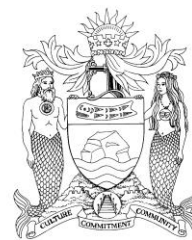


THE CORPORATION OF THE
CITY OF WHITE ROCK
CORPORATE REPORT



DATE: July 26, 2021

TO: Mayor and Council

FROM: Jim Gordon, P. Eng., Director, Engineering and Municipal Operations

SUBJECT: Oxford Street Assessment

RECOMMENDATIONS

THAT Council:

1. Receive for information the corporate report dated July 26, 2021 from the Director of Engineering and Municipal Operations Department, titled "Oxford Street Assessment;"
 2. Direct Staff to further research HFST and supplier availability before potential inclusion in an upcoming Financial Plan; and
 3. Direct Staff to process and proceed with the installations of signs.
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INTRODUCTION/BACKGROUND

On May 24, 2021, during a heavy rain occurrence, a pickup truck lost control on Oxford Street between Roper Avenue and Prospect Avenue and slid down the hill, causing damages. There have been reported incidents of other vehicles sliding during slippery heavy rain occurrences. The homeowner expressed concerns about the safety of the road. Staff investigated existing safety measures and explored potential improvements (refer to Appendix A).

DISCUSSION/ANALYSIS

Following natural topography, Oxford Street has steep slopes. The overall grade is approximately 20%, and some sections exceed 25%.

Short-term options are the relocation of and addition of warning signs to improve road safety. Staff will initiate the procurement of these improvements.

Staff considered the feasibility of closing Oxford Street during heavy rain. In consideration of the staffing required, access needed for emergency vehicles, and the unpredictability of inclement rain occurrences, this option is not feasible.

Staff explored medium-term options such as a High Friction Surface Treatment (HFST) and speed humps. HFST is a pavement surfacing system and a new product that is used in the USA. This system involves the application of very high- quality aggregate to the pavement using a polymer binder to restore and/or maintain pavement friction at existing or potential high frequency crash areas. The average expected life of HFST is five to seven (5- 7) years under

heavy traffic use. The cost to install and maintain this system for Oxford Street is estimated to be \$100,000 every seven (7) years. HFST is not widely used in BC and contractors with experience in the installation of HFST are in the USA. More research and review are necessary to determine if this product is effective in BC climates and on steep hills.

Speed humps were also reviewed, and it was determined that installation of humps is feasible only for slopes between 4% and 10%; Oxford Street slope is approximately 20% and exceeding 25% in some sections.

City staff explored two long-term options to improve the grade of Oxford Street. One option is to regrade Oxford Street by closing adjoining side streets; this option may involve closing driveway accesses. A second option is to convert Oxford Street into a one-way southbound street. A further detailed investigation would be needed to determine if the challenges for either of these options can be mitigated to the extent that the options are feasible.

PREVIOUS COUNCIL DIRECTION

Not applicable.

FINANCIAL IMPLICATIONS

Funding is available in the Operating budget to install traffic signs.

COMMUNICATION AND COMMUNITY ENGAGEMENT IMPLICATIONS

Improvements to Oxford Street could be a comprehensive, long-term plan requiring the commitment and involvement of the City, community, and adjacent property owners. Any road configuration change on Oxford Street, either grade or traffic direction, will require extensive public engagement.

CONCLUSION

Staff assessed Oxford Street and reviewed potential short-term, medium-term, and long-term improvement options. Short-term improvements include installation of new warning signs, and this work is scheduled to begin immediately. Road closures during heavy rain occurrences were also considered and it was determined to not be feasible given the staffing required and the unpredictability of heavy rain occurrences.

Medium-term options considered were speed humps and HFST. As noted, speed humps are not feasible because they cannot be installed on steep roads. HFST is a new product, has high installation costs with replacement costs, and has limited experienced installation contractors in BC. Staff will continue monitoring the effectiveness of this product in BC.

Potential long-term Oxford Street improvements could include regrading or converting Oxford Street to one-way. Comprehensive review, design, and public engagement will be necessary to determine the feasibility of this option.

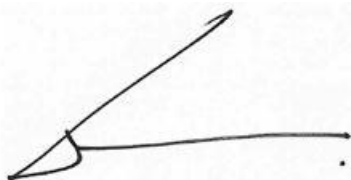
Respectfully submitted,



Jim Gordon, P.Eng.
Director, Engineering and Municipal Operations

Comments from the Chief Administrative Officer

This corporate report is provided for information purposes.



Guillermo Ferrero
Chief Administrative Officer

Appendix A: Oxford Street Assessment