Adelaide Street / Canadian Pacific Railway (CPR) Grade Separation Class Environmental Assessment
Purpose of PIC 3:

- Provide an update on the EA study
- Provide a summary of public feedback from PIC 1 and PIC 2
- Present the Preliminary Preferred Design that takes into consideration the technical factors, cost, property impacts, cultural heritage resources, community interests, CPR and public input.
- Present the streetscape design concept
- Answer questions and gather feedback
- Identify the next steps in the study

Please ask questions and make your opinions known to the Study Team
BACKGROUND
Study Overview

- Adelaide Street is a key part of the Woodfield, Old East Village and Piccadilly neighbourhoods and is an important local commercial and service corridor.

- As a major 4 lane arterial road, Adelaide Street carries over 25,500 vehicles per day.

- CPR operations can block the street for up to 2 hours per day, impacting businesses, mobility (pedestrians, cyclists, transit and motorists) and emergency services.

- The Adelaide Street / CPR crossing is now the City’s highest priority new grade separation candidate site.

- The primary objective of this Class EA study is to create a safer and more reliable road crossing of the CPR line by removing the potential for conflict between rail operations and pedestrians, cyclists and automobiles.

- The key elements of this Class EA study are:
  - Consider alternative transportation planning solutions, including a new grade separation.
  - Develop and assess various design alternatives for the grade separation and local street network, temporary road detour and new utility corridor.
  - Recommend a design concept that reflects transportation and technical factors, property impacts, community interests, cultural heritage resources, CPR and public input.
The **preferred planning solution** is to construct a **new grade separation**.  

This solution will better support the many functions of Adelaide Street:

- Efficient transportation options for pedestrians, cyclists, motorists, and transit users
- Primary commercial/service area and centre of local community
- Transit Priority Network

This recommendation was presented at PIC 1. Public feedback indicates general support and has not resulted in any changes to the recommendation.
Design is a step-wise process with each step building upon known conditions / constraints and decisions made previously.

As the design progresses and our knowledge of conditions / constraints evolve, there may be design iterations.

Step 1: Grade Separation Type
- Underpass or Overpass
- Reviewed at PIC 1
- Confirmed at PIC 2

Step 2: Alignment Alternatives
- Road Alignment
- Detour
- New Utility Corridor
- Reviewed at PICs 1 and 2
- Preferred Option at PIC 3

Step 3: Road Cross-Section
- Roadway and Side treatments
- Public input received at PIC 2
- Preferred Option at PIC 3

Step 4: Local Street Connections
- Central Avenue
- Pall Mall Street
- McMahon Street
- Initial options shown at PIC 2
- Preferred Options at PIC 3

Step 5: Streetscape Design
- Streetscape, landscape and urban design elements
- Initial ideas at PIC 1
- Public input received at PIC 2
- Preferred Option at PIC 3

Final Design
## BACKGROUND

### Factors Considered in Decision Making

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<th>Socio-Economic</th>
<th>Land Use Context</th>
<th>Cultural Environment</th>
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<th>Transportation and Technical</th>
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<td><strong>Description</strong></td>
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<td>– Impacts to urban forest tree canopy</td>
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<td>– Impacts to McMahen Park</td>
<td>– Park and open space</td>
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<td>– Noise</td>
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Over 130 people attended PIC 1 with 82 comment sheets received either in hard copy or online. The most common feedback was:

- CPR should change their operations
- A grade separation is needed to alleviate traffic
- Need better pedestrian facilities
- Prefer underpass design
- Maintain access from side streets
- Traffic infiltration onto local streets is a concern

**Do you have a preference, at this stage, for an overpass or underpass?**

- Overpass (road over rail), 9%
- Underpass (road under rail), 67%
- Not sure yet. Ask me again, later in the study, 24%

**What do you think the issues are on Adelaide Street right now?**

- Travel delays due to trains
- Pedestrian/cycling facilities
- Air quality/noise
- Oxford Street intersection
- Cut-through traffic
- Lack of cross-walks

**Based on public comment sheet responses, the most important:**

**Technical considerations are:**
- local street connectivity
- transit
- movement of people

**Community considerations are:**
- community character
- noise/air quality
- street level commercial

**Design elements are:**
- underpass
- streetscape
- public space
PREVIOUS PUBLIC INPUT
What We Accomplished at PIC 2 / Workshop

- PIC 2 reviewed the possible road alignments, detour options, local street connections and related infrastructure design alternatives.

