Adelaide Street / Canadian Pacific Railway (CPR) Grade Separation

Public Information Centre #1

June 16, 2016
The purpose of Public Information Centre (PIC) #1 is to:

- Introduce the study
- Provide the study background and context
- Identify the problems and opportunities
- Present alternative planning solutions
- Illustrate the design concepts for a possible overpass or underpass
- Illustrate ideas for high quality urban design
- Obtain public feedback
- Identify the next steps in the study

Please ask questions and make your opinions known!
What Is This Study About?

- Adelaide Street is part of the neighbourhood fabric and area residents frequently walk and cycle to parks, schools, businesses and shopping areas.

- The street also supports broader travel across the City and will play a more important role with the proposed rapid transit on Richmond Street.

- This is CPR’s mainline supporting regional train movements, and the CPR yard adjacent to Adelaide Street which utilizes the tracks for shunting trains (pushing or pulling a train or part of a train from the main line to a siding, or from one track to another), resulting in frequent blockage of Adelaide Street.

- The City has initiated a Class Environmental Assessment (EA) study to look at options, considering:
  - The needs of all corridor users: vehicles, pedestrians, cyclists, CPR
  - Surrounding communities: heritage conservation districts, heritage properties, McMahen Park, community mobility and connectivity
  - Traffic operations and the potential need for turning lanes at select locations
  - Changes in access to local roads
  - Continued revitalization of the community through unique urban design
The Municipal Class EA process enables the planning and implementation of municipal infrastructure projects taking into account the environmental setting, agency and local community interests and unique project requirements.
The Study Area

Adelaide Street is ranked 9 for potential safety improvements (PSI). Daylight triangle obstruction at southeast corner.

Integration of park amenities in McMahon Park (specifically the recreational pathway system) with the new grade separation.

Two CPR (one main line, one yard) tracks with 25-43 daily rail movements leading to more than 2 hours of road closure per day.

Proximity of rail yard to roadway could limit realignment alternatives.

Adelaide St. / CPR crossing is confirmed as the City’s highest priority rail road grade separation candidate site.

Adelaide Street is a major 4 lane north-south arterial road which carries over 25,000 vehicles per day (2012).

Lorne Avenue ranked 9 for potential improvements to pedestrian crossing.

Consideration to be given in design for two conservation districts within study area.

Southbound traffic can back up past Oxford Street during train movement.

Potential realignment of Central Avenue jog - difficult intersection access configurations due to proximity to grade separation.

The draft London Plan identifies this section of Adelaide Street as an Urban Corridor, which encourages intensification to support higher order transit, mixed-use residential, and mix-use development.

Northbound traffic can back up past King Street during train movement.

LEGEND

City of London City Plan - Land Use
City Centre
Main Street Commercial
Rentals
Light Industrial

City of London Official Plan - Road Classification
A - Arterial
B - Collector
C - Local

Heritage Buildings

Priority 1: buildings are London’s most important heritage structures and meet designation under Part IV, Section 20 of the Ontario Heritage Act.

Priority 2: buildings merit designation under Part IV, Section 20 of the Ontario Heritage Act.

Priority 3: buildings merit designation as part of a group of buildings designated under Part IV, of the Ontario Heritage Act as part of a Heritage Conservation District.
Study Background / Context

- Adelaide Street / Canadian Pacific Railway Crossing is confirmed as the City’s highest priority new rail-road grade separation candidate site (Civic Works Committee October, 2013).
  - Would provide a continuous north-south route through central London that is not interrupted by any other level rail crossings, increasing the efficiency of the road network for City commuters.
  - Would provide an additional crossing in central London for extended delay events due to rail operational failures or collisions. The closest grade-separated crossing of the CPR to the west is Talbot Street, 1.8 km away.
  - High priority for emergency services because it would provide an uninterrupted north-south corridor.
- The **Smart Moves 2030 Transportation Master Plan** identifies a need for traffic capacity optimization and transit priority on this corridor.
  - Recognizing that the rail blockage backs-up southbound traffic well past Oxford Street and northbound traffic past King Street.
  - Traffic delays create cut-through traffic onto local streets in the area as drivers attempt to find alternate routes.
- In 2005, the Rail Exposure Index (daily road traffic volumes x rail train volumes) identified the warrant for a grade separation. Since then, Adelaide Street traffic volumes have increased by more than 20%.
- The City’s Development Charge Background Study (2014) identifies the Adelaide Street / CPR grade separation in its 2031 planning horizon, although timing is subject to annual review of capital budget priorities.
London ON Bikes

- Draft Plan now complete and available for review at: http://www.londonbikes.ca/
- Colborne Street is the main north-south signed bike route in the Adelaide Street area
- Segments of Colborne Street are also proposed for signed bike route with sharrow and bike lanes
- Central Avenue is an existing signed bike route
- Queens Avenue has existing bike lanes
- Pall Mall is proposed for a signed bike route
What is Happening on Adelaide Street?

