



Our Rapid Transit Initiative

**Shift Rapid Transit Public Participation Meeting
May 3, 2017**

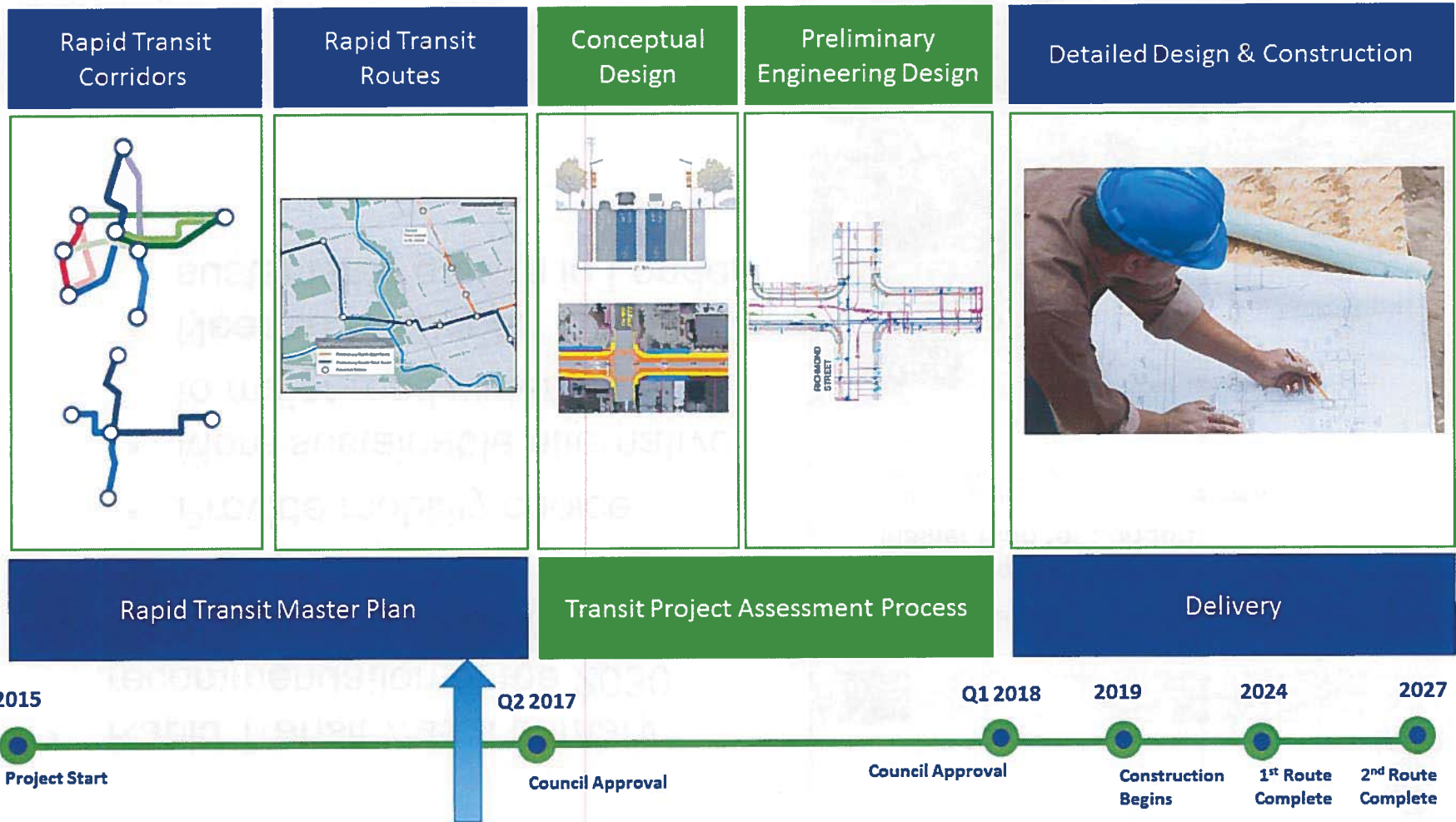


Shift Rapid Transit Initiative

- Largest infrastructure project in the city's history.
- Rapid Transit initiative will transform London's public transit service – serving as the backbone for a redefined route structure.
- Major investment that will alter how Londoners travel and how the city will grow.
- Shift is a multi-phase Environmental Assessment – a public process for providing input in planning and designing the Rapid Transit network.