- The workshop focused on developing the pedestrian spaces and side treatments in the four quadrants of the grade separation.

- Over 60 people participated in identifying flexible design elements including pedestrian facilities (sidewalks, promenade, multi-use trail), public space and streetscape.

- Workshop participants assembled various side treatment and pedestrian space design elements for each quadrant.

- The project team has reviewed all of the input from the workshop, identified the main trends in public preferences and has utilized this input in developing the Preferred Plan.
PREVIOUS PUBLIC INPUT
What We Heard at PIC 2

Below is a summary of the comments collected at PIC 2, and how these have been addressed in the study:

- **Minimize impacts to McMahan Park**
  - Some impacts to the west portion of McMahan Park are necessary to avoid impacts to local business. Following construction, the park will be restored as open space.

- **Provide dedicated transit lanes on Adelaide Street**
  - Adelaide Street is identified for Transit Priority however, dedicated transit lanes are not being planned.

- **Traffic congestion leads to cut-through and infiltration into residential streets**
  - The Preliminary Preferred Design seeks to minimize property impacts where feasible.
  - A temporary detour is being planned to allow for traffic through the commercial area during the construction period.

- **Provide better access to Carling Heights community**
  - The project team has sought to balance community access with concerns of attracting cut-through traffic and the additional property impacts that would be associated with expanding the intersection.
  - The McMahan Street intersection will remain similar to existing.

- **Central Avenue will be upgraded to a full intersection, providing for better safety and operations for all road users including pedestrians and cyclists.**

- **Maintain neighbourhood connections**
  - The grade separation will facilitate an uninterrupted flow of traffic and should reduce the cut-trough traffic caused by lengthy delays at the existing crossing.

- **Concern of property impacts and disruption to local businesses**

- **Pedestrian crossing north of McMahan Street is not being impacted.**

- **Signalized pedestrian crossing at Pall Mall Street will be relocated slightly north to McMahan Street.**

- **Pedestrian crossing north of McMahan Street is not being impacted.**
Our understanding of the study area design constraints has evolved through the study. Following PIC 2 we have explored opportunities with CPR and have confirmed the following key design aspects:

- Potential to explore opportunities for making minor changes to the CPR Yard
- Opportunity to locate both the utility corridor and the road detour on the east side of Adelaide Street
- Need for stormwater and groundwater management infrastructure

These changes have resulted in:

- The ability to minimize property impacts
- Substantial cost savings associated with reduced property impacts
- Shift away from consideration of future redevelopment opportunities - no anticipated areas of surplus property
ACTIVITIES SINCE PIC 2

How We Used Your Input in the Design

What you preferred:
• Commercial redevelopment on surplus property and 3 m sidewalk or 5 m landscaped promenade

What we accomplished:
• Wide landscaped promenade near Central Avenue transitioning to 3 m sidewalk at underpass
• New public park space and urban aesthetic in streetscape design
• Necessary stormwater and groundwater management infrastructure integrated with park space (i.e. no surplus property)

What you preferred:
• A landscaped transition and access to McMahen Park with 3 to 5 m sidewalks and terraces

What we accomplished:
• Landscaped transition and access to McMahen Park with 3 to 4 m sidewalk / walkway into park and terraces
• Heritage gates relocated to create new entrance from McMahen Street