- Adelaide Street carries an average of 25,500 vehicles per day.
- Train crossings occur up to 43 times throughout the day which leads to road blockages up to 126 minutes per day (2 out of 24 hours).
- Traffic operations at key intersections - Oxford Street and Queens Avenue, have the highest incidence of collisions in the study area.
## Problems

- Frequent train crossings result in road being blocked for up to 43 times/day for a total of about 2 hours affecting vehicles, transit, cyclists and pedestrians.
- Blockages result in traffic delays and causes cut-through traffic onto local streets.
- Future travel demand associated with growth and with implementation of rapid transit on Richmond Street is expected to shift more vehicular traffic onto Adelaide Street.
- Excessive delays will increase idling time and emissions loadings.
- Relatively high incidence of collisions at Oxford Street and Queens Avenue.
- Uninterrupted road corridor needed for emergency planning and response.

## Opportunities

- Separate rail traffic from vehicles, cyclists and pedestrians on Adelaide Street, improving access and circulation.
- Provide improved rail safety.
- Develop an innovative design that prioritizes pedestrians and improves the urban environment, while avoiding some of the common drawbacks to over/underpasses.
- Preserve and enhance the heritage character of the neighbourhood and McMahen Park.
- Create additional public space that complements the area surrounding the new bridge and creates a strong connection from one side to the other for pedestrians and cyclists.
- Create opportunities for future redevelopment along the corridor, in keeping with The London Plan, that integrates with the new street grade.
- Improve the surrounding streetscape and intersections to create a safe, pedestrian-friendly and welcoming public realm.
# What Approaches Are Being Considered?

<table>
<thead>
<tr>
<th>Possible Planning Solutions</th>
<th>Description</th>
<th>Key Considerations</th>
<th>Does it Address the Problems and Opportunities</th>
</tr>
</thead>
</table>
| Do Nothing                  | No capital improvements. Continued operations and maintenance to the road.   | - Does not address the problems and opportunities.  
- Not consistent with City’s long-term transportation network planning.                                                                                                                                          | ✗                                            |
| Intersection Improvements   | Improve traffic operations by implementing dedicated turning lanes, new traffic signals, improve signal timing.                                    | - Improves traffic operations at the key intersections which will contribute to improving / optimizing traffic movement.  
- Results in some property impacts at intersections.  
- Does not address the primary problem of frequent blockage of vehicle, transit, pedestrian, cyclist traffic at the CPR crossing. | ✓                                            |
| Transportation Demand       | Reduce overall demands by shifting to outside the critical periods, and to alternative modes of transportation (transit, walking, cycling). | Transit is a major strategic planning and policy focus within the City. Significant progress is being made to implementing an innovative transit plan.  
- TDM policies in City’s Transportation Master Plan and are being implemented on a city-wide scale.                                                                                     | Already being implemented through other City programs |
| Management (TDM)            |                                                                                           |                                                                                                                                                                                                                  |                                               |
| Traffic Capacity Improvements| Widen Adelaide Street from 4 to 6 lanes; providing an additional lane in each direction.       | - Does not address the primary problem of frequent blockage at the rail crossing.  
- Results in substantial property impacts throughout corridor, including potential impact to heritage resources.  
- Provides opportunity for urban design elements to offset some of the impacts.                                                                                                           | ✗                                            |
| Change in Rail Operations   | CPR modifies current and long term operations. Any possible planned changes will be carefully considered by the City.                         | - Requesting changes to CPR operations is outside of the City’s jurisdiction – completely dependent on CPR’s business plan.  
- CPR current operations and long term plans will be explored in consultation with CPR to ensure that all planning solutions recognize current and future CPR operations.  
- Even if operations change, the rail crossing still poses a blockage and a safety concern for through train movements.                                                            | Not likely to fully address problems and opportunities but will be a consideration in any solution |
| Partial Grade Separation    | Provide a partial grade separation with an overpass (road over rail) or underpass (road under rail) of some lanes (such as transit lanes.)      | - Adelaide Street is not an identified rapid transit corridor  
- A partial separation of mixed use traffic poses significant safety concerns  
- Retention of at-grade sidewalk crossings losses opportunity to improve pedestrian safety.                                                                                                    | ✗                                            |
| Grade Separation            | Provide grade separation with an overpass (road over rail) or underpass (road under rail) | Directly addresses the primary problem.  
- Results in property impacts, including potential impact to heritage resources.  
- Provides opportunity for urban design elements to be developed which may enhance the corridor and continue the revitalization efforts of the community.                                              | ✓                                            |
What Is A Grade Separation?

