Staff Report
Operations Department

Report To: Committee of the Whole
Meeting Date: August 11, 2020
Report Number: CSOPS.20.040
Subject: Victoria St. S. and Louisa St. W. Reconstruction Design Options
Prepared by: Michael Campbell, Construction Coordinator

A. Recommendations

THAT Council receive Staff Report CSOPS.20.040, entitled “Victoria St. S. and Louisa St. W. Reconstruction Design Options”;

AND THAT Council provide direction on the number of sidewalks that will be constructed on Victoria Street South between Alfred Street West and Arthur Street West and direct Staff to advance the preliminary design with __ sidewalks.

AND THAT Council select a cross-section from the 5 alternatives for Louisa Street West between Bruce Street South and Elma Street South and direct Staff to advance the preliminary design with Alternative #__.

B. Overview

The purpose of this report is to present a review of design options for the reconstruction of Victoria St. S. between Alfred Street and Arthur Street and Louisa St. W. between Bruce Street and Victoria Street.

Due to the time sensitivity of this project, the Transportation Committee members have not been involved in this report, however members of the committee have been copied directly.

Attachment #1 provides a map of the Project Area discussed in this report.

C. Background

Victoria Street Cross-section and the Number of Sidewalks

Victoria Street South between Alfred Street West and Louisa Street West is a hybrid mix of urban and rural cross-section elements. The 2019 Development Charges Background Study (DCBS) suggests the road would be reconstructed as a collector road. Because the Town does not have collector road cross-section approved by Council in the Town Engineering Standards, the DCBS defaults to the Town’s Standard Cross-section to define the design elements to be included in the reconstruction. The DCBS recommended improvements are as follows:
• Improvement Type: reconstruct with storm sewers (urban section)
• Road Width: 8.5m
• Pedestrian Route: 1.5m sidewalk on one side of the street (east side)
• Streetlight: standard streetlight
• Street Tree: 20m spacing both sides

Victoria Street Sidewalks South of Alfred Street

Following years of ongoing development in Thornbury, Staff are now trying to provide connected sidewalks. The pending Transportation Master Plan will identify deficiencies in the active transportation system including sidewalk connectivity. This project provided the example of the sidewalk on Napier Street at Victoria Street that provides no connection.

The current project as approved in the 2019 budget will see Victoria Street reconstructed between Arthur Street and Alfred Street. The work will include at least 1 sidewalk. When Victoria Street is reconstructed there will be a gap in the sidewalk connectivity along Victoria Street between Alfred Street and Napier Street. A sidewalk to fill this gap would produce an alternate and additional pedestrian route between the Beaver Valley Community School and Moreau Park. In addition, the sidewalk will enhance active transportation in Thornbury.

Since the sidewalk is outside the original scope of work for the current project, the sidewalk connection has not been considered at this time unless Council directs Staff to include these works.

Louisa Street between Bruce Street and Elma Street

Louisa Street West between Bruce Street South and Elma Street South is a unique cross-section that Staff suggest may have been developed as a best fit to accommodate the terrain. Staff have identified a number of challenges that will be highlighted through the design alternatives.

The grade differential from the north side of the Right of Way (ROW) to the south side provides a particular challenge that is not often encountered. There will have to be some compromises in achieving a cross-section for the reconstruction of this road section.

D. Analysis

Victoria Street Cross-section and the Number of Sidewalks

Victoria Street South between Alfred Street West and Louisa Street West is listed in the 2019 Development Charges Background Study as a collector road. The Town does not have a collector road cross-section to provide guidance on what design elements should be included. The Town’s Official Plan does not list this section of Victoria Street South as a local road.

With the shopping and restaurants at Arthur Street and recreational and community facilities at Alfred Street this route may benefit from an enhanced level of service for active transportation.
Based on the decisions regarding sidewalks on Elma Street, Staff recommend 2 sidewalks on Victoria Street between Arthur Street and Alfred Street.

**Alternatives for Reconstruction of Louisa Street between Bruce Street and Elma Street**

The reconstruction of Louisa Street will have some challenges typical of projects in the older developed areas of the Town. A unique cross-section may need to be developed at the direction of Council. Several design options are discussed below.

**Alternative #1 (key is possible reduction of existing Downtown Thornbury parking)**

Attachment #2 shows the current Town Standard Cross-section centered in the ROW with a minimal boulevard on the south side of the road for snow storage. This option would require a significant retaining wall along with utility relocations and tree loss. This option does not include dedicated street parking. The loss of street parking in Thornbury would be a negative result even with the Town’s recent acquisition on Arthur Street West.

Attachment #3 shows a plan view of Alternative #1, the Town Standard Cross-section centered in the ROW. This would be the proper design of the local street in Thornbury if the topography were not an issue.