What you preferred:
• Split preference for commercial redevelopment of surplus property or a landscaped/terraced urban park, and 3 m sidewalk

What we accomplished:
• Ability to minimize property impacts and maintain the existing businesses
• 3 m sidewalk
• Streetscape design that utilizes all available right-of-way to create an attractive pedestrian way

What you preferred:
• Split preference for commercial redevelopment (if CPR disposes of lands) or landscaped/terraced slope and 5 m sidewalk

What we accomplished:
• 3 m sidewalk
• Terraced landscape slope (2 terraces)
• Ability to minimize property impacts to CPR lands – does not preclude continued leased commercial use or future redevelopment

What you preferred:
• Commercial redevelopment on surplus property and 3 m sidewalk or 5 m landscaped promenade

What we accomplished:
• Ability to minimize property impacts and maintain the existing businesses
• 3 m sidewalk
• Streetscape design that utilizes all available right-of-way to create an attractive pedestrian way
ASSESSMENT OF ALTERNATIVES
Preferred Grade Separation - Underpass

An Underpass (road under rail) is preferred because:

✓ Has fewer overall property impacts
✓ Relatively little visual intrusion to the surrounding community
✓ Decreased traffic noise from the depressed roadway
✓ Provides more opportunity for a context sensitive design to respect the existing character of the roadway and adjoining neighbourhoods
✓ Maintains intersections with Central Avenue, Elias Street, Pall Mall Street and McMahon Street
✓ Is more attractive to pedestrians and cyclists
✓ Preferred by community

This was presented at PIC 1 and confirmed at PIC 2.
Two road alignment alternatives were considered in the early stages of the study: west and central.

A central alignment was selected as preferred at PIC 2 because it:

- Avoided impacts to CPR infrastructure
- Reduces the overall permanent property impacts
- Maintained a straighter road alignment
- Maintains local street fabric
- Provides for a permanent utility corridor and detour on the east side

The central alignment remains the preferred for the future Adelaide Street.

Minor adjustments to the design have been made to further reduce impacts to private property.
Two detour alternatives were considered in the early stages of the study: west and east.

The west detour alternative was previously selected as preferred because it avoided impacts to CPR infrastructure, which was understood at that time to be a significant constraint.

Since PIC 2, the project team has reassessed the alternatives in light of the preferred road alignment and further review with CPR.

**Benefits**

**Alternative 1**
- Low Cost
- No private property impacts beyond those already required
- Reduces overall construction duration by ~1-2 months

**Alternative 2**
- Maintains north-south traffic for the duration of construction
- Avoids property impacts beyond those already required
- Utilizes the same footprint as the municipal service/utility corridor
- Maintains emergency service access

**Alternative 3**
- Does not require CPR switch to be relocated, therefore less impact to CPR (not contingent upon CPR approval)
- Maintains north-south traffic for the duration of construction
- Maintains emergency service access

**Challenges**

**Alternative 1**
- Eliminates all through traffic for 16-18 months
- While access to all homes/businesses can be maintained, added inconvenience may impact business
- 30-40% of traffic will travel through local streets
- Will require emergency services rerouting

**Alternative 2**
- Contingent on CPR approval*
- Cost of detour is $2.25M
- Requires a new temporary gated crossing of CPR tracks
- Requires some modifications to CPR infrastructure
- Short term closures may be anticipated
- Detour would disrupt access to existing parking lot of Trad’s Furniture. Alternative access can be provided.

**Preferred Alternative**

*The detour is assumed to be 4 lanes for the purposes of the assessment. A 2 lane detour will be considered, if necessary, pending CPR feedback.
Option 2 is the preferred location for the service / utility corridor based on the preferred road and detour alignments. The service/utility corridor integrates well with the location of the temporary road detour across McMahen Park.