- A grade separation is a means of physically separating different directions of traffic and/or modes of transportation.
- For the Adelaide Street / CPR crossing, a grade separation will be achieved through either:
  - Overpass – having the road go over the rail
  - Underpass - having the road go under the rail
- A grade separation on Adelaide Street will provide for continuous and safe operation of CP Rail, and movement of vehicles, transit, pedestrians and cyclists on Adelaide Street.

What else is typically involved in a grade separation?

- Realignment of underground services and utilities (sewers, watermains, hydro)
- Traffic detours, temporary impacts to traffic flow during construction
- Temporary or permanent interruption of local road connections
- Property requirements
What Does an Overpass Look Like?

Typical characteristics:

- Road is raised above rail tracks by about 9 metres (30 feet)
- No impact on rail corridor
- Road detour required to maintain vehicle and pedestrian traffic
- Relocation of utilities within a new utility corridor adjacent to the overpass
- Length of grade separation is typically longer than underpass
- Increases visibility of grade separation
- Increases noise levels, if not mitigated
What Might This Look Like on Adelaide Street?

Central Alignment
- Maintain access to Rosedale St.
- Potential realignment of Central Ave. connected underneath road structure.
- Temporary traffic (auto, pedestrian, cyclist) detour during construction. Opportunity to transform into urban park following construction.
- Potential realignment or closure of Pall Mall St. with new pedestrian space.
- Approximate tie back to existing road.
- Adelaide St. structure over railway.
- Approximate tie back to existing road.

East Alignment
- Maintain access to Rosedale St.
- Potential realignment of Central Ave. connected underneath road structure.
- No detour traffic required.
- Potential extension of park under the structure.
- Potential realignment or closure of Pall Mall St. with new pedestrian space.
- Approximate tie back to existing road.
- Adelaide St. structure over railway.
- Potential closure to McMahon St. from Adelaide St.

LEGEND:
- Adelaide Street (Overpass) Alignment
- Opportunity for new urban park or redevelopment
- Temporary traffic/pedestrian detour
- Closure to vehicle access
What Does an Underpass Look Like?

Typical characteristics:

- Road is depressed below rail tracks by about 7 metres (23 feet)
- Need to construct new drainage outlet which may include pump station (Low Impact Development measures will be considered)
- Impacts to rail operations may require rail diversion or other measures to maintain rail traffic
- Road detour required to maintain vehicle and pedestrian traffic
- Relocation of utilities within a new utility corridor adjacent to the overpass
- Reduced length of grade separation limits compared to overpass
- Reduction in roadway noise levels due to lowering of road
- Improved redevelopment opportunities
What Might This Look Like on Adelaide Street?

Central Alignment

- Potential realignment of Central Ave. and intersection with Adelaide St.
- Maintain access to Rosedale St. and Elgin St.
- Road under rail structure.
- Temporary traffic (auto, pedestrian, cyclist) detour during construction.
- Opportunity to transform into urban park following construction.
- Approximate tie back to existing road.
- Potential access restrictions to McMillan St. from Adelaide St.

West Alignment

- Potential realignment of Central Ave. and intersection with Adelaide St.
- Maintain access to Rosedale St. and Elgin St.
- Road under rail structure.
- Temporary traffic (auto, pedestrian, cyclist) detour during construction.
- Opportunity to transform into urban park following construction.
- Approximate tie back to existing road.
- Potential access restrictions to McMillan St. from Adelaide St.

Legend:
- Adelaide Street (Underpass) Alignment
- Opportunity for new urban park or redevelopment
- Temporary traffic/pedestrian detour
- Closure to vehicle access
But What About The Community?

Community concerns we have heard to date:

- Physical barrier within community
- Reduced pedestrian and cyclist mobility and neighbourhood permeability
- Appearance of imposing walls and dark tunnels
- Creates hidden areas which leads to safety concerns
- Results in property impacts to the surrounding community
- May undermine significant efforts to revitalize the community
- Loss of park space
- Reduced access to local businesses
- Road blockage is not a significant issue – City should encourage shift to transit, cycling and walking
- Neighbourhood will experience impacts in order to accommodate ‘suburban’ traffic
But What About The Community?