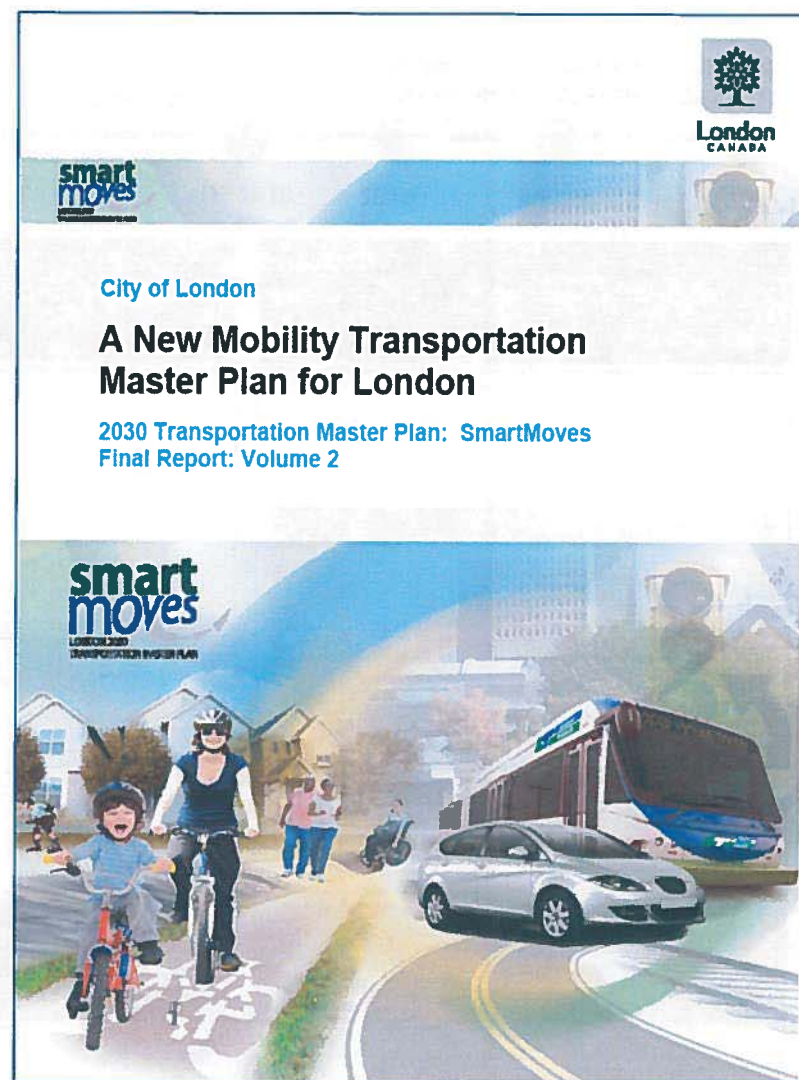


The Process



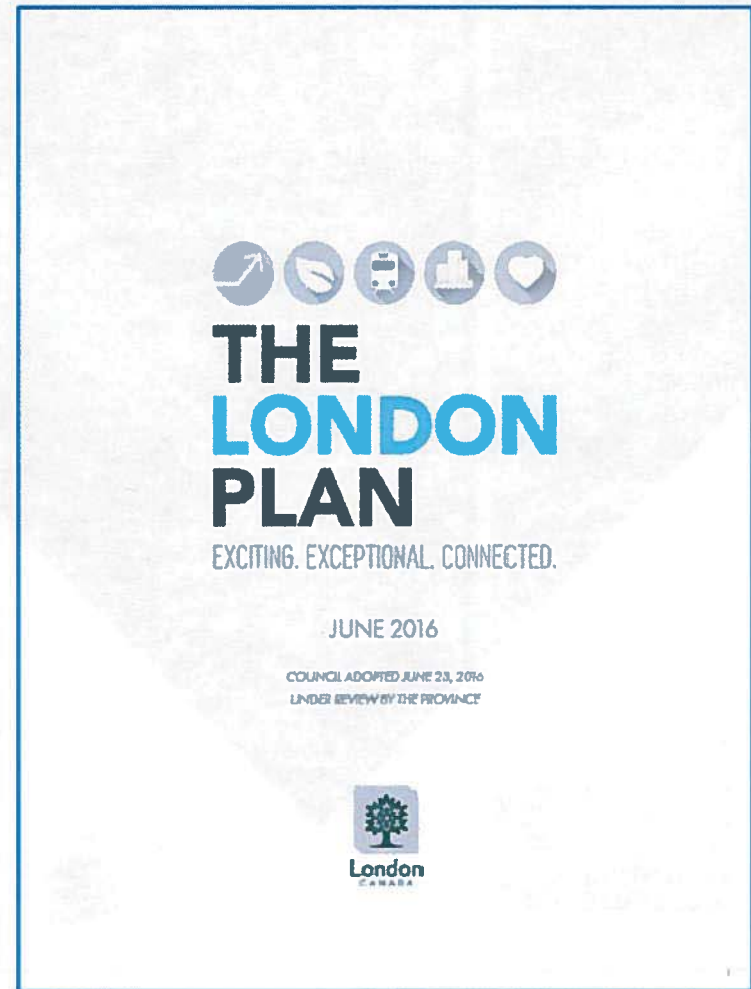
How We Got Here: Planning Foundations

- Rapid Transit was a primary recommendation of the 2030 Transportation Master Plan (2013):
 - Provide mobility choice
 - More sustainable alternative to major road widening
 - Needed to support sustainable growth in London



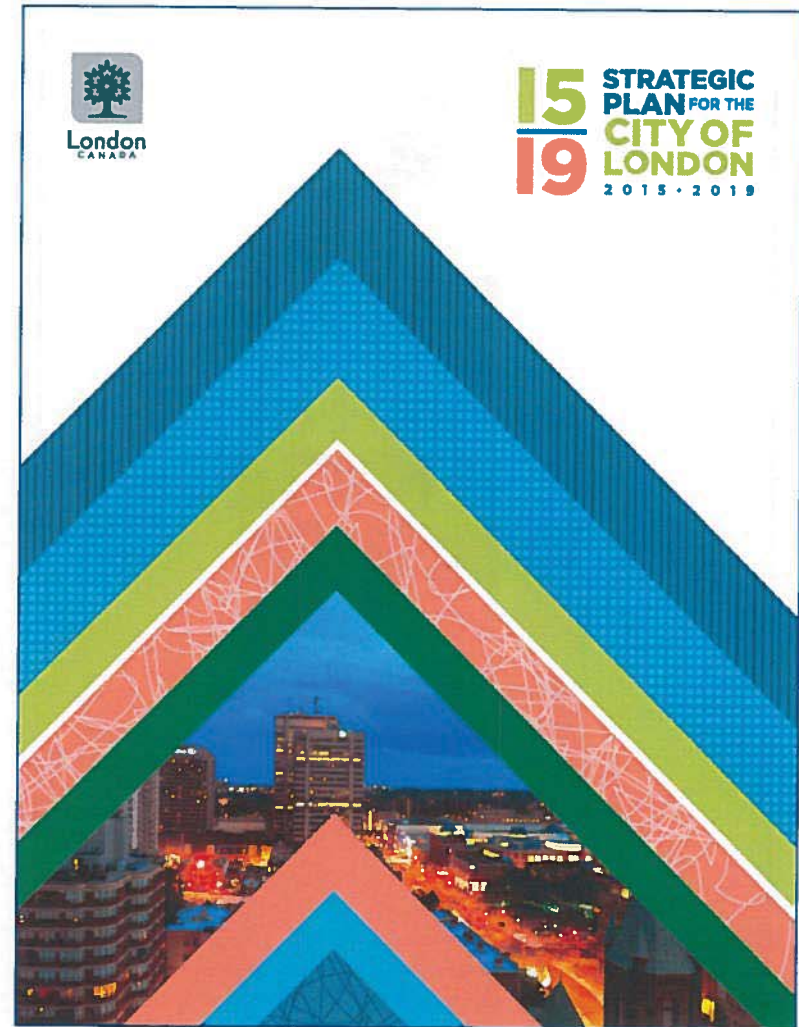
How We Got Here: Planning Foundations

- The London Plan (2016) provides the planning framework for Rapid Transit
- Rapid Transit is critical to:
 - Stimulate inward and upward growth and conserve agricultural land
 - Encourage transit-oriented growth and regenerate main streets and downtown
 - Support active transportation and healthier lifestyles
 - Planning permissions for development are aligned with RT corridors



How We Got Here: Planning Foundations

- The Strategic Plan for the City of London (2015) identified the Rapid Transit Implementation Strategy as a means to deliver convenient and connected mobility choices as part of a strategic area of focus called “Building a Sustainable City”.