**Alternative #2 (key is retaining existing parallel parking with standard two-way traffic)**

Attachment #4 shows the current Town Standard Cross-section shifted to the north within the ROW such that the north curb is at the same location as the current curb. This option also shows 2.75m wide parallel parking stalls with 1.25m space to open a passenger side door.

Two-way traffic on Louisa Street to accommodate vehicles and cyclists having a width of 8.5m would be a design minimum. The width of the works will require a significant retaining wall due to the 8.5m of road, curbs and retention of parking facilities on the south side of the street.

Attachment #5 shows a plan view of Alternative #2, the Town Standard Cross-section with the centerline of the asphalt shifted north and a row of dedicated parallel parking.

**Alternative #3 (key is one-way traffic to reduce cross-section width, retain existing parking with smallest retaining wall)**

The only option for making the road width smaller would be to eliminate two-way traffic. One-way traffic, from Bruce Street to Elma Street, has some interesting opportunities. Some of these are:

- Elimination of an un-desirable turning movement from Louisa Street onto Bruce Street both north bound and south bound;
- A traffic flow pattern that takes vehicles away from Bruce Street;
- 6m width of one-way traffic is suitable for emergency vehicles; and,
- Reduced width provides better opportunity to retain or add municipal parking.
When considering parallel parking on Louisa Street one might first think that the parking would be right wheel to curb like parallel parking on a two-way street. Right wheel to curb parking would see a reduction in the number of parking stalls due to the existing entrances. However, The Town’s Parking By-law 2003-47 suggests the norm for parking on one-way streets is left wheel to curb. This means a similar number of new parallel parking stalls could be reconstructed compared to what exists.

Attachment #6 shows what a one-way 6.0m road with parallel parking left wheel to curb would look like. This alternative will result in the smallest retaining wall.

Attachment #7 shows the plan view of Alternative #3, a one-way road with 6.0m width of asphalt and dedicated parallel parking, left wheel to curb.

Alternative #4 (key is 45° angle parking to increase parking spaces over existing parallel parking spaces)
While the Parking By-law does not clearly suggest angle parking on one-way streets, it might be considered here. The Town currently has angle parking, left wheel to curb on the one-way section of Hester Street. Angle parking would increase the number of stalls by approximately 80%. Due to the width of this option a tall retaining wall would be required.

Attachment #8 shows what a one-way 6.0m road with angle parking left wheel to curb would look like.

Attachment #9 shows the plan view of Alternative #4, a one-way road with 6.0m width of asphalt and dedicated 45° angle parking, left wheel to curb.

Another parking stall arrangement is perpendicular parking. This arrangement occupies approximately the same width of the right of way as 45° angle parking but achieves approximately 20% more spaces. This arrangement is not permitted by the current Town By-law and for that reason may be eliminated for consideration.

Alternative #5 (key is use of another form of parallel parking without a curb to define the parking area)
Attachment #10 shows a simplified version of Alternative #3. The 3.0m wide parallel parking is not separated from the one-way 6.0m wide road by a curb.

By eliminating the mountable curb between the traveled portion of the road and the parking stalls might look like a two-way road and confuse visitors to the Town.

Attachment #11 shows the plan view of Alternative #5, a one-way road with 3.0m of parallel parking painted out, left wheel to curb.
All the options for reconstructing Louisa Street between Bruce Street and Elma Street will require a retaining wall, tree removal and utility relocation. The wider the works; the taller the wall. The effect of the retaining wall will be the loss of pedestrian access from the lots to Louisa Street. It is not known how this would be received by the landowners.

**Conclusion and Recommendations**

**Victoria Street Sidewalks**

**Recommendation**
Staff recommend Victoria Street South between Alfred Street and Arthur Street be reconstructed with 2 sidewalks (both sides of the road).

**Louisa Street between Bruce Street and Elma Street**

There are a few option combinations to consider for Louisa Street between Bruce Street and Louisa Street. The 2 main considerations are whether to increase parking and change traffic flow to one-way.

Regardless of the road cross-section selected, a retaining wall will be required. The width of the road cross-section and where it is centered within the ROW will dictate the height and cost of the retaining wall. A 6.0m wide one-way road Bruce Street to Elma Street with parallel parking (Alternative #3) would address the turning motion from Louisa onto Bruce and retain the parking spaces in the downtown core.

**Recommendation**
Staff recommend Alternative #3 as the best compromise on the retaining wall, parking and traffic flow.

