

AGENDA ITEM NO: 7-B-1

MEETING DATE: February 21, 2017

STAFF REPORT – COVER SHEET

SUBJECT: Lickman Interchange Project Update DATE: February 8, 2017

DEPARTMENT: Engineering PREPARED BY: Rod Sanderson

1. SUMMARY OF ISSUE:

On September 26, 2016 the Ministry of Transportation and Infrastructure announced a funding contribution of \$2 million for the "Lickman Interchange Upgrade". City staff are preparing for a Public Open House on March 8, 2017 to provide details and answer questions from the community regarding the planned upgrades. This report and the parallel presentation will provide an overview of the project details.

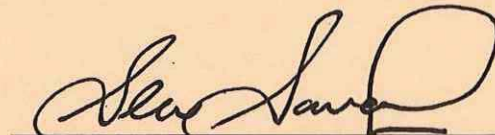
2. RECOMMENDATION:

That Council receive this report, Lickman Interchange Project Update, for information.


D. A. Blain, Director of Planning and Engineering

3. FINANCE COMMENTS:

The project has been budgeted in the 2017 Financial Plan, funded by a combination of Provincial funds and Roads Development Cost Charges.


Glen Savard, Director of Finance

**4. ADMINISTRATIVE OFFICER'S
RECOMMENDATION/COMMENTS:**

Supports recommendation.


Peter Monteith, CAO

**STAFF REPORT ON
LICKMAN INTERCHANGE PROJECT UPDATE**

PREPARED BY: Rod Sanderson DATE: February 8, 2017
POSITION: Deputy Director DEPARTMENT: Engineering

1. DEFINITION OF ISSUE:

On September 26, 2016 the Ministry of Transportation and Infrastructure announced a funding contribution of \$2 million for the "Lickman Interchange Upgrade". City staff are preparing for a Public Open House on March 8, 2017 to provide details and answer questions from the community regarding the planned upgrades. This report and the parallel presentation will provide an overview of the project details.

2. BACKGROUND:

- 2.1 In 2015 Urban Systems completed a study of the Lickman Interchange to provide a preliminary design to improve capacity and safety, provide for future growth and utilize as much of the existing infrastructure as possible, while developing a phased improvement plan.
- 2.2 The City then pursued grant funding to advance this project. On September 26, 2016 the Ministry of Transportation and Infrastructure announced a funding contribution of \$2 million to advance Phase 1 to construction in the 2017-2018 season.
- 2.3 Phase 1 with a project value of \$6.5 million will provide the following improvement elements:
- Additional intersection turning lanes - Lickman at Yale / Industrial;
 - 1 additional climbing lane (north side);
 - Lengthen the northbound left turn lane - Lickman at WB ramp;
 - 2 additional downhill lanes (south side);
 - Eastbound off-ramp / on-ramp signal to be removed and right-turn only implemented; and
 - New two lane roundabout - Lickman at Luckakuck / Yale.
- 2.4 The existing Lickman Interchange Bridge structure does not meet modern seismic standards, and, is too narrow to allow the TCH widening to 6 travel lanes. For these primary reasons MOTI have informed the City that the Lickman Interchange will be demolished and replaced by the year 2030 (15 year life expectancy). As a result, the preliminary design work by Urban Systems focused on those improvements that would survive the interchange bridge replacement. Any interchange improvement work that involves the bridge proper results in a seismic upgrade, estimated at approximately \$2 million, before any other work is accomplished.
- 2.5 Necessary land purchases are underway and awaiting final review and approval from the Agricultural Land Commission.

- 2.6 A Public Open House is being planned to be held at the Best Western Rainbow Country Inn on March 8th, 2017 from 5pm – 8pm. Presentation boards with background information, preliminary design drawings and video simulations will be displayed and staff will be on hand to answer questions and collect comments.
- 2.7 The Design-Build Request for Expressions of Interest is planned for release later this month with construction completion anticipated towards the end of 2018.

3. ANALYSIS:

- 3.1 The Urban Systems Preliminary Design recommends a phased approach, Phase 1 will provide the following improvement elements: (Phase 1 formed the basis of the SPF grant application)
 - a. Additional intersection turning lanes – Lickman at Yale/Industrial;
 - b. 1 additional climbing lane (north side);
 - c. Lengthen the northbound left turn lane – Lickman at WB ramp;
 - d. 2 additional downhill lanes (south side); and
 - e. New two lane roundabout – Lickman at Luckakuck/Yale.

