Parkway Corridor
Class Environmental Assessment

City of Peterborough

Presentation to Committee of the Whole

November 13, 2013
Setting the Context - Today

- 15,100 residents in west end
  - east-west travel served by 8-9 arterial lane per direction

- 14,800 current residents in north end
  - North-south travel served by 5 arterial lanes of traffic per direction
  - Other parallel routes provide 3 lanes per direction for overflow – use is growing
  - Pressure on minor local roads
  - Increasing traffic on existing river crossings
  - Parkhill Road distributes traffic to north-south roads
Setting the Context - Today

• Signs of congestion are already starting to show
Need for Project

Project driven by a need to accommodate planned long term growth
- 6,100 new residents by 2031 in north end growth areas
- additional 9,200 residents in north end beyond 2031
- Like adding the entire west end on top of the existing population base and existing road network

Need to provide adequate network capacity to avoid adverse impacts
- Intersection / network delay
- Increased Collisions
- Neighbourhood short cutting
- Increased Greenhouse Gas Emissions
- Efficiency of access to hospital from all areas of city
A Comprehensive Study Process

An extensive technical work program:
- Travel demand forecasting & simulation modeling
- Natural Heritage Features Study
- Phase 1 Archaeological Assessment
- Built Heritage Background Study
- Noise Study
- Air Quality Study
- Stormwater Management Study
- Structural Design Review
- Functional / Preliminary Design of alternatives to identify impacts

Work added in response to comments received / findings of initial work:
- Benefit-Cost review of alternatives – requested by public
- Fisheries Field Study – requested by ORCA
- Assessment of Lily Lake Planning Area – requested by public
- Stage 2 Archaeological Assessment – test pits along preferred corridor
- Geophysical Investigation – Lee Pioneer Cemetery
- Cultural Heritage Impact Assessment – Jackson Park Area and Entire Corridor
- Implementation and Phasing Assessment
An Extensive Consultation Process

• Four Public Information Centres (October 2012, March 2013, June 2013, and September 2013)
  - 14,289 general notices mailed out to residents
  - 1,693 notices sent to mailing list
  - 15 notices advertised in local papers
  - Notices posted on study website
  - 712 attendees at PIC’s
  - 213 written comment forms received
  - 384 emails received (as of Oct 25th)
  - Online Petition sponsored by Friends of Jackson Park – now over 5,000 signatures

• Information Booth at Lansdowne Place Mall (July 2013)
  - Informal – about 100 attendees

• Corridor Design Workshop (August 2013)
  - 20 attendees representing different interests (residents, trail users, agencies, etc)

• Presentation to joint meeting of
  - Peterborough Architectural Conservation Advisory Committee,
  - Arts, Culture and Heritage Advisory Committee, and
  - Arenas, Parks and Recreation Advisory Committee

• Agency meetings
  - ORCA, MOE, Peterborough County, Selwyn Township
Problem/Opportunity Statement

To accommodate planned population and employment growth designated in the Official Plan, the Comprehensive Transportation Plan (2012) identified the need to provide additional road capacity to accommodate north-south travel demands on the west side of the Otonabee River.

Without increasing roadway capacity in the study area, major road network links in the north end of the City will be operating at/over capacity by 2031, increasing congestion and safety concerns at major intersections.

In addition, the termination of Medical Drive at Sherbrooke Street and the interim intersection improvements on Sherbrooke Street can accommodate short term growth but are not able to accommodate future long term growth to 2031. This will result in congestion and safety concerns at key intersections in the Clonsilla Avenue, Goodfellow Road and Sherbrooke Street area. Improvements to better connect the road network in this area to the south end of the City are also required.

Endorsed by City Council on November 13, 2012
A multi-faceted approach is recommended:
- Increased Transit Use per TMP – 28% increase by 2031
- Increase share of walking / cycling trips from 6% - 8% by 2031
- Measures to support transit / walking / cycling included in design
- Road network improvements will still be required

A 3-Step Evaluation Approach to evaluating the Road Network Alternatives

**STEP 1 - South End**
The Parkway ROW with a revised alignment was identified as the recommended Network Alternative

**STEP 2 – North End**
The Parkway ROW was identified as the recommended Network Alternative
PIC #3 was held in June 2013 and presented the preliminary evaluation of the Jackson Park Alternatives

- Jackson Park Area has a series of complex issues and trade-offs
- A two-stage evaluation process was used.
- Comparative evaluation of a new bridge across Jackson Park vs. alternatives to widening Parkhill Road/Fairbairn Street.