There are many innovative ways to address some of the common concerns associated with grade separations

- Through urban design and landscaping, particular attention is paid to the relationship between the grade separation and the surrounding community, adjacent parks, pedestrian access and safety.

- Many projects around the world, and in Ontario, have created great spaces around newly developed structures, some examples are shown on the next several displays.

PLACE A STICKER ON YOUR FAVOURITE DESIGNS IN THE FOLLOWING DISPLAYS!
Urban Design Opportunities – Active Edges

- Street-level redevelopment - The area surrounding a new underpass is ideal for new development that faces the new sidewalk. This approach creates a lively, public space at the underpass and eliminates the perception of grade change.

- Linear Urban Parks - New park space connects the upper and lower levels of underpasses with terraces, patios and green space. Gently sloping landform can open up the space to views and access.

- Park development beneath overpasses brings activity to the space and maintains the connection at street level.

- Activity Nodes – Overlooks, setbacks with small plazas, and active features could enliven the space and open up the adjacent slopes.
Urban Design - Active Edges

Activity Nodes
- Overlooks, setbacks with small plazas and active features such as climbing walls and skate spots enliven the space and open up the adjacent slopes.

Street-Level Redevelopment
- The area surrounding new underpasses is ideal for residential, commercial or mixed-use development which create a lively, public space and help to eliminate the perception of grade change.

PLACE A STICKER ON YOUR FAVOURITE DESIGNS!
Urban Design - Active Edges

PLACE A STICKER ON YOUR FAVOURITE DESIGNS!

New Public Space
- New park space connects the upper & lower levels of underpasses with terraces, patios & green space. Park development beneath overpasses brings activity to the space & maintains the connection at the street level.

Multiple Access Points
- Upper and lower levels are connected by ramps, steps & gently sloping open spaces in multiple locations. Gently sloping landform can open up the space to views & access.
Pedestrian Promenade

- Wide, multi-use pathway raised above traffic creates a level concourse beneath the underpass for pedestrians and bicyclists.
- Pedestrian walkways separated from traffic provide a safe space for pedestrians and cyclists to use the overpass and enjoy expansive views.

Multiple Access Points

- Upper and lower levels are connected by ramps, steps and gently sloping open spaces in multiple locations.

Pedestrian Underpass

- A dedicated pedestrian passage can connect the two sides of the rail bridge or overpass close to the original grade level, increasing access and connectivity.

Pedestrian Bridges

- Pedestrian bridges re-establish the connection from one side of the street to the other, reducing the impact of the underpass on movement and accessibility of spaces.
Urban Design - Pedestrians First

PLACE A STICKER ON YOUR FAVOURITE DESIGNS!

Pedestrian Promenade
- Wide, multi-use pathway raised above traffic creates a level concourse beneath the underpass for pedestrians and bicyclists.
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Pedestrian Bridges
- Pedestrian bridges re-establish the connection from one side of the street to the other, reducing the impact of the underpass on movement & accessibility of spaces.
Streetscape Design

- The public realm within and approaching the underpass is vital to success of the project. Streetscape design creates a welcoming and vibrant public space that enhances neighborhoods and stimulates commercial activity.

- Underpass and overpass connections are ideal to integrate a variety of public art, from sculpted landforms, patterned walls, and sculptural elements.

- Light Sculpture
  - Another opportunity for public art is the creative use of lighting to illuminate the space and create a welcoming and dynamic atmosphere.
Urban Design - Streetscape

PLACE A STICKER ON YOUR FAVOURITE DESIGNS!

**Streetscape**
- Underpass and overpass connections are ideal to integrate a variety of streetscape, from sculpted landforms to patterned walls and sculptural elements.

**Lighting / Sculpture**
- Another opportunity for streetscape is the creative use of lighting to illuminate the space and create a welcoming and dynamic atmosphere.

**Public Realm**
- The public realm within and approaching the underpass is vital to the success of the project.

**Streetscape Design**
- Streetscape design creates a welcoming and vibrant public space that enhances neighborhoods and stimulates commercial activity.
Urban Design – Typical Profiles

PLAN VIEW

TYPICAL AT-GRADE CROSSING PROFILE

TYPICAL UNDERPASS PROFILE

TYPICAL OVERPASS PROFILE
Developing Design Concepts

- Design Concepts will be developed for the overpass and underpass options.