The five improvement elements are illustrated in Appendix A – “Phase 1 Lickman Interchange Upgrade”.

- 3.2 The Phase 1 improvements are a compromise, as a result of the existing interchange bridge structure being too narrow for TCH 6 laning, and the deficient seismic standard of the existing structure. The compromise involves the modification of the Lickman at EB ramp intersection from the existing full movement signalized operation, to, restricted movement, non-signalized operation. This change will require traffic to travel south to the new R/A to turn or U-turn to reach their destination. Eastbound traffic wishing to exit TCH to access services on the northside of TCH will have a forced right turn at the ramp head; travel south a few hundred metres, U-turn through the R/A then travel north to their destination. The roundabout will be designed to specifically meet the needs of commercial transport trucks.

This is not ideal; however it will be in place for only 15 years when the TCH will be widened and the existing interchange bridge structure will be demolished and replaced with a longer (TCH 6 lane) and wider (improved ramp head intersection operation) bridge structure.

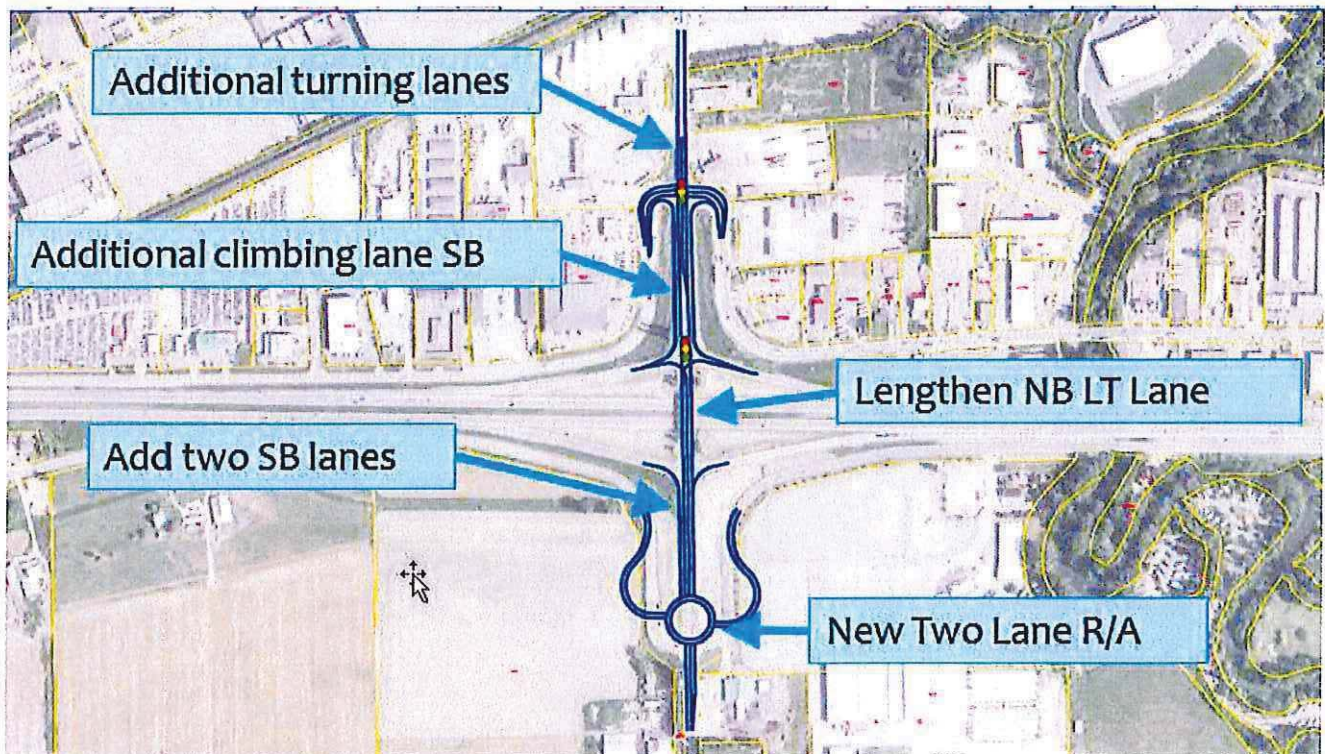
- 3.3 The Phase 2 improvement, if required, consists of a new two lane R/A at the intersection of Lickman at Yale/Industrial, this is illustrated in Appendix B – Lickman Interchange Upgrade Phase 2. It is unlikely that Phase 2 will be required prior to the demolition and reconstruction of the interchange planned by MOTI in 2030.
- 3.4 The Urban Systems Report also identifies three optional long term interchange improvements (2030) that include **1)** 6 lane Diamond **2)** 3 lane part Cloverleaf and **3)** Teardrop. These three optional long term improvements are illustrated in Appendix C. Each of them will return the lost movements to the Lickman at EB ramp intersection, in addition

to adding the necessary length to allow TCH 6 lane widening, and, modern standard seismic survivability. None of these options can be implemented in the short term since they require improvements to the bridge structure. Each of these long range improvement options, Diamond, Part Cloverleaf and Teardrop would be in excess of \$20 million and would require alignment of local and provincial capital expenditures.