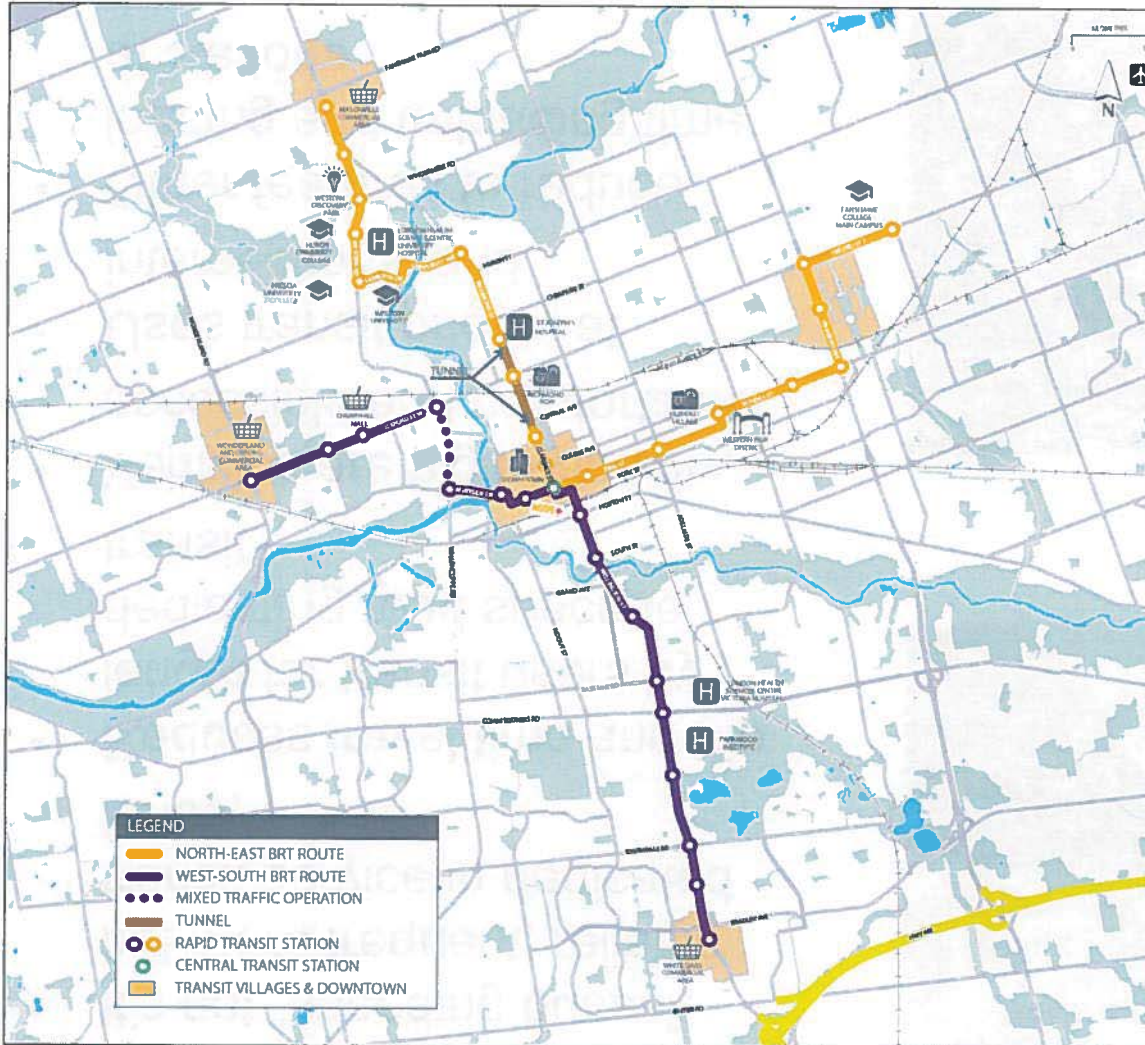


What is Rapid Transit?

- It's not “speeding buses”, but more frequent, reliable transit service in dedicated lanes,
- Reduces travel time and trip length for transit users by dedicating road space to transit
- Vehicles are high-capacity, accessible and comfortable
- Uses transit priority at intersections, and
- Other features to reduce loading and unloading time at stations.



Proposed Corridors



- 24 km network
- 34 rapid transit stations
- 27 articulated buses
- Serves many of London's major employment destinations

Corridors presented at
Public Information
Centre #4

Technology

Bus Rapid Transit Vehicles

- Modern high capacity buses
- Accessible, low-floor
- Bicycle-friendly
- Comfortable with enhanced passenger amenities
- Potential for electric buses



Corridor Design

Dedicated lanes to:

- Ensure reliable service
- Avoid delays to auto traffic caused by bus boardings/alightings
- Flexibility to accommodate and optimize benefits of future modes (such as driverless vehicles)
- Context sensitive designs to create pedestrian friendly downtown zones
- Respect heritage constraints



Stations

Spacing:

- Average 600-800 metres (5 to 7 min walk)

Design Features:

- Attractive shelters
- Accessible
- Real time information
- Wayfinding
- Pedestrian and cycling connections
- Integrated design with surrounding community



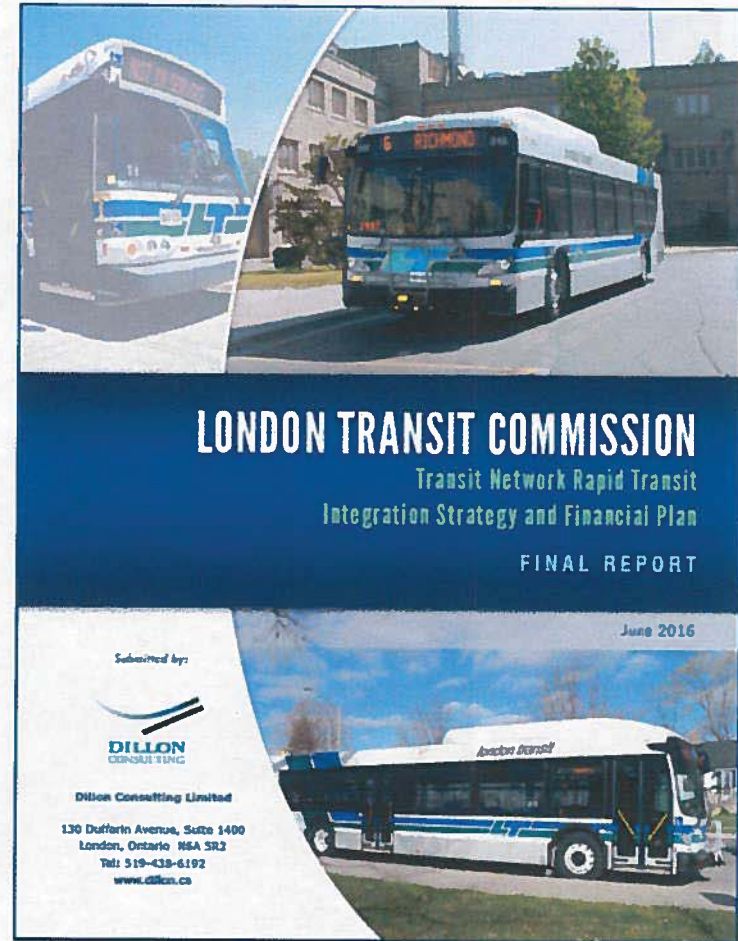
Service Concept

Service frequency:

- North-and-East corridors: every 5 minutes
- South-and-West corridors: every 10 minutes

Integration with local services:

- Rapid Transit does not replace the current LTC bus system
- Local transit service will work together with Rapid Transit
- Combined transit service will increase by 35% between 2015 and 2035



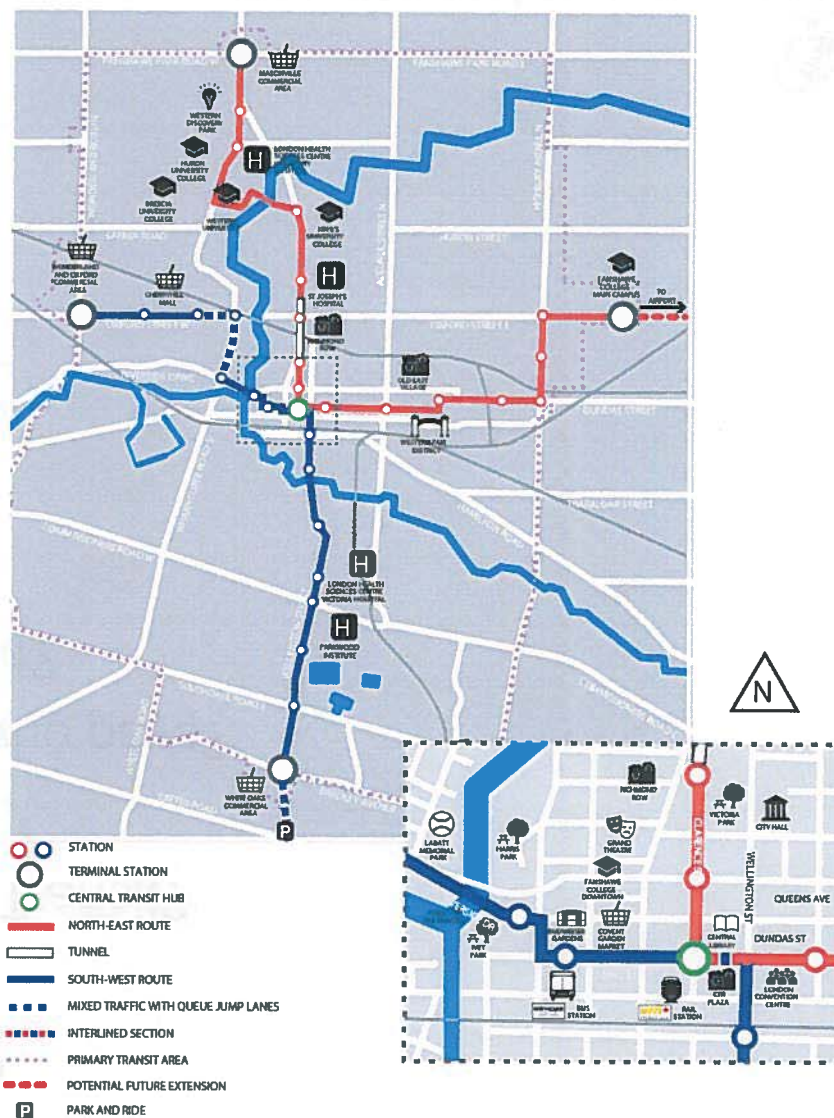
Key Questions

1. Who does Rapid Transit serve?
2. Why now?
3. What are the benefits of Rapid Transit?
4. How long will it take to build?
5. What will the project cost and who pays?
6. How were the corridors selected?
7. Why a tunnel?
8. Impacts on businesses
9. Impacts on property

Key Questions

Who does Rapid Transit serve?

