Confederation Line West Alignment Improvement

September 15, 2016
Agenda

• Background
• Lincoln Fields Station
  – Environmental Assessment Alignment Challenges
  – Improved Alignment Benefits
• LRT Alignment, West Portal to Woodroffe
• New Orchard Station
• Next Steps
Background

- Spring 2016, design modifications were recommended along Confederation Line West (at Cleary Station) and Confederation Line East (Blair to Montreal stations)
  - The modifications were included in the respective Confederation Line Environmental Assessments (EAs)
- Preliminary engineering design work has been ongoing and staff identified additional improvements along Confederation Line West:
  - Alignment and station shift at Lincoln Fields
  - Alignment shift, between Cleary and Woodroffe
EA Alignment Benefit & Challenges

• Benefits:
  – Utilizes existing infrastructure

• Challenges:
  – Alignment and station located within floodplain of Pinecrest Creek
  – Recommended flood walls do not fully mitigate flood risk to LRT infrastructure and operations and carry higher maintenance costs
  – Alignment constrains future enhancements to/naturalization of valley lands
  – West tunnel portal south of Richmond Road in conflict with Pinecrest Creek culvert to Ottawa River
  – Prevents ability to keep existing Transitway in operation during construction
Conflict with Pinecrest Creek Culvert
Lincoln Fields
Improved Alignment
Lincoln Fields
Improved Alignment

Alignment At Grade

West Portal

Current alignment
Improved alignment
Improved Alignment Benefits

• Alignment completely avoids LRT flood risk (with minor berming)
• Straighter alignment reduces maintenance and risk of noise and vibration
• Existing Transitway can be returned to NCC for future enhancements
• Avoids conflict with Pinecrest Creek culvert at West Portal (LRT is beside the culvert)
• New Lincoln Fields LRT Station integrated with new ‘fare-paid’ bus terminal
• Similar capital cost, with significantly reduced flood risks and reduced infrastructure (concrete flood walls)
• Maintains Transitway operations during construction
Improved Alignment Impacts

• New tunnel required under Carling Avenue
  – Traffic impacts on Carling Avenue
  – Utility relocations required
• New integrated bus terminal requires some tree removals
  – 2:1 replacement policy will be implemented
• Increased proximity to adjacent residential properties
  – Noise levels meet City Standards
  – Rail based vibration can be mitigated with track bed system
  – Use of resilient track fasteners
• New floating slab (100 metre section) along Richmond Avenue
Vibration Mitigation Measures

- Floating Slab
- Resilient Fastner
Mitigation Locations
South of Carling & West Portal
Lincoln Fields Station
Improved Concept
Lincoln Fields Station Improved Concept Platform Configuration
West of Woodroffe
LRT Alignment
New Orchard Station
New Orchard Station
# Forecasted Ridership

<table>
<thead>
<tr>
<th>Station</th>
<th>Total Boardings and Alightings (2031, AM Peak Hour)</th>
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<tbody>
<tr>
<td>New Orchard</td>
<td>636*</td>
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<tr>
<td>Lincoln Fields</td>
<td>2,521</td>
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<tr>
<td>Queensview</td>
<td>540</td>
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<tr>
<td>Pinecrest</td>
<td>640</td>
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*New Orchard Station is busier than 12 other Stage 2 stations*
Richmond Complete Streets/
Byron Linear Park Park Themes
Richmond Complete Streets/
Byron Linear Park
Themes
Next Steps

• Upcoming opportunities for public comment:
  – Environmental Assessment process
    • Notice of Completion (September 30, 2016)
  – Staff report outlining recommended design improvements:
    • Finance and Economic Development Committee (Fall 2016)
    • City Council (Fall 2016)
Questions?
Cut and Cover Decking

1. Utility location and piling
2. Installation of decking
3. Excavation and soil removal
4. Construction of underground structure
5. Removal of decking/street restoration