### E. The Blue Mountains Strategic Plan

| Goal #1: Create Opportunities for Sustainability |
| Objective #1 Retain Existing Business            |
| Objective #2 Attract New Business                |

| Goal #3: Support Healthy Lifestyles            |
| Objective #3 Manage Growth and Promote Smart Growth |

| Goal #4: Promote a Culture of Organizational & Operational Excellence |
| Objective #5 Constantly Identify Opportunities to Improve Efficiencies and Effectiveness |

| Goal #5: Ensure Our Infrastructure is Sustainable |
| Objective #2 Avoid Unexpected Infrastructure Failure and Associated Costs and Liability |
| Objective #3 Implement Best Practices in Sustainable Infrastructure |
| Objective #4 Ensure that Infrastructure is Available to Support Development |
F. Environmental Impacts

The construction activities will release greenhouse gases.

G. Financial Impact

The Victoria and Louisa Street Reconstruction budget was approved in the 2019 Capital Budget for a total of $6,559,700.

During the preparation of this budget considerations were not given to the parking issue on Louisa Street or having a second sidewalk on Victoria Street. Both of these additions could come with Development Charge funding as they are growth related. At this time staff are not requesting an increase to the capital budget until more work has been done to get better cost estimates.

H. In Consultation With

Shawn Everitt, CAO
Shawn Carey, Director of Operations
Sam Dinsmore, Deputy Treasurer/Manager of Accounting and Budgets
Allison Kershaw, Manager of Water and Wastewater Services
Jim McCannell, Manager of Roads and Drainage

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Michael Campbell, cc@thebluemountains.ca.

J. Attached

1. Attachment #1 Map of Project Area
2. Attachment #2 & #3 Alternative #1 Cross-section & Plan
3. Attachment #4 & #5 Alternative #2 Cross-section & Plan
4. Attachment #6 & #7 Alternative #3 Cross-section & Plan
5. Attachment #8 & #9 Alternative #4 Cross-section & Plan
6. Attachment #10 & #11 Alternative #5 Cross-section & Plan
Respectfully submitted,

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Shawn Carey
Director of Operations

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Location Plan
Louisa St and Victoria St Area Reconstruction
Thornbury, Ontario
Town of The Blue Mountains

This map is intended for reference purposes only. Information shown on this map has been compiled from numerous sources and may not be complete or accurate and may be subject to change without notice. The Town of The Blue Mountains is not responsible for any errors, omissions or deficiencies in this drawing. No part of this map may be reproduced, modified or transmitted to others in any way without the written permission of © The Corporation of the Town of The Blue Mountains (2019)
THIS IS NOT A PLAN OF SURVEY.

Imagery: Southwest Ontario Orthophotography (SWOOP) 2015
Projection: NAD 1983 UTM Zone 17N
ALTERNATIVE 1: STANDARD CROSS-SECTION - 8.5 m ROAD
**ALTERNATIVE 3**

**MODIFIED CROSS SECTION – 6.0 m ONE WAY ROAD 3.35 m OFFSET FROM ROW**

**KEY:**
- ONE-WAY TRAFFIC TO REDUCE CROSS SECTION WIDTH, RETAIN EXISTING PARKING WITH SMALLEST RETAINING WALL

- **SCALE:** 1:500
- **DATE:** JUL/20

**Drawing Name:** 119213-BX01-DRAFTING.dwg, Plotted: Jul 28, 2020

**Tatham Engineering**
ALTERNATIVE 4: MODIFIED
CROSS-SECTION - 6.0 m ONE-WAY ROAD
3.35 m OFFSET FROM ROW

TATHAM ENGINEERING

SCALE: 1:100   DATE: JUN/2020   DWG. No. LOUISA-XS-04
ALTERNATIVE 4
MODIFIED CROSS SECTION – 6.0 m ONE-WAY ROAD 3.35 m & OFFSET FROM ROW

KEY: 45° ANGLE PARKING TO INCREASE PARKING SPACES OVER EXISTING PARALLEL PARKING SPACES

CONCRETE CURB AND GUTTER
EDGE OF ASPHALT
MOUNTABLE CURB AND GUTTER
6.75 m ANGLE PARKING

1.5 m SIDEWALK
Curb and Gutter
Edge of Asphalt
Mountable Curb and Gutter
6.75 m Angle Parking

Retaining Wall

Drawing Name: 119213-BX01-DRAFTING.dwg, Plotted: Jul 28, 2020

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Attachment 9
ALTERNATIVE 5
MODIFIED CROSS SECTION – 9.0 m ONE-WAY
ROAD 1.85 m OFFSET FROM ROW

KEY: USE OF ANOTHER FORM OF PARALLEL PARKING WITHOUT A CURB TO DEFINE THE PARKING AREA

CONCRETE SIDEWALK
ASPHALT GUTTER
EDGE OF ASPHALT
CURB AND GUTTER
RETAINING WALL

TATHAM ENGINEERING

ATTACHMENT 11

Job No. 119213
Dwg. No.

Drawing Name: 119213-BX01-DRAFTING.dwg, Plotted: Jul 28, 2020

CSOPS.20.040

Scale: 1:500
Date: JUL/20