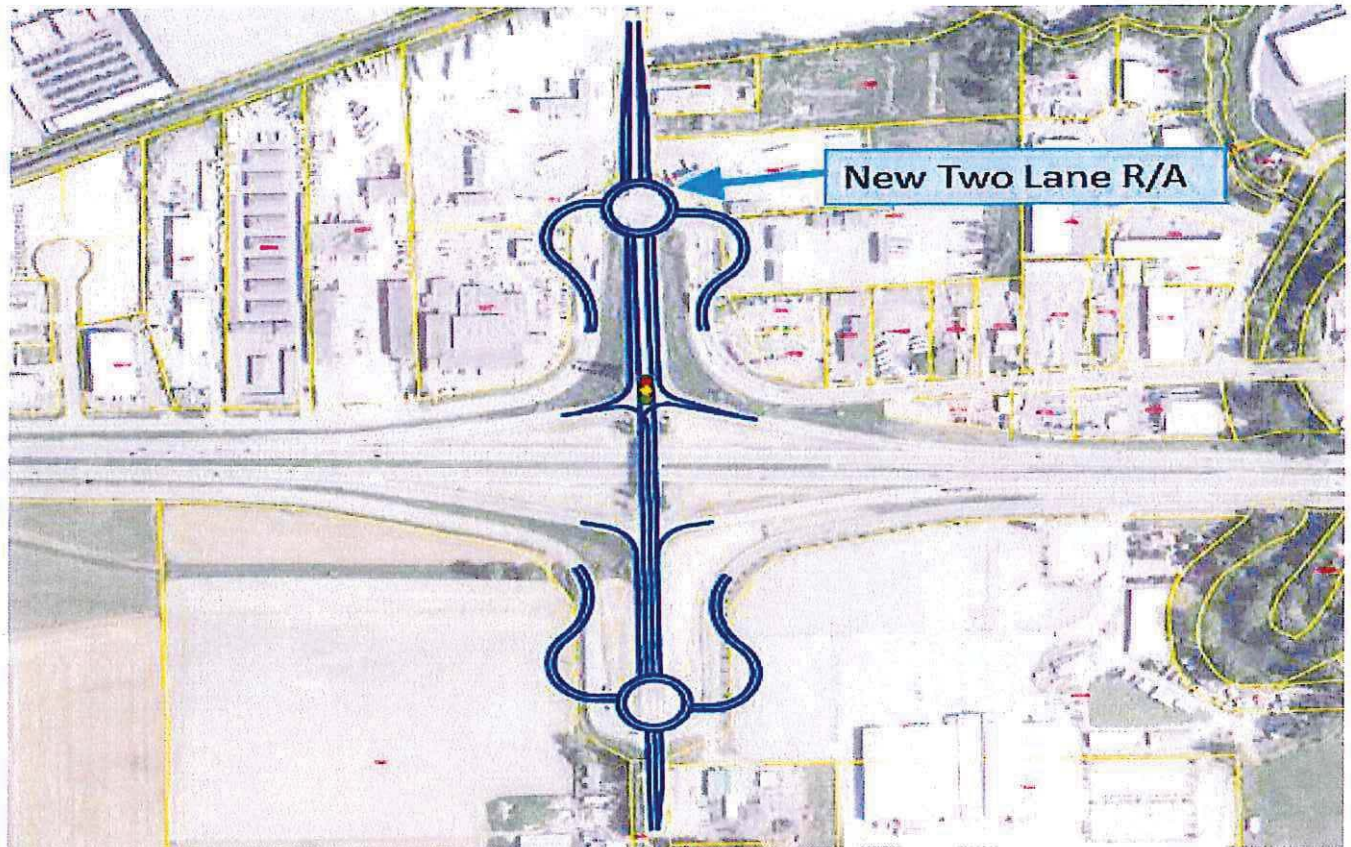
4. RECOMMENDATION:

That Council receive this report, Lickman Interchange Upgrade Project, for information.