A long span bridge across Jackson Park is recommended based on the evaluation.
Recommended Design – PIC #4

Overview of Recommended Corridor

- A multi-modal arterial road corridor, designed for transit, cycling, pedestrians and auto use
  - Four lanes between Clonsilla Avenue and Chemong Road
  - Two lanes from Chemong Road to Cumberland Avenue and Water Street
    - Will be implemented in phases
- Future express transit route intended to connect with local transit routes, Trent University, and Sir Sanford Fleming College
- Provision for transit infrastructure (i.e., stops / shelters)
- Sidewalks and a continuous multi-use trail along corridor
- Pedestrian/trail crossings at various locations
- Enhanced landscaping and vegetation features
- Noise mitigation treatments
- Enhanced stormwater management
- Various intersection arrangements, including roundabouts and signalized intersections
**Key Themes From Consultation**

<table>
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<tr>
<th>PIC 1</th>
<th>PIC 2</th>
<th>PIC 3</th>
<th>PIC 4</th>
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<tbody>
<tr>
<td>Balanced comments with strong support and opposition to Parkway</td>
<td>Strong opposition to bridge across Jackson Park</td>
<td>Strong opposition to bridge across Jackson Park and overall Parkway Corridor expressed at PIC</td>
<td>Much more balanced comments with many in favour of proposed route and design</td>
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<td>Online petition started opposed to alternatives that affect Jackson Park</td>
<td>More balanced comments at Lansdowne Place Mall Display and in follow up comments</td>
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<td>Many still strongly opposed</td>
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<td><strong>Key Issues Raised</strong></td>
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<td>Loss of greenspace, Impacts to natural areas, Impacts to trail, Focus on transit / non auto use West By-Pass</td>
<td>Loss of greenspace, Impacts to Jackson Park Impacts to natural areas, Impacts to Parkway trail, Focus on transit / non auto use Challenge need / route selection in north end West By-Pass</td>
<td>Loss of greenspace, Impacts to Jackson Park Impacts to natural areas, Impacts to Parkway trail, Nicholls Trust Agreement Challenge need / route selection Cost / Affordability</td>
<td>Same as issues raised at PIC 3 Cultural Heritage Designation for Jackson Park</td>
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- There is no consensus on need or choice of route – strong views on both sides
- There are some general points of agreement
  - Many agree with South End connection from Medical Drive to Parkway
  - City must live up to mitigation measures if project goes ahead
Clonsilla Avenue to Nevin Park

South End
Given the complexity of the Jackson Park Area, a two-stage evaluation process was used.

### Jackson Park Alternatives

- **Best New Bridge Crossing Alternative**
- **Comparative Evaluation of Advantages and Disadvantages**
- **Best Parkhill Road Widening Alternative**
- **Best Fairbairn Street Widening Alternative**
- **Best Fairbairn Street/Highland Road/Parkway Intersection Alternative**

**Long Span Bridge Across Jackson Park Alternative**

- New 4 lane road connection with separate off road trail
- A roundabout at the Fairbairn St / Parkway intersection with a closure of Highland Road
- Ultimate 4 lanes with sidewalks, separated trail crossing, pedestrian lookouts
- Long span to avoid fill in the valley

**Fairbairn Widening Alternative**

- A roundabout at the Fairbairn St. Parkway intersection with a closure of Highland Rd.
- Widening Fairbairn St. to the fast
- Signalized intersection at Parkhill Rd. / Fairbairn St. with dual left turn lanes
- Close park access and parking area
- Widening of the Parkhill Rd. bridge across Jackson Pl. / Hamilton Park
- Recreation of lower park access and parking area
Fairbairn Widening Alternative

- A roundabout at the Fairbairn St. / Parkway intersection with a closure of Highland Rd.
- Widening Fairbairn St. to the East
- A roundabout at the Parkhill Rd. / Parkway intersection to accommodate left turn volumes
- Signalized intersection at Parkhill Rd. / Fairbairn St. with dual left turn lanes
- Close park access and parking area
- Widening of the Parkhill Rd. bridge across Jackson Park / Hamilton Park
- Relocation of lower park access and parking area

Cost Estimate:
- $10.1 M Capital
- $4.7 M Property
- Total = $14.8 M
Long Span Bridge Across Jackson Park Alternative

