Birch Avenue Municipal Class Environmental Assessment

Public Information Centre
Monday, November 11, 2019
Norman Pinky Lewis Recreation Centre

We want to hear from you!
Please feel free to discuss any questions or comments with the Project Team from the City of Hamilton and IBI Group.

Land Acknowledgement

The City of Hamilton recognizes and acknowledges that we are located on the traditional territories of the Mississauga and Haudenosaunee nations, and within the lands protected by the “Dish With One Spoon” wampum agreement.
Introduction and Study Area

Purpose of This Public Information Centre

The purpose of today’s event is to:

• **Introduce the study** to the public and stakeholders;

• Review the **issues, needs and opportunities** that can be improved upon when two existing bridges on Birch Avenue are replaced;

• Present the **alternative solutions and preliminary preferred solution** to address existing drainage and road clearance issues;

• **Understand your concerns and feedback** related to the project and the alternative solutions; and,

• Provide an **opportunity to participate in the planning and decision making process**, by providing your **comments to the Project Team**.

Study Area

• Birch Ave. from Burlington St. E. to Barton St. E., is a three-lane, southbound, minor arterial roadway.

• Birch Ave. is **being converted to two-way traffic**.

• The corridor is approximately 1.0 km in length.
# How to Participate

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<th>Information Boards</th>
<th>Sticky Notes</th>
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<tr>
<td>Review the boards to learn about the topics this study covers.</td>
<td>Some boards invite you to give your feedback using sticky notes.</td>
<td>Comment forms are available at the sign-in desk.</td>
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<table>
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<tr>
<th>Talk with the Project Team</th>
<th>Project Mailing List</th>
<th>Visit the Study Webpage</th>
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<td>Talk with staff to discuss your ideas, experiences or concerns.</td>
<td>Share your email address at the sign-in table to receive updates.</td>
<td><a href="http://www.hamilton.ca/BirchEA">www.hamilton.ca/BirchEA</a></td>
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Corridor Needs and Issues

Bridges 330 and 332 are planned to be replaced in the near-term. The replacement provides an opportunity to address existing needs and issues along Birch Ave.

Bridge 330 (the north bridge)
- Substandard clearance for the roadway.
- Experiences drainage issues/flooding during and after storms events.

Hamilton Transit Bus Facility
- Requires the clearance and drainage issues along Birch Ave. to be improved so that buses can be deployed safely and reliably each day.

Bridge 331 (the centre bridge)
- An unused rail bridge.
- Substandard clearance for the roadway.
- It will be removed.

Bridge 332 (the south bridge)
- Substandard clearance for the roadway.
- Experiences drainage issues/flooding during and after storms events.
Improvement Opportunities

The works required to replace Bridges 330 and 332 present an opportunity to implement other planned improvements along Birch Ave. at the same time.

**Birch Ave./Burlington St. intersection**
A crosswalk can be provided at the intersection to allow pedestrians to cross from north to south.

**Two-Way Conversion**
There is an opportunity to implement the planned and Council-approved two-way conversion of Birch Ave.

**Sidewalk Gap**
An in-fill sidewalk can be installed to fill the gap between the Public Works Facility entrance and Burlington St.

**Cycling Infrastructure**
Cycling infrastructure can be installed on Birch Ave., as identified in the Hamilton Transportation Master Plan.
The study is following the ‘Schedule B’ process as outlined in the Municipal Class Environmental Assessment. The ‘Schedule B’ process requires completing Phase 1 and 2, shown to the right.

The process enables the planning and implementation of municipal infrastructure projects.