Appendix 'A'
Phase 1



Appendix 'B'
Phase 2



Appendix C

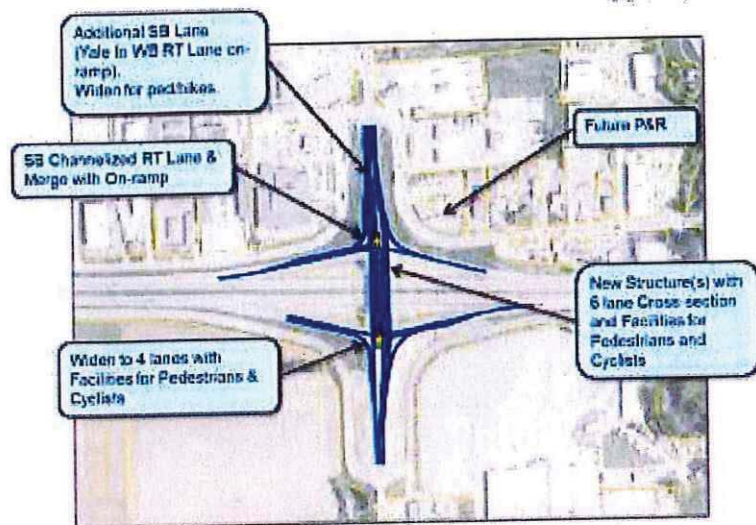


Figure 3-1: Concept 1 - Diamond Interchange

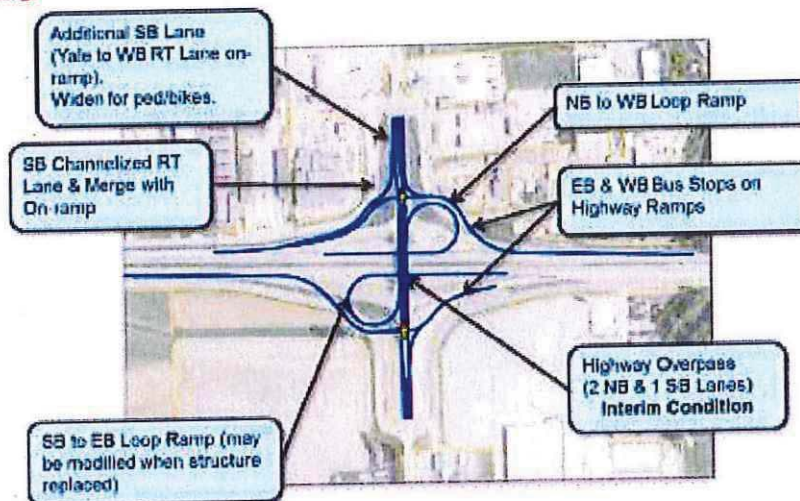


Figure 3-3: Concept 2 - Parclo Interchange

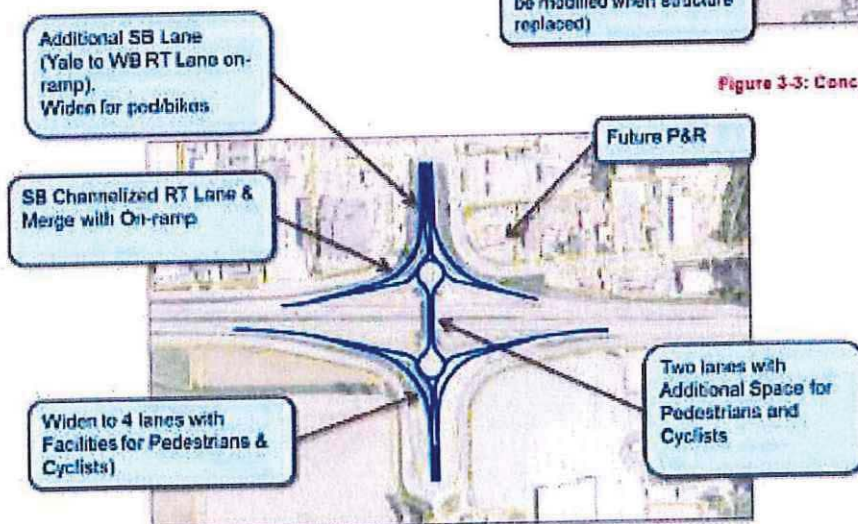


Figure 3-7: Concept 3 - Teardrop Interchange