- All Londoners, by connecting key destinations, rapid transit is designed to attract broader ridership base
- Integrated with service improvements on local routes
- System ridership projected to increase from 22.4 million riders per year (2015) to 31.5 million (2035)



Key Questions

Why Now?

- Putting off investment in transit means more money will be required for road expansion
 - Deferring rapid transit means that some \$290 million of road expansion projects will be required over the next 20 years.
- As corridors become more congested, construction becomes more difficult
- Construction costs will increase as time passes
- Benefits of Rapid Transit can be realized sooner
- Key component of growth strategy in London Plan



Key Questions

What are the benefits of Rapid Transit?

- Over \$1 billion in transportation, environmental and economic benefits over the project lifespan
- Improved transit experience to attract more riders
- Reducing greenhouse gas emissions and a more resilient transportation network
- Creates jobs and land value uplift



Key Questions

How long will it take to build?

- Construction will be phased by corridor over an 8 year period
- Initial construction could commence in 2020 pending TPAP approval and funding
- Individual segments under different phases of construction for 1-3 years

Construction Process:

- Utility relocation work
- Widening and sidewalk / bike lane relocation
- Station construction and median work
- Road reconstruction and transit lane construction
- Finishing work and landscaping



Preliminary Construction Phasing – Constraints

- **Construction phasing needs to account for numerous major other capital projects planned in London in order to avoid significant overlap of impacts, these include:**
 - Western Road from Oxford Street West to Sarnia Road
 - Dundas Street from Wellington Street to Ridout Street
 - Wharncliffe Road from Thames River to Horton Street
 - Wonderland Road from Springbank Drive to Sarnia Road
 - Adelaide Street / CP Rail grade separation
- **Timing of construction on other roads will be coordinated when planning rapid transit construction**

Preliminary Construction Phasing – Quick Start

- **There are many benefits to implementing a Quick Start:**
 - Start building ridership early in the project
 - Allow transit riders to benefit from transit improvements early
 - Test and educate users on improvements such as off-board fare collection
- **Quick Start improvements could include:**
 - Localized intersection improvements such as queue jump lanes
 - Enhanced transit stops at future rapid transit stations
 - Enhanced real-time traveler information
 - Transit signal priority at key intersections
 - Off-board fare collection to reduce dwell times at bus stops
- **Quick Start improvements would be limited to where property is not required and utility impacts are minor**

Key Questions

What will the project cost and who pays?

- Estimated capital cost is \$560 million in 2016 dollars
- Cost to London taxpayers is capped at \$130 million, the majority of which will be paid by development charges in support of growth
- Remaining investments will be made through our provincial and federal governments
- City responsible for operating costs (\$12 M per year)

INVESTMENT WE ARE SEEKING: \$560M



\$430 M

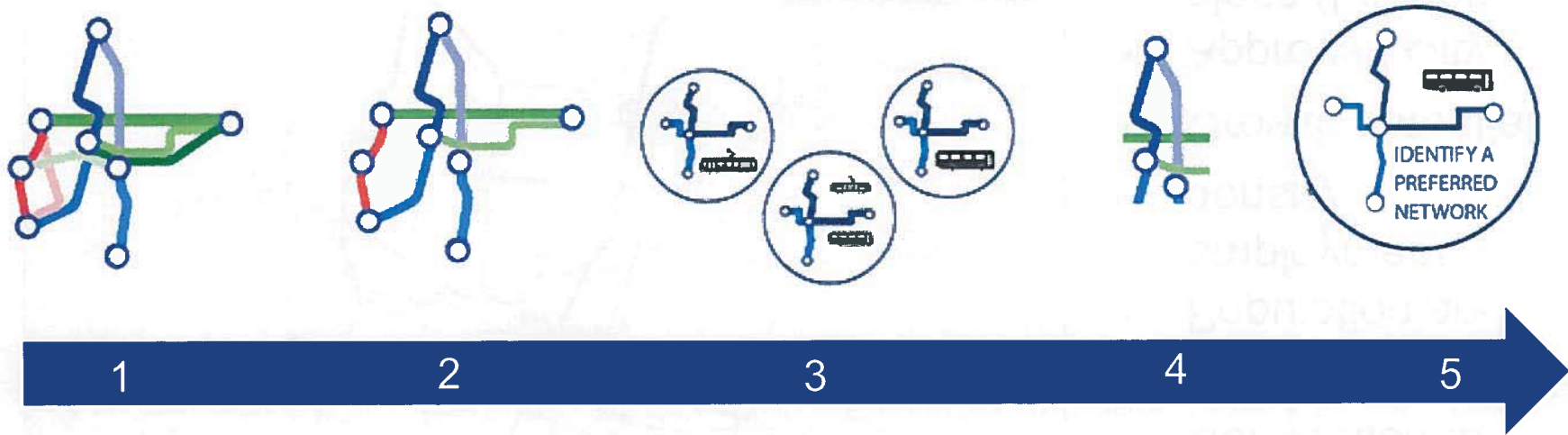
GOVERNMENT OF CANADA
+ PROVINCE OF ONTARIO

\$130 M

CITY OF LONDON

Key Questions

How were the corridors selected?



Identified long list of potential corridors (13 corridors)