New 4 lane road connection with separate off road trail

A roundabout at the Fairbairn St / Parkway intersection with a closure of Highland Road

Ultimate 4 lanes with sidewalks, separated trail crossing, pedestrian lookouts

Long span to avoid fill in the valley
- The bridge design concept consists of a 23 m (75 ft) high bridge which would span 367 m across the valley.
- The City will include new native vegetation within the Valley to provide visual screening of the bridge and restore areas affected during construction.
- The City will review opportunities to further reduce the number of piers in the valley during design (requires more detailed soils investigation).
Vegetation regrowth

Pedestrian lookout

Source: Smith Triller Viaduct over 16 Mile Creek / Glen Abbey Golf Course, Oakville

Source: Veteran’s Memorial Bridge - Belleville
Bridge Design Principles will guide future work. The City will:
- Minimize number of piers within valley during design
- Design pier placements to avoid sensitive features (i.e. Jackson Creek)
- Design the bridge to promote openness and unimpeded access through spans in valley
- Utilize low impact construction techniques (i.e. building from above) to minimize impacts within Valley where possible
- Provide native vegetation to restore areas disturbed during construction
- Provide new native vegetation to visually screen the bridge and piers from the trail
- Maintain the bridge height above the valley to minimize intrusion and promote vegetation growth
- Collect/direct rainwater from bridge to off site stormwater treatment facilities
- Consider opportunities to incorporate enhanced bridge architectural features during design
New bridge would carry 27,000 vehicles / day by 2031
- 19% of this directly serving new growth areas in north end

Diverts 22,000 vehicles per day from other existing streets to/from the north end

Remaining traffic from new growth areas can use arterial roads rather than neighbourhood streets
An improved park area is proposed as part of an integrated stormwater pond in Sunset Park.
An improved park area is proposed as part of an integrated stormwater pond in Sunset Park.
Hilliard Street to Cumberland Avenue

Typical Section – Hilliard Street to Cumberland Avenue
The proposed roundabout at Cumberland Avenue maintains access and reduces speeds.

The proposed roundabout at Water Street/Cumberland Avenue/Carnegie Avenue would allow the opportunity to expand the facilities at Riverview Park and Zoo.
Proposed Mitigation Measures

Noise Mitigation:
- Lower Road Grade – where feasible
- Berms – where feasible – 3.3 km
  - vegetated noise berms will be used to reduce noise and provide visual screening
- Noise Walls – 2.5 km
  - Range of heights 1.5m – 3 m
  - Landscaping will be used where possible to screen the noise wall

Trail Crossings:
- 4 Underpass Trail Crossings
- 5 Pedestrian Crossing Signals
- 1 New Pedestrian Crossing Bridge

Plantings along noise walls soften the appearance
Proposed Mitigation Measures
Landscaping / Vegetation Treatments

- Jackson Creek Valley
- Byersville Creek area
- Chemong Road to Cumberland Avenue segment
- Medical Drive – future widening area
- Roundabouts/Embankments areas

Landscaping/Vegetation Treatments:
- restore areas removed by construction,
- provide privacy screening,
- reduce erosion, improve water quality,
- improve corridor aesthetics and provide habitat/ground cover for wildlife

Stormwater Management:
- 3 New Stormwater Management Ponds – reduce flooding / improve quality
- Rainwater Collection/Redirection from bridge – away from Jackson Creek
- Bio-retention
Heritage Resource Recognition:

Lee Pioneer Cemetery Recognition
- Fencing to preserve boundaries of Lee Pioneer Cemetery
- The City will investigate formal registration of the cemetery

Interpretative Heritage Markers Along Trail
- Historical reference to the cemetery, Jackson Park and the Nicholls Park Trust

Historic Plaque
- Former railway line along the Parkway Corridor, north of Hilliard Street

Pedestrian Viewing Platforms
- Included on the new bridge to provide views over Jackson Park

Jackson Park
- The park area has a distinct cultural heritage value – shaped by man through numerous interventions and modifications over time
- The location of the bridge was historically planned to separate this modified park area from the more natural settings to the north and west
- The approach to implementation of the bridge design principles should focus on the aesthetic approach to design and answer the following question:
  - “Should the design of the bridge be treated as an attraction and complement to the scenery, or is it to be regarded as a necessary evil, and be designed to minimize its presence”
**Costs**