<table>
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<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>Phase 5</th>
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<tr>
<td>Problem / Opportunity</td>
<td>Alternative Solutions</td>
<td>Alternative Designs</td>
<td>Environmental Study Report</td>
<td>Implement</td>
</tr>
<tr>
<td>Identify Problem or Opportunity</td>
<td>Identify Alternative Solutions</td>
<td>Identify Alternative Design</td>
<td>Complete Environmental Study Report</td>
<td>Construction and Operation</td>
</tr>
<tr>
<td>Inventory Existing Conditions</td>
<td>Evaluate Alternative Solutions</td>
<td>Evaluate Alternative Design</td>
<td>Notice of Completion</td>
<td>Monitor Environmental Commitments</td>
</tr>
<tr>
<td>Public Consultation</td>
<td>Public Consultation</td>
<td>Select Preferred Design</td>
<td>Select Preferred Design</td>
<td>We Are Here</td>
</tr>
</tbody>
</table>

Birch Avenue Municipal Class Environmental Assessment
Public Information Centre
November 11, 2019
Problem/Opportunity Statement

Draft Statement

Birch Avenue is a one-way, minor arterial serving local, through and goods movement traffic. Two bridges on the corridor are nearing the end of their design life and need to be replaced. The height of the bridges above the road (clearance) is substandard, and there are drainage issues that can cause flooding.

In the near-term, the road will be converted to two-way traffic and will become the primary access route to the Hamilton Transit Bus Maintenance and Storage Facility.

The City is looking for opportunities to resolve clearance, address drainage issues, and implement active transportation infrastructure and traffic operational improvements for the benefit of users.

What comments do you have on the problem/opportunity statement?
Cultural Environment

Seven built heritage resources were identified:

- Three bridges:
  - Bridges 330 & 332 have no cultural heritage value or interest; and,
  - Bridge 331 has cultural heritage value or interest. Options to commemorate the heritage components are being explored.
- Two commercial buildings;
- One former school; and,
- One industrial building complex.

Four cultural heritage landscapes were identified:

- Two streetscapes; and,
- Two transportation corridors.

With the exception of the three bridges, no impacts are anticipated to the identified features.
Social and Economic Environment

• Birch Ave. runs through the **Gibson and Keith/Industrial Sector B neighbourhoods**.

• Primarily **industrial/employment** uses north of Bridge 332 (Princess St.) and **residential** between Bridge 332 and Barton St.

• **No registered archaeological sites** within the study area or within 1 kilometer.

• The **hydro corridor and Birch Avenue Dog Park** are used for recreation and leisure activities

• Part of the **Truck Route Network**.
Traffic Operations (2031)

**Existing Conditions**
- Three lanes of southbound traffic. *It carries low volumes for its capacity.*
- All signalized intersections operate at LOS B or better. *Traffic flow is stable without significant delay or disruptions.*

**Future Conditions**
- Birch Ave. is **being converted to two-way traffic**.
- **Future two-way traffic will operate well**, with intersections at LOS C or better.

Traffic improvements planned for Birch Ave. include:
- One lane of vehicle traffic in each direction;
- Turn lanes at some intersections; and,
- The introduction of a northbound left-turn movement at the Birch Ave. and Burlington St. intersection.

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**Level of Service (LOS)** is a letter designation used to describe the operating conditions on a road experienced by users:

- **A**= Free flow
- **B**= Reasonably free flow
- **C**= Stable Flow
- **D**= Approaching unstable flow
- **E**= Unstable flow
- **F**= Forced or breakdown flow

*The AM and PM Peak level of services were found to be the same for existing and future conditions.*
**Active Transportation Alternatives**

**Existing Conditions**
- Sidewalk gap on the west side, between the Public Works Facility and Burlington St.
- No cycling facilities.
- A multi-use path is planned south of Princess St.

**Future Conditions**
- Cycling facilities are identified in the Transportation Master Plan.
- The Pedestrian Mobility Plan supports providing sidewalks.

**Alternatives for Consideration**

Based on traffic characteristics, **dedicated or separated cycling facilities** are appropriate.