Following construction, the park open space will be restored with provisions for service/utility access.
## ASSESSMENT OF ALTERNATIVES

### Central Avenue

<table>
<thead>
<tr>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
<th>Alternative 4</th>
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<tbody>
<tr>
<td>Maintain Existing Jog at Intersection</td>
<td>Realign West Leg</td>
<td>Realign East Leg</td>
<td>Realign Slightly Both East and West (‘Best Fit’)</td>
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</tbody>
</table>

### Benefits

- **Alternative 1**
  - No property impacts beyond those required for the grade separation
  - Lowest cost
- **Alternative 2**
  - Facilitates design of a standard intersection for improved network and community connectivity, pedestrian use and traffic operations
- **Alternative 3**
  - Facilitates design of a standard intersection for improved network and community connectivity, pedestrian use and traffic operations
  - Shifts intersection south, away from grade separation, potentially providing better sightline and reducing constructability issues compared to Alternative 2
- **Alternative 4**
  - Facilitates design of a standard intersection for improved network and community connectivity, pedestrian use and traffic operations
  - No property impacts beyond those required for the grade separation
  - Maintains adequate distance and sightlines to grade separation
  - Substantially lower cost than Alternatives 2 and 3

### Challenges

- **Alternative 1**
  - Does not improve network connectivity
  - Limited opportunity for intersection improvements and operations
  - Does not provide a more standard intersection or central location for pedestrians crossing Adelaide Street
  - Construction issues related to the municipal services and utilities
- **Alternative 2**
  - Impacts approximately 7 residential properties (in addition to those required for the grade separation)
  - Shifts the intersection closer to the grade separation and may result in sight distance issues and constructability challenges
  - High costs for property acquisition
- **Alternative 3**
  - Impacts approximately 8 residential and 2 commercial properties (in addition to those required for the grade separation)
  - Impacts a listed Priority 1 heritage property
  - High costs for property acquisition
- **Alternative 4**
  - Nominal additional costs
ASSESSMENT OF ALTERNATIVES
Pall Mall Street and McMahen Street

Benefits

Alternative 1
Pall Mall Street Cul-de-sac Pedestrian Signal at McMahen Street
- Nominal additional cost to grade separation
- Opportunity for new public space
- Maintains signalized pedestrian crossing, shifts slightly north
- Minor property impacts beyond grade separation

Alternative 2
Pall Mall Street Right In/Right Out Pedestrian Signal at McMahen Street
- Nominal additional cost to grade separation
- Maintains access to/from Pall Mall Street while removing left-turns due to sight line issues
- Maintains some access to Storage Mart from Adelaide Street
- Maintains signalized pedestrian crossing, shifts slightly north
- No property impacts beyond grade separation

Alternative 3
Pall Mall Street Right In/Right Out Signalized Intersection at McMahen Street
- Similar to Alternative 2
- Improves safety and access to/from McMahen Street to residential neighbourhood and enhances the community connectivity

Alternative 4
Pall Mall Street Realignment and Full Signalized Intersection at McMahen Street
- Provides for a well-connected local street and active transportation network
- Provides for optimal traffic operations at Pall Mall/McMahen Street

Challenges

Alternative 1
- Removes vehicular access to Pall Mall Street thereby reducing the road network connectivity in the area
- Removes access to Storage Mart from Adelaide Street
- Will require emergency services rerouting

Alternative 2
- Limits access to Pall Mall Street to/from Adelaide Street

Alternative 3
- Impacts 1 residential, 1 commercial property and a parking lot
- May attract cut through traffic from Oxford Street which is a concern to local residents and City staff
- Additional costs for signalized intersection and property

Alternative 4
- Impacts 1 residential and 3 commercial properties
- Would likely attract higher cut-through traffic volumes, not considered appropriate for the local street network
- Impacts 598 Pall Mall Street, a listed Priority 3 property included on the City of London Inventory of Heritage Resources
- Substantial additional costs for road realignment, signalized intersection and property

