City of Niagara Falls
CN Train Operations Impact Study

July 10, 2018
Background

• CN Stamford Subdivision bisects the City’s urban core with 14 at-grade rail crossings.

• Regular operations of long trains delays traffic at multiple crossings, multiple times per day. Unpredictable breakdowns and malfunctions occur frequently.

• Creates a challenge for emergency services and impacts transportation / transit efficiency on the arterial road network.

• Council’s Strategic Plan the City’s Sustainable Transportation Master Plan call for the review of potential solutions that include rerouting of through-train operations.
Study Timelines

Project Initiation
March 2018

Survey Launch
April 2018

Public Open House #1
April 26, 2018

Analysis of Impacts
Data Collection, Survey, Analysis

Council Presentation
July 10, 2018

Identify Potential Solutions
Consider all options and Benefit-Cost Analysis

Public Open House #2
May 31, 2018

Update to Council

Complete Study Documentation

Summer 2018

Consultation Plan
Launch the Study

Study Area Profile
Review Background Information

Analysis of Impacts

Update to Council

Identify Potential Solutions
Consider all options and Benefit-Cost Analysis

Complete Study Documentation

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Agency, Stakeholder and Public Engagement

- On-line Survey at letstalk.niagarafalls.ca received 533 responses.

- Two Stakeholder Meetings with Emergency Services, Regulatory Agencies and Businesses.

- Two Public Open Houses at the MacBain Community Centre.
Consultation

What We Heard From Stakeholders

• 49% cross the rail line more than twice per day and 50% are delayed at least once per day
• 63% have been delayed for >20 minutes
• 20% reroute after 5 minutes, 51% reroute after 15 minutes
• Local businesses are reliant on train service
• Emergency service providers utilize additional resources to manage uncertainty
• Student transport delays

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Transportation Impact Assessment

- A recent survey tracked up to 4 major daily train movements with a total closure time of 30 to 35 minutes per day.

- 8,000 to 10,000 vehicles cross the rail line during the peak hours of 8-9 am and 4:30-5:30 pm.

- Between 2015 and 2018, 21 CN train breakdowns resulted in road blockages of up to two hours, 11 of these occurred during weekday peak periods.
Rail Rerouting Review

- **Existing CN Rail Grimsby Subdivision**
- **Rerouting Option 1** - Whirpool Rapids Bridge to CSX Niagara Falls USA
- **Rerouting Option 2** - Route via Trillium Railway from Merriton to Welland
- **Rerouting Option 3** - Route via CP Hamilton Subdivision to CN Stamford Subdivision

Locations:
- Hamilton
- Grimsby
- Smithville
- St. Catharines
- Thorold
- Niagara Falls
- Welland
- Port Colborne
- Fort Erie
- Buffalo
- Lake Ontario
- Lake Erie
## Benefits and Challenges of Rerouting Options

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whirlpool Rapids Bridge to CSX Niagara Falls USA</strong></td>
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<td><strong>CP Hamilton</strong></td>
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<tr>
<td><strong>Benefits</strong></td>
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<td><strong>Challenges</strong></td>
</tr>
<tr>
<td>▪ Most through trains will be re-routed</td>
<td>▪ All through trains will be re-routed</td>
<td>▪ All through trains will be re-routed</td>
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<tr>
<td>▪ No disruption or change to local rail customers</td>
<td>▪ No long term disruption to local rail customers</td>
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<td>▪ CN will not have to operate through Niagara Falls and the 15mph curve</td>
<td>▪ Minimal change to CN operations</td>
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<td>▪ CN crews require US rules qualification</td>
<td>▪ Railway is class 2 track and will require upgrade</td>
<td>▪ Additional infrastructure on Hamilton Subdivision</td>
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<tr>
<td>▪ CN operation on CSX track</td>
<td>▪ Current car loading restricts Heavy Axle Loading</td>
<td>▪ Upgrade to centralized traffic control (CTC)</td>
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<td>▪ Toll to use bridge</td>
<td>▪ Customer switching will require additional infrastructure</td>
<td>▪ CN &amp; CP agreement</td>
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<td>▪ Maintenance costs for bridge</td>
<td>▪ Wetlands are potential environmental concerns</td>
<td>▪ Local customer traffic interchange</td>
</tr>
<tr>
<td>▪ Traffic destined to Niagara region will need to go through to Port Robinson</td>
<td>▪ Additional property acquisition for new siding</td>
<td>▪ Require additional Horse Power for the Niagara Escarpment</td>
</tr>
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<td>▪ US governance with regard to relocation improvements &amp; financial plan</td>
<td>▪ Cost of a lift bridge over Welland Canal</td>
<td>▪ Loss of infrastructure ownership</td>
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<td>▪ GO Service and Freight Service currently operate on Grimsby Subdivision - Likely to require track twinning in order for Metrolinx to operate full service in 2023</td>
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Rail Grade Separation Review

Implementation of just 4 grade separations would involve:

• 5 to 6 years for planning, design and construction for each crossing

• 20 to 24 years for full implementation (i.e. if implemented sequentially)

• $25 to $60 million each (2018 dollars)
Socio-Economic Assessment

Benefit-Cost Analysis

Net Present Value (NPV)
Benefits – Costs = NPV
If NPV is positive, accept the project

Internal Rate of Return (IRR)
If IRR > discount rate, accept the project

Benefit-Cost Ratio (BCR)
Benefits / Costs = BCR
If BCR >1, accept the project

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Next Steps

• Complete benefit-cost analysis
• Continue discussions with the affected Rail Companies and Niagara Region
• Develop a formal recommendation that will be brought forward to Council for direction and approval
• Complete study documentation (Summer 2018)
• Continue to monitor rail traffic at crossings to gather meaningful evidence about recurring CN rail operations violations and incidents.
THANK YOU

COMMENTS & QUESTIONS

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