**Dedicated Facilities**
Typically provided along roads with moderate speeds and volumes.

- **Bike Lanes**
- **Buffered Bike Lanes**

**Separated Facilities**
Typically provided along roads with higher speeds and volumes.

- **Cycle Track**
- **Multi-Use Paths**
Active Transportation Evaluation

 Evaluate

Active Transportation Evaluation

<table>
<thead>
<tr>
<th>Appropriate for Road Context</th>
<th>Bike Lanes (Conventional or Buffered)</th>
<th>Multi-Use Path</th>
<th>Cycle Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable &amp; Attractive</td>
<td>Low Performing</td>
<td>High Performing</td>
<td></td>
</tr>
<tr>
<td>Continuous &amp; Connected</td>
<td>Low Performing</td>
<td>High Performing</td>
<td></td>
</tr>
<tr>
<td>Feasibility &amp; Cost</td>
<td>Low Performing</td>
<td>High Performing</td>
<td></td>
</tr>
<tr>
<td>Overall Evaluation</td>
<td>Low Performing</td>
<td>High Performing</td>
<td></td>
</tr>
</tbody>
</table>

A multi-use path is the preliminary preferred option. The multi-use path is appropriate for the roadway context, will address the sidewalk gap on the west side, and separates users from truck traffic.

The multi-use path will require an easement and/or property acquisition to run through the hydro corridor and around the northern-most hydro tower.

The preferred active transportation solution will be the alternative that will be recommended for implementation.

What do you think about installing a multi-use path on Birch Ave.?
Bridge/Drainage Alternatives

The clearance under the bridges needs to be a minimum of 4.8 metres.

Existing Clearance
Bridge 330 (North Bridge): 4.2 m (east), 4.1 m (west)
Bridge 332 (South Bridge): 4.1 m (both)

1. Do Nothing
2. Raise the Bridge
3. Lower the Road
4. Raise The Bridge & Lower the Road
5. Install a thinner bridge deck

* Drawings are not to scale. For illustrative purposes only.
## Bridge/Drainage Alternative (1)

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Description</th>
<th>Supporting Works</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alternative 1: Do Nothing</strong></td>
<td>Bridges 330 and 332 would be replaced with structures that have the existing, substandard roadway clearance.</td>
<td>• None.</td>
</tr>
</tbody>
</table>
| **Alternative 2: Raise the Bridge** | The two bridges would be raised by 0.7 metres to increase roadway clearance. | • Will require raising the approach tracks which will have major impacts to rail operations, and possibly at nearby grade crossings.  
• A pumping station will be required to address existing drainage issues at the underpasses. |
| **Alternative 3: Lower the Road** | Lower the road 0.7 metres under the two bridges to meet the clearance requirements. | • A pumping station will be required to address drainage at the underpasses.  
• The amount of water to pump will be larger compared to today due to the lower road profile. |
Bridge/Drainage Alternative (2)

Alternative 4: Raise the Bridge and Lower the Road

Description
A combination of lowering the roadway 0.4 metres and raising the bridges 0.3 metres to achieve the required clearance.

Impacts
• A pumping station will be required to address drainage at the underpasses.
• The amount of water to pump will be larger compared to today due to the lower road profile.

Alternative 5: Install a Thinner Bridge Deck

Description
This alternative would see the existing bridge decks replaced by a shallower (thinner) design.

Impacts
• A pumping station will be required to address existing drainage issues at the underpasses.
Evaluation Process and Criteria

The alternatives were evaluated using the process described below.

**Step 1: Feasibility Screening (Board 17)**

Alternatives that **fail to address the problem or have significant impacts** were removed from consideration.

**Step 2: Technical Evaluation (Board 18)**

Alternatives that passed Step 1 were evaluated against the environmental criteria below.