- A number of key constraints and design elements are considered:
  - Minimizing impacts to adjacent properties including significant heritage features
  - Compatibility with adjacent community including Heritage Conservation Districts
  - Opportunities for high quality urban design to minimize visual impacts and integrate the grade separation with the neighbourhood
  - Minimizing impacts to McMahen Park
  - Provision for pedestrians and cyclists
  - Relocation of major services (water / wastewater) and utilities
  - Geometric design requirements
  - CPR operations
A broad range of criteria is needed to assess the potential impacts of the design alternative and to address both form and function needs.

Criteria fall under five general categories:

- Technical/Operational (Road and CPR)
- Urban Design
- Social/Community
- Financial
- Cultural Heritage

Considerations that reflect the five categories are provided on the next displays. “Dot” stickers can be used to indicate which considerations you feel are a high priority.

CPR will have direct involvement in developing and evaluating design concepts. CPR input and agreement is critical to developing the design.
## What is Most Important to You?

### Transportation, Technical, and Cost Considerations

<table>
<thead>
<tr>
<th>Movement of Good and People</th>
<th>How important is this to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do the proposed improvements address the transportation needs and provide better level-of-service for vehicles, cyclists and pedestrians?</td>
<td></td>
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<table>
<thead>
<tr>
<th>Road Right-of-Way</th>
<th>How important is this to you?</th>
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<tr>
<td>Is the width of the corridor within the suggested range identified in the Official Plan?</td>
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<thead>
<tr>
<th>Local Street Connectivity</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The plan should minimize the impacts to local street connectivity for vehicles.</td>
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<thead>
<tr>
<th>Transit</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Transit is more efficient because delays at CPR are eliminated.</td>
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<table>
<thead>
<tr>
<th>Capital and Operating Costs</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The cost to build, operate and maintain the structure.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Urban Design Costs</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Significant budget should be allocated to providing a high quality urban design.</td>
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<thead>
<tr>
<th>Detours</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Location of local detour. Must discourage and manage traffic infiltration into local neighbourhood during construction.</td>
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<thead>
<tr>
<th>Construction</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Duration of construction</td>
<td></td>
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<tr>
<th>Emergency Services</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Public safety, emergency planning and response should be considered highest priority</td>
<td></td>
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</tbody>
</table>

### Socio-Economic, Heritage, and Design Considerations

<table>
<thead>
<tr>
<th>Property</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Displacement or disruption to adjacent properties.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Community Character</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The effect on the overall character and local community.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Urban Design</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The urban design is a critical part of the project and should be a high priority investment by the City.</td>
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<thead>
<tr>
<th>Business</th>
<th>How important is this to you?</th>
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<tr>
<td>Short or long-term impacts to local businesses.</td>
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<thead>
<tr>
<th>Redevelopment Potential</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The design offers potential for adjacent areas to be redeveloped and revitalize the corridor.</td>
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<tr>
<th>Noise and Air Quality</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Noise and air quality impacts are manageable and can be addressed.</td>
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<table>
<thead>
<tr>
<th>Pedestrians and Cyclists</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The design provides safe and attractive opportunities for pedestrians and cyclists.</td>
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<thead>
<tr>
<th>McMahen Park</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>The design should avoid / minimize impacts to McMahen Park as much as possible.</td>
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<thead>
<tr>
<th>Heritage</th>
<th>How important is this to you?</th>
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<tbody>
<tr>
<td>Displacement of designated Heritage properties.</td>
<td></td>
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Next Steps…Stay Involved!

Following this PIC the Project Team will:

- Review all public and agency comments received
- Based on this input, confirm the preferred approach (planning alternative)
- Develop and evaluate concepts
- Conduct meetings/workshops with interested stakeholders
- Conduct PIC 2 to present and request input on the design concepts (Fall 2016)
- Based on input received, confirm the preferred design
- Prepare the Environmental Study Report and make available for a 30-day public review

How to get involved:

- For the online comment sheet and PIC materials please visit: www.london.ca/AdelaideEA
- Request that your name be added to the study mailing list
- Provide your feedback by contacting the study team directly using the contact information to the right
- Participate in the next open house in fall 2016

Please complete our online comment sheet or send comments to one of the Project Team contacts:

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Your comments are welcome at any time throughout the project. The online comment sheet will be available until August 31, 2016 to allow us to incorporate critical information into the next stage of the study.

Thank you!

Your involvement is essential to the success of this study

We welcome your feedback