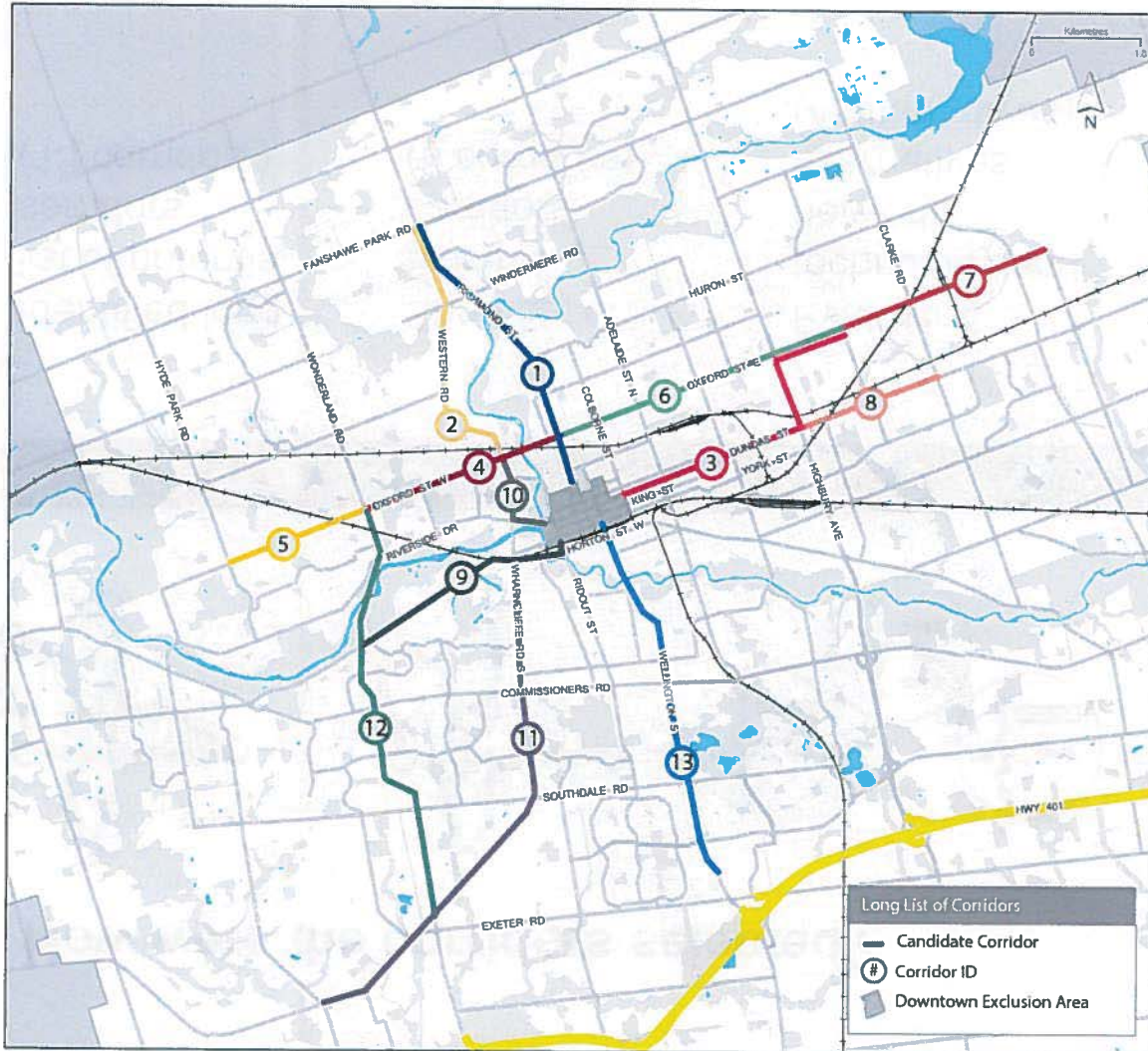
Short-list of feasible corridors (8 corridors)

Evaluated technology and network alternatives (4 alternatives)

Sub-corridors and focus areas

Preferred Network

Initial Corridors Examined



Key criteria for shortlisting potential routes included:

- Ridership (existing and future)
- Connection to major generators
- Population and employment density
- Growth potential
- Approved City plans (London Plan, Cycling Plan, Downtown Plan)

Key Questions

Why a tunnel?

- Service reliability
 - Freight trains cross 10 to 12 times a day, and each train requires all traffic to stop for up to 12 minutes
- Traffic
 - Maintains traffic capacity and parking through Richmond Row. Provides emergency service benefits.
- Light rail transit compatibility
 - At-grade crossing of future light rail transit and freight rail not recommended



Key Questions

Effects on Businesses

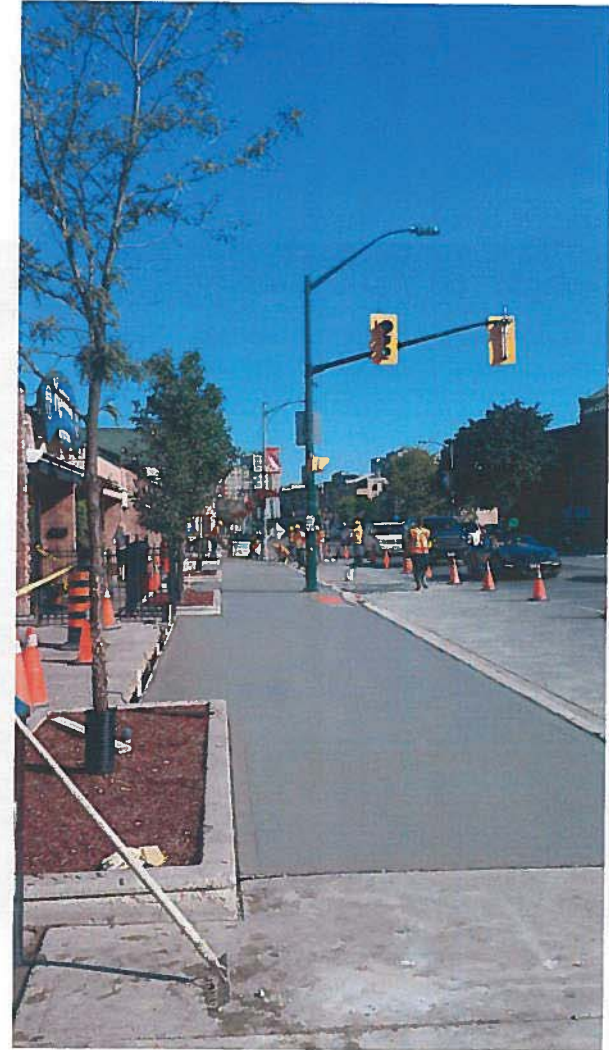
- Rapid transit concentrates growth
- Higher levels of pedestrian traffic

Impacts and Concerns

- Loss of on-street parking
- Changes in access
- Construction impacts

Mitigation measures

- Communication and Coordination
- Marketing and Promotion
- Programming
- Maintenance
- Creating a Positive Customer Experience
- Financial Incentives and Programs



Key Questions

Impacts on Property

- Property will be required on some parts of the corridor to construct rapid transit
- Design alternatives to minimize property impacts will be developed as part of Transit Project Assessment Process (TPAP)

Compensation

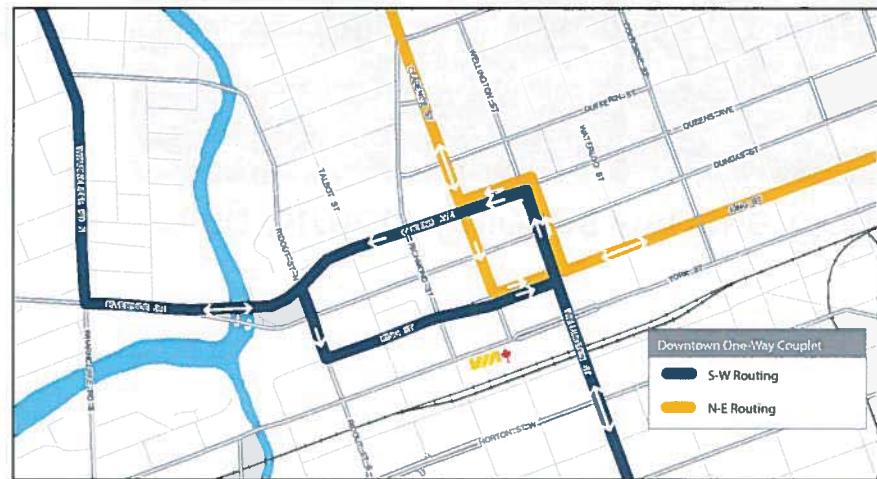
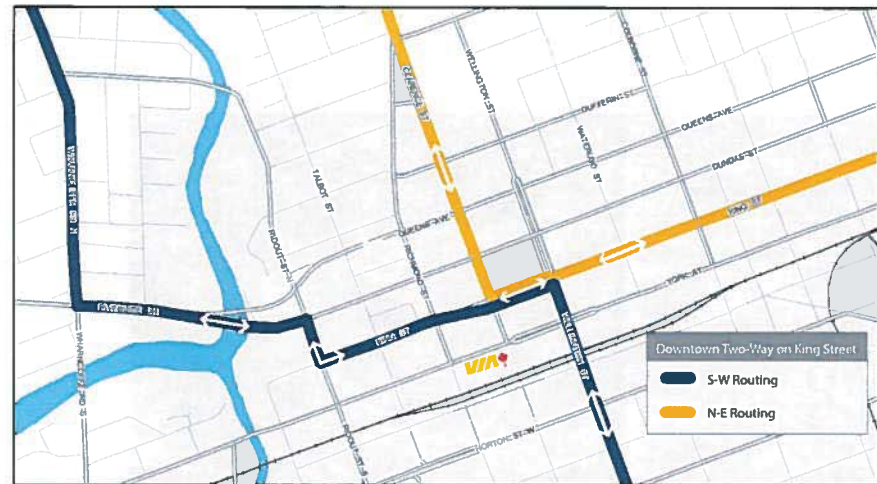
- The City makes every effort to negotiate a fair agreement of purchase and sale with a property owner before utilizing expropriation
- The City's objective is to ensure that individual rights are respected and protected and to provide fair compensation for any property acquired