<table>
<thead>
<tr>
<th>Transportation</th>
<th>Drainage and Construction</th>
<th>Natural Environment</th>
<th>Social Environment</th>
<th>Economic Environment</th>
</tr>
</thead>
</table>
| • Supports two-way conversion  
• Active transportation  
• Roadway safety | • Construction area impacts  
• Pumping requirements | • Surface water and aquatic habitat  
• Regulated areas  
• Vegetation and vegetation communities  
• Wildlife and habitat  
• Species at risk | • Cultural heritage impact  
• Archaeological impact  
• Construction phasing impacts  
• Consistent with Urban Official Plan and Transportation Master Plan  
• Property impacts | • Capital costs  
• Operating costs |
Step 1: Feasibility Screening

The five alternatives were screened for feasibility and major impacts (e.g. address clearance issue, impacts on rail operations).

Three alternatives were eliminated which leaves two for further evaluation.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Raise Bridge</th>
<th>Lower Road</th>
<th>Total Clearance</th>
<th>Infeasible or Major Impacts?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Do nothing</td>
<td>0 m</td>
<td>0 m</td>
<td>4.1 m (substandard)</td>
<td>Yes – does not address clearance issue. Removed from consideration.</td>
</tr>
<tr>
<td>2: Raise Bridge</td>
<td>0.7 m</td>
<td>0 m</td>
<td>4.8 m</td>
<td>Yes – raising the bridge would have significant impact on rail operations. Removed from consideration.</td>
</tr>
<tr>
<td>3: Lower Road</td>
<td>0 m</td>
<td>0.7 m</td>
<td>4.8 m</td>
<td>No – advance to Step 2.</td>
</tr>
<tr>
<td>4: Raise Bridge &amp; Lower Road</td>
<td>0.3 m</td>
<td>0.4 m</td>
<td>4.8 m</td>
<td>No – advance to Step 2.</td>
</tr>
<tr>
<td>5: Thinner Bridge Deck</td>
<td>0 m</td>
<td>0 m</td>
<td>4.1 m (substandard)</td>
<td>Yes – does not address clearance issue. Removed from consideration.</td>
</tr>
</tbody>
</table>
Step 2: Technical Evaluation

Alternatives 3 and 4 score comparably to one another.

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Raise Bridge</th>
<th>Lower Road</th>
<th>Total Clearance</th>
<th>Transportation</th>
<th>Drainage &amp; Construction</th>
<th>Natural</th>
<th>Social</th>
<th>Economic</th>
<th>Overall Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3: Lower Road</td>
<td>---</td>
<td>0.7 m</td>
<td>4.8 m (min.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4: Raise Bridge &amp; Lower Road</td>
<td>0.3 m</td>
<td>0.4 m</td>
<td>4.8 m (min.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
The preliminary preferred solution is Alternative 4: Raise Bridge & Lower Road.

This option provides the required clearance (4.8 metres). The preferred solution will be confirmed during functional and detail design, and refined to identify final dimensions.

* Drawing is not to scale. For illustrative purposes only.
Drainage Strategy

The Lake Ontario water table is, on average, 0.7 to 1.4 metres below road level at Bridge 332 and 330, respectively. The water table level has been increasing in recent years, particularly during the summer. This contributes to drainage issues.

To address stormwater drainage:

- **A new, expanded drainage system is required on the east side of the road.** This will increase the carrying capacity of the system to handle stormwater flows, and will help to reduce flooding.

- **Two new pumping stations are required to remove water from the bridge underpasses during and after storm events.** These need to be located in close proximity to the bridges.
Moving Forward

Next Steps

• Review all comments and suggestions received before, during and following this Public Information Centre;

• Prepare the Project File Report and seek City Council approval for the preferred solution;

• Complete Functional Design to determine cost/budget and timeline implications; and,

• Advance to detailed design and prepare for construction, pending funding in partnership with senior levels of government.

Comments/Questions?

Please leave any feedback you may have on one of the comment sheets or email them to the project team by November 25, 2019. Your comments are important and will be reviewed by the City.

Project Team Contacts

If you would like more information on the study, the project team can be reached at:

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