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<tr>
<th>Phase</th>
<th>Description</th>
<th>Total Capital Construction</th>
<th>Utilities</th>
<th>Property</th>
<th>Contingency</th>
<th>Engineering &amp; Contract Admin</th>
<th>Total</th>
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<tbody>
<tr>
<td>1</td>
<td>Parkway South (2 Lanes)</td>
<td>$5,495,000</td>
<td>$215,000</td>
<td>$2,919,000</td>
<td>$821,000</td>
<td>$9,450,000</td>
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<td>2</td>
<td>Chemong to Fairbairn (2 Lane)</td>
<td>$4,745,000</td>
<td>$365,000</td>
<td>$1,432,000</td>
<td>$708,000</td>
<td>$7,250,000</td>
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<td>3</td>
<td>Chemong/Sunset Park SWM</td>
<td>$350,000</td>
<td>$50,000</td>
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<td>$70,000</td>
<td>$470,000</td>
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<td>4</td>
<td>Advanced Grading - Jackson Ex &amp; Chemong to Hilliard Grading</td>
<td>$1,764,000</td>
<td>$330,000</td>
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<td>$266,000</td>
<td>$2,360,000</td>
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<td>5</td>
<td>Jackson Park Crossing</td>
<td>$22,120,000</td>
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<td>$3,320,000</td>
<td>$31,240,000</td>
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<td>6</td>
<td>Chemong to Hilliard</td>
<td>$3,736,000</td>
<td>$0</td>
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<td>$564,000</td>
<td>$4,300,000</td>
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<td>Advanced Grading - Hilliard to Cumberland</td>
<td>$1,280,000</td>
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<td>$175,000</td>
<td>$1,590,000</td>
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<td>8</td>
<td>Hilliard to Cumberland</td>
<td>$2,183,000</td>
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<td>$327,000</td>
<td>$2,810,000</td>
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<td>Cumberland &amp; Water</td>
<td>$4,287,000</td>
<td>$420,000</td>
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<td>$643,000</td>
<td>$5,790,000</td>
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<td>10</td>
<td>Clonsilla to Chemong (4-Lanes)</td>
<td>$11,828,000</td>
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<td>$1,772,000</td>
<td>$13,650,000</td>
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<td><strong>Total (2013$)</strong></td>
<td><strong>$57,788,000</strong></td>
<td><strong>$1,565,000</strong></td>
<td><strong>$5,091,000</strong></td>
<td><strong>$8,666,000</strong></td>
<td><strong>$78,910,000</strong></td>
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- Costs based on preliminary design and include all roadworks and mitigation measures
- Contingency of $5.8 M added to reflect commitment to investigate reduced number of bridge piers. Based on a four span bridge with 3 piers.
- Engineering & Construction Administration Costs of 15% ($8.7M) added to capital budget
- Total program cost estimated at $78.91 M
Deferred / Avoided Costs

- Estimated Cost of Projects deferred and/or avoided as a result of recommended plan is $57 – 68 M + property
- Additional deficiencies associated with Lily Lake build out avoided as a result of recommended plan = $23 M + property
Implementation Recommendations

Project should be implemented over 20 years – as growth occurs

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<td>Extend Medical Drive South to The Parkway (2-lane); trails; vegetation</td>
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<td>New Road (2-lane) Chemong Road to Fairbairn Street</td>
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<td>Stormwater Ponds; Vegetation; Trails at Chemong Road and Sunset Park</td>
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<td>Earthworks (Cut north of Parkhill Road; North end fill; Trail realignment; Berms; Vegetation - Chemong Road to Hilliard Street)</td>
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<td>North End Road Works; Trail underpasses, etc. Chemong Road to Hilliard Street</td>
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<td>Trail Relocation; Vegetation; Bio Swale; Hilliard Street to Cumberland Avenue</td>
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<td>Road Works Hilliard Street to Cumberland Avenue</td>
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<td>Water Street/Cumberland Avenue/Carnegie Avenue Reconfiguration</td>
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<td>10</td>
<td>Widen to 4-lanes, Clossilla Avenue to Chemong Road</td>
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* All dates assume approval of the EA in the last quarter of 2014
** All costs are estimate in 2013 dollars
Subject to Council approval of the recommended improvement plan:

- Complete the Environmental Study Report (ESR)
- File the ESR for 30 day minimum public and agency review period
- City Update Development Charge By-Law to include capital costs
- Review Capital Program and adjust as required
• Questions?