Preferred Alternative
PRELIMINARY PREFERRED DESIGN

Design Overview

- New full intersection at Central Avenue with dedicated turn left-turn lanes
- New pumping station for stormwater/groundwater management infrastructure
- Underpass (road under rail) at the CP rail crossing
- Continuous system of 3 m sidewalks. Raised sidewalk platform within underpass
- Pall Mall Street reconfigured to a right-in / right-out
- Streetscape / landscape enhancements, mitigation / replacement for tree removals and other amenities (benches, gathering areas)
- 1.5 m painted cycling lanes on Central Avenue
- 1.5 m shoulders in underpass provide space for cyclists
- Enhanced safety and separation of McMahon Park from Adelaide Street
- Pedestrian crossing shifted to McMahon Street
- McMahon Street intersection maintained similar to existing
- Intersection design compliant with Accessibility for Ontarians with Disabilities Act (AODA)

Integrated cycling facilities to be provided on Central Avenue and through the intersection at Adelaide Street - to be developed in the future Detailed Design Phase
PRELIMINARY PREFERRED DESIGN

Streetscape Design Principles

- Integrate the grade separation visually and experientially into the surrounding neighbourhood
- Minimize impacts to buildings, property and businesses
- Create a pedestrian-friendly streetscape
- Establish and maintain pedestrian and cycling connections between destinations across and along Adelaide Street
- Frame and enhance the new bridge through aesthetic treatments that provide a visual amenity to the community, create opportunities for neighbourhood identity features and reference heritage architectural styles and patterns.
- Identify opportunities for new and enhanced public spaces.
PRELIMINARY PREFERRED DESIGN

Adelaide Street Streetscape Plan

NOTE: CONCEPTUAL ONLY

Adelaide Street Streetscape Plan

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Adelaide Street / Canadian Pacific Railway Grade Separation
Class Environmental Assessment

Public Information Centre 3
April 26, 2018
SECTION A
View looking north along Adelaide, with bridge in the distance

SECTION B
View looking north along Adelaide, showing relationship of bridge, abutment walls and sidewalks

SECTION C
View looking north along Adelaide at McMahon Park showing plaza and landscaped terraces above the vehicular portion of the street.

SECTION D
View looking north along Adelaide at McMahon Park showing relationship between elevated park and lowered vehicular portion of roadway

NOTE: CONCEPTUAL ONLY
PRELIMINARY PREFERRED DESIGN

Concept Rendering

NOTE: CONCEPTUAL ONLY

VIEW 1

View looking southbound down Adelaide towards Central Ave. showing the proposed plaza, ramp and staircase from the elevated walkway into McMahen Park.
VIEW 2
View at Adelaide St. and Central Ave., showing the pillars and walls that frame the intersection and the approach to the new bridge.

*Integrated cycling facilities at intersection to be developed in the future detailed design phase.
During the study concerns were raised about increased future traffic volumes being attracted to the corridor, resulting in increase noise levels and speed of traffic.

**Future Traffic Volumes**
- Adelaide Street is not being widened, therefore the road capacity will remain as existing. Ultimately, traffic volumes will be limited by the existing four lane capacity.
- Based on City of London growth alone, it is anticipated that traffic will increase by 15% over the next 15 years.
- Beyond the background growth rate, Adelaide Street may attract more traffic because it will offer an efficient transportation route with the new grade separation.
- We expect that part of this additional volume will largely be from local streets in the area.

**Speed of Traffic**
- No change to the posted speed limit is proposed.
- Speed and aggressive driving may be linked to driver frustration due to current delays on Adelaide Street.
- Improved efficiency of Adelaide Street may decrease driver frustration and aggressive behaviour, including speeding.
- The community is encouraged to provide feedback to the City on their observations following construction to explore whether any issues should be addressed through enforcement or other means.
- Traffic calming measures are not utilized on arterial roads as arterial roads are intended to support people and goods movement and minimize cut through traffic.