Additional Alternatives

- On April 4, 2017, London Council approved a motion from the Rapid Transit Implementation Working Group (RTIWG) from its meeting held on March 9, 2017. The motion directed Civic Administration to:
 - Review alternative route options in the downtown including an east-west corridor and a north-south corridor.
 - Review alternatives to the proposed Richmond Row tunnel.

Downtown East-West Corridor Alternatives

- King Street Two-Way
 - Alternative presented at PIC #4
 - Two lanes of rapid transit (one in each direction) on King Street
- King Street Mixed Traffic
 - Converting King Street to two-way with rapid transit
- King Street / Queens Avenue Couplet
 - One lane of Rapid Transit on each of King Street and Queens Ave (in the same direction as traffic flow)



Downtown East-West Corridor Alternatives

Key Considerations

- Capital costs
- Construction impacts
- Effects on adjacent commercial uses (parking and loading)
- Connectivity to business areas
- Consistency with other City policies and plans
- Network capacity
- Impacts on transit service

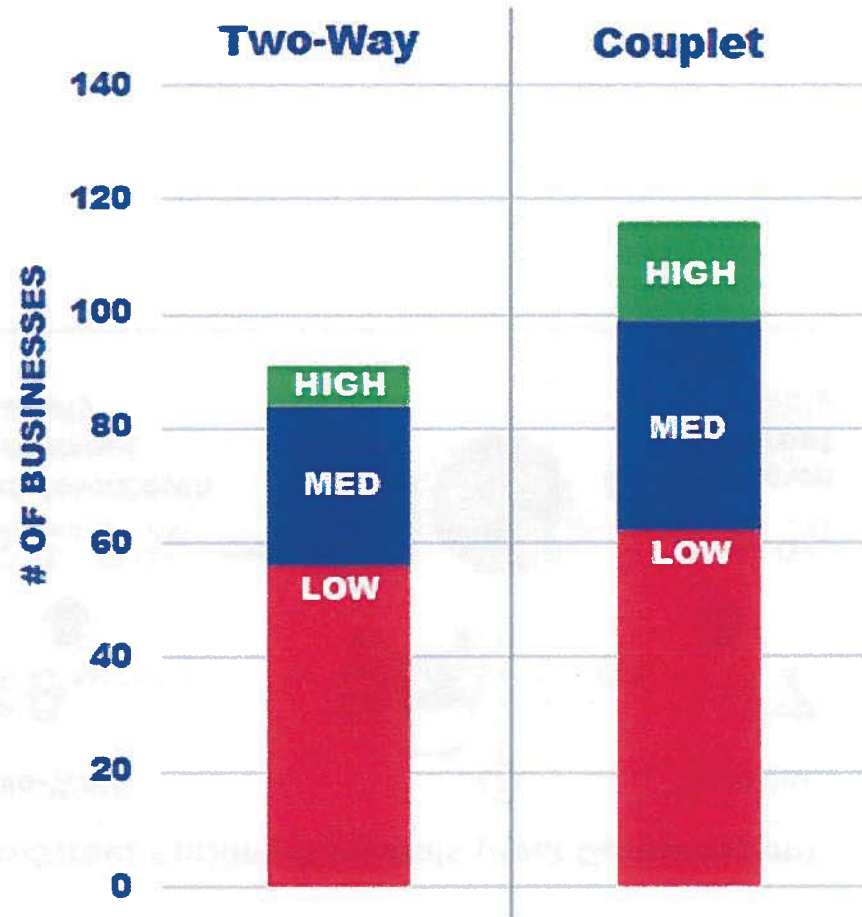
King Street / Queens Avenue Couplet



Downtown East-West Corridor Alternatives

Business Impacts During Construction

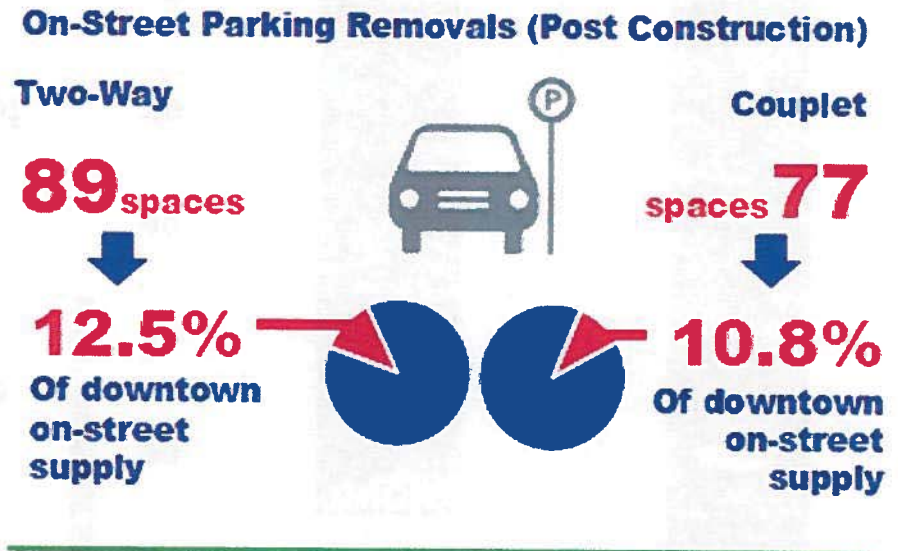
- Existing businesses classified by tolerance to construction (low, medium, high)
- Service type businesses such as entertainment, food/restaurant and non-destination retail would be more sensitive to construction impacts
- Construction of couplet alternative would impact more low-med tolerance businesses, but duration of construction shorter and extent of impact would be lower



Downtown East-West Corridor Alternatives

Effects on Parking

- 15,436 parking spaces in 2014
- 10,952 publically accessible spaces
- 711 on-street parking spaces
- Approximately 77-89 parking spaces impacted by rapid transit which includes 21 that are impacted by Dundas relocation.



Downtown East-West Corridor Alternatives

Couplet vs. King Street

Benefits:

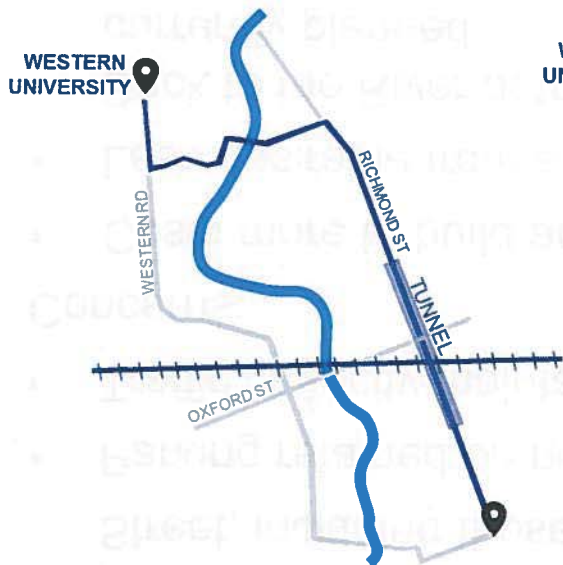
- Possible synergies with relocated local service couplet from Dundas Street
- Eliminates concerns about access and loading on north side of King Street, including those for Covent Garden Market and Budweiser Gardens
- Parking retained on north side of King Street
- Traffic capacity maintained on King Street

Concerns:

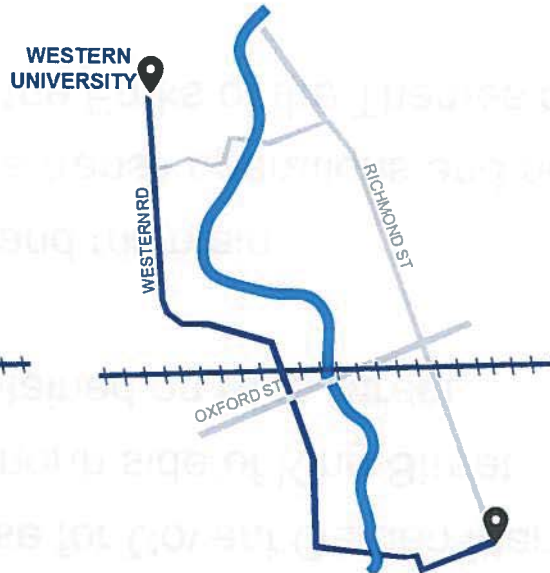
- Costs more to build and maintain
- Less desirable from a transit operations and rider perspective
- Back to the River at the Forks of the Thames cannot be car-free as currently planned
- Queens Avenue Cycle Track cannot proceed as planned
- Parking removed from the north side of Queens Avenue

North-South Corridor Alternatives

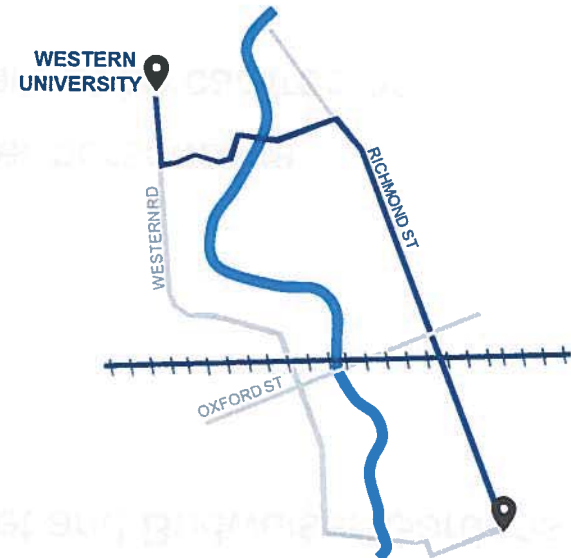
North-South corridors:



- Richmond Street corridor with transit tunnel



- Wharncliffe Road/ Western Road corridor

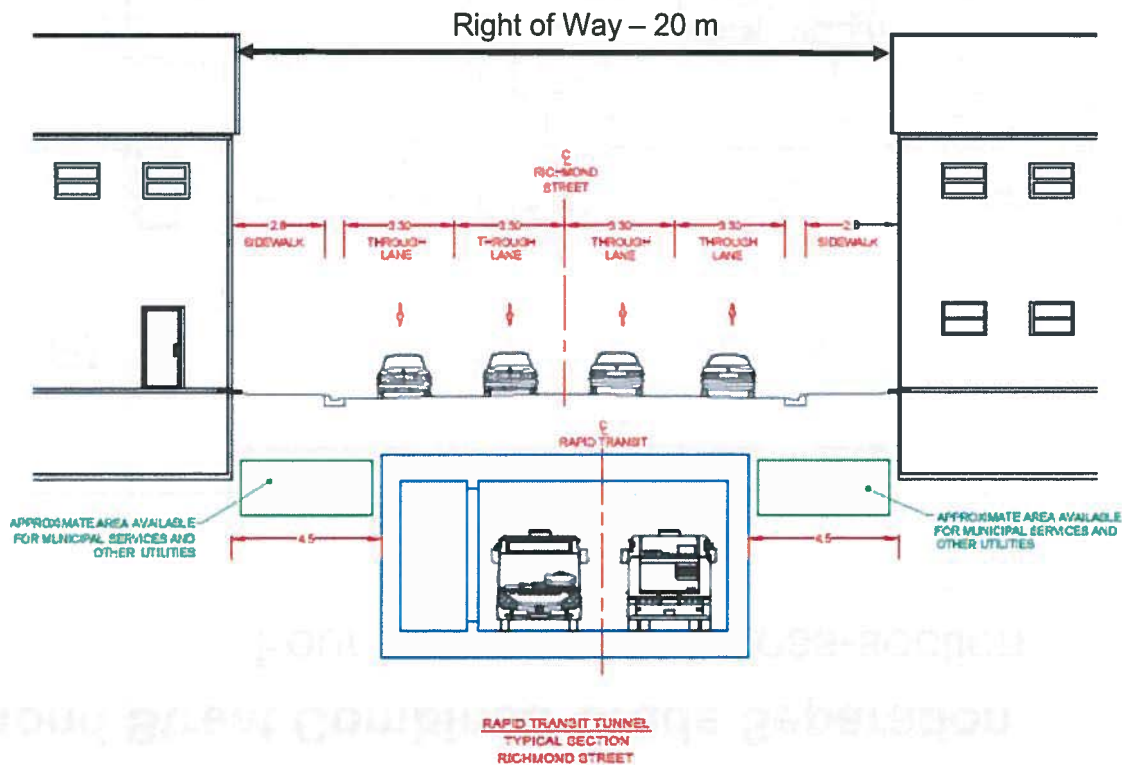


- Richmond Street corridor with at-grade crossing
- Richmond Street with combined transit-vehicle underpass