**Noise**
- Sound is measured in the weighted decibel (dBA) scale.
- An increase of 2 to 3 dBA is regarded as just perceivable to the average individual.
- An underpass offers a noise reducing effect to surrounding areas.
- A doubling of traffic volumes generally results in a 3 dBA increase in sound levels.
- Adelaide Street will not support a doubling of the traffic volumes because road capacity will remain the same as today – no new lanes are being added.
The construction of an underpass is a significant undertaking. The images below illustrate the typical construction process from a similar rail crossing.

- **Existing At-Grade Crossing** (road and rail intersect)
- **Build Temporary Detour and Re-align Municipal Services**
- **Construct Underpass**
- **Streetscape Design Details**

Typical Construction Timeline Approximately 24 months

Source: City of Waterloo - Weber Street / Metrolinx
PRELIMINARY PREFERRED DESIGN

Preliminary Construction Concept

- Access to construction site
- Approximate location of new bridge
- Temporary traffic barrier protection and fencing adjacent to construction zone
- Access to construction site
- Phased construction staging to integrate back to existing road
- Pedestrian sidewalk along detour, separated from roadway by concrete barrier for safety
- Temporary at-grade rail crossing and signals
- Temporary road detour during construction of grade separation
- Pedestrian sidewalk along detour separated from roadway by concrete barrier for safety
- Phased construction staging to integrate back to existing road
A Cultural Heritage Assessment Report was prepared for the study that identifies properties designated under the Ontario Heritage Act and properties listed on the municipal register.

Based on the preliminary design concept developed, impacts to listed and designated properties should be avoidable.

A Stage 1 Archaeological Assessment was undertaken which confirms that the much of the study area has been subject to previous disturbance and therefore has low archaeological potential.

Some areas may be subject to follow-up archaeological assessment during detailed design.
The Preliminary Project Cost Estimate is approximately $54 M to $58 M.

The project is expected to be implemented in a 3 to 5 year timeframe. Construction timing is subject to the completion of the environmental assessment process, property acquisition and Canadian Pacific Railway concurrence.

Due to the complexity of the project, the construction duration is expected to be approximately 2 years.

The majority of the underpass construction can be completed “off-line” with traffic routed around the construction area via the road detour.

While the details will be refined during design and construction phases of the project, it is anticipated that some construction activities will require short-term periodic closures or temporary lane reductions:

- Relocation and installation of utilities and municipal services will involve short-term closures or lane reductions to through-traffic. Local streets will remain open to local traffic. A number of weekend closures will be required at intersections to complete utility crossings.

- Modifications to rail infrastructure will involve short-term closures to Adelaide Street (possible weekend closures).

- Longer closure / lane reduction to through-traffic will occur with the lowering of Adelaide Street to match the underpass road profile. Ideally this work will be planned during a single 4 to 6 week closure period on Adelaide Street. Local street traffic and walk-in access to businesses can likely continue via local streets during this period.

- Once Adelaide Street is lowered, it will be reopened to traffic. Local streets will then be lowered to match the new grade, with localized short-term closures.
Next Steps and How to Provide Your Feedback

Following this PIC the project team will:

- Review public and agency comments
- Incorporate refinements based on feedback and finalize the preliminary design plans for the Preferred Alternative
- Prepare Environmental Study Report (ESR)
- Present the ESR to Civic Works Committee and Council
- File the ESR for a 30 day public review period

Please complete our a comment sheet or send comments to one of the project team contacts:

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Get Involved, Stay Involved!

- Tell us what you think by completing the on-line comment sheet
- Visit us online for comment sheet and PIC materials: www.london.ca/AdelaideEA or www.getinvolved.london.ca
- Request that your name be added to the study mailing list
- Provide your feedback by contacting the study team directly using the contact information above

Your comments are welcome at any time throughout the project. The online comment sheet will be available until May 11, 2018 to allow us to incorporate critical information into the final stages of the study.