North-South Corridor Alternatives

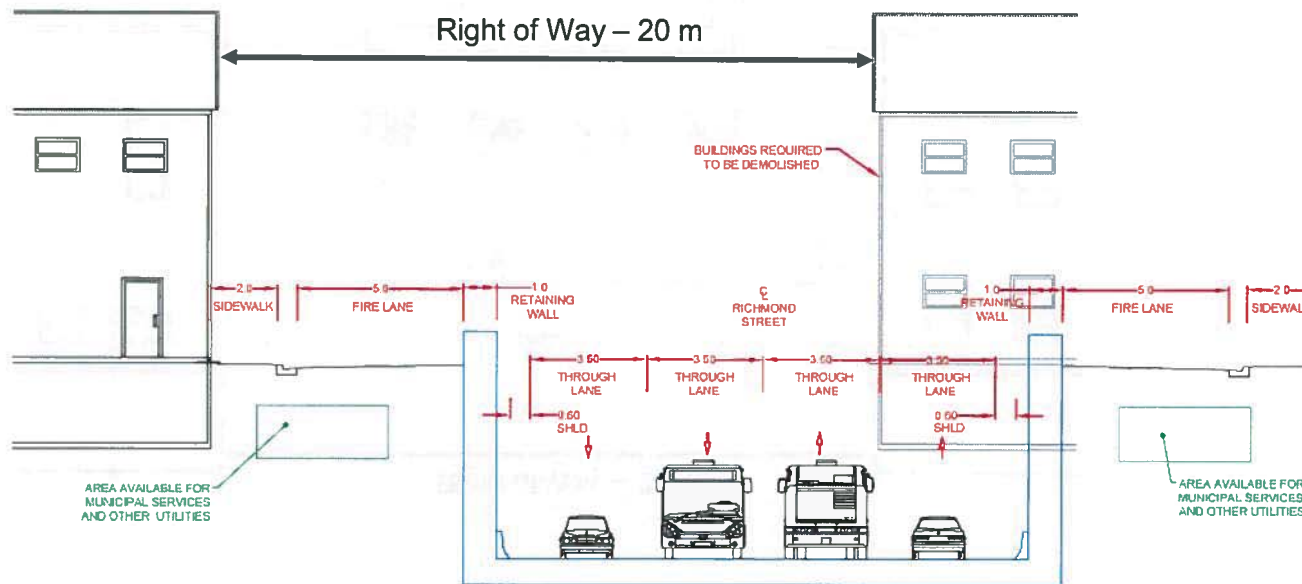
Richmond Street Tunnel

Tunnel potential cross-section



North-South Corridor Alternatives

Richmond Street Combined Grade Separation Four lane potential cross-section



GRADE SEPARATED RAIL CROSSING WITH FIRE LANES
TYPICAL SECTION
RICHMOND STREET

North-South Corridor Alternatives

Key Considerations

- Capital costs
- Impacts to businesses during construction
- Effects on adjacent commercial uses
- Effects on property
- Effects on access
- Growth management objectives
- Cultural heritage
- Transit ridership
- Network capacity
- Natural heritage features
- Business case implications

North-South Corridor Alternatives

High Level Capital Costs for north corridor options

- Richmond street corridor with Transit tunnel has highest capital cost
- Wharncliffe Road/Western Road and Richmond Street corridor with at grade rapid transit are lower cost, but require property
- Richmond Street combined grade separation would have significant property costs

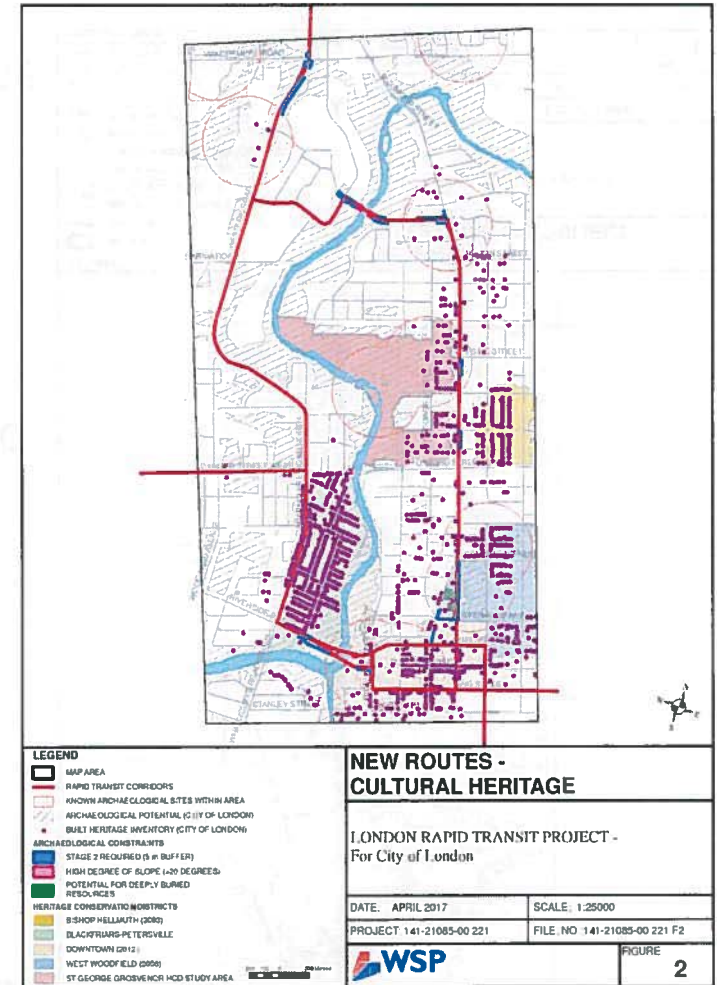
North-South Alternative	High level cost \$millions
Richmond street corridor with Transit tunnel	\$258
Wharncliffe Road/Western Road	\$136-166
Richmond Street corridor with at grade rapid transit	\$111-121
Richmond Street combined grade separation (underpass)	\$226-246

Corridor costs from downtown to Fanshawe Park Road

North-South Corridor Alternatives

Consideration of culture heritage.

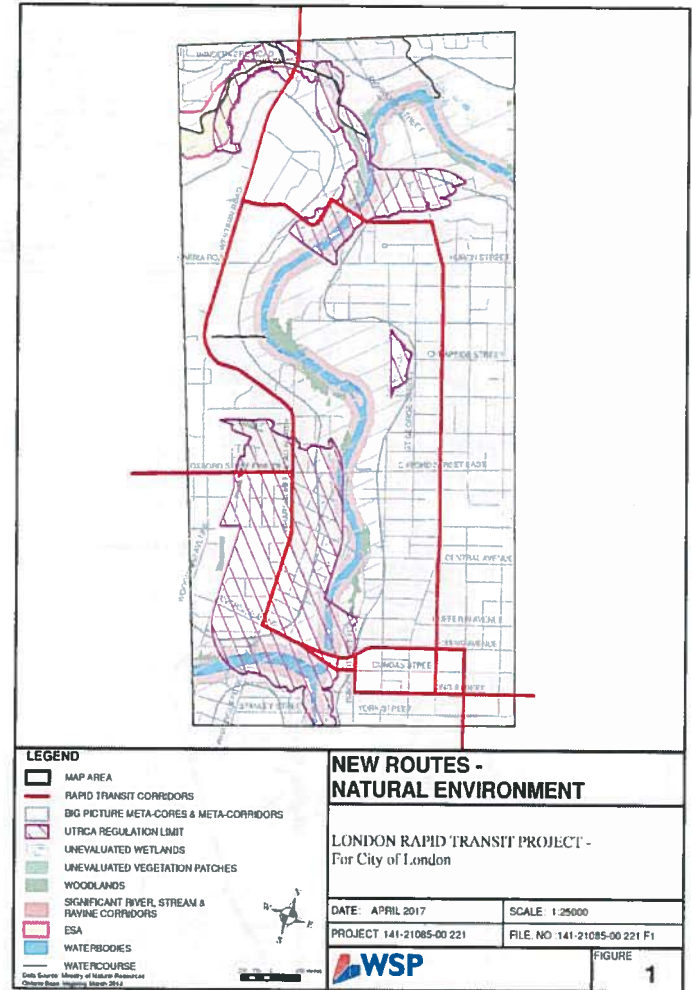
- In comparing the alternatives, there are a number of listed and designated heritage properties, including those within a Heritage Conservation District, along the corridor options.
- Wharncliffe Road south of Oxford is within the Blackfriars-Petersville Heritage Conservation District.



North-South Corridor Alternatives

Consideration of natural environment and future land uses. Opportunity for growth and development as set out in the London Plan.

- Rapid Transit Corridor Place Type has been applied to the portion of this corridor along Wharncliffe Road.
- Segment is within the Thames River Floodplain and intensification is not permitted in accordance with the Provincial Policy Statement.
- These lands are correspondingly within the Upper Thames River Conservation Area permit limit – permits are not supported by the UTRCA for intensification within this area.



North-South Corridor Alternatives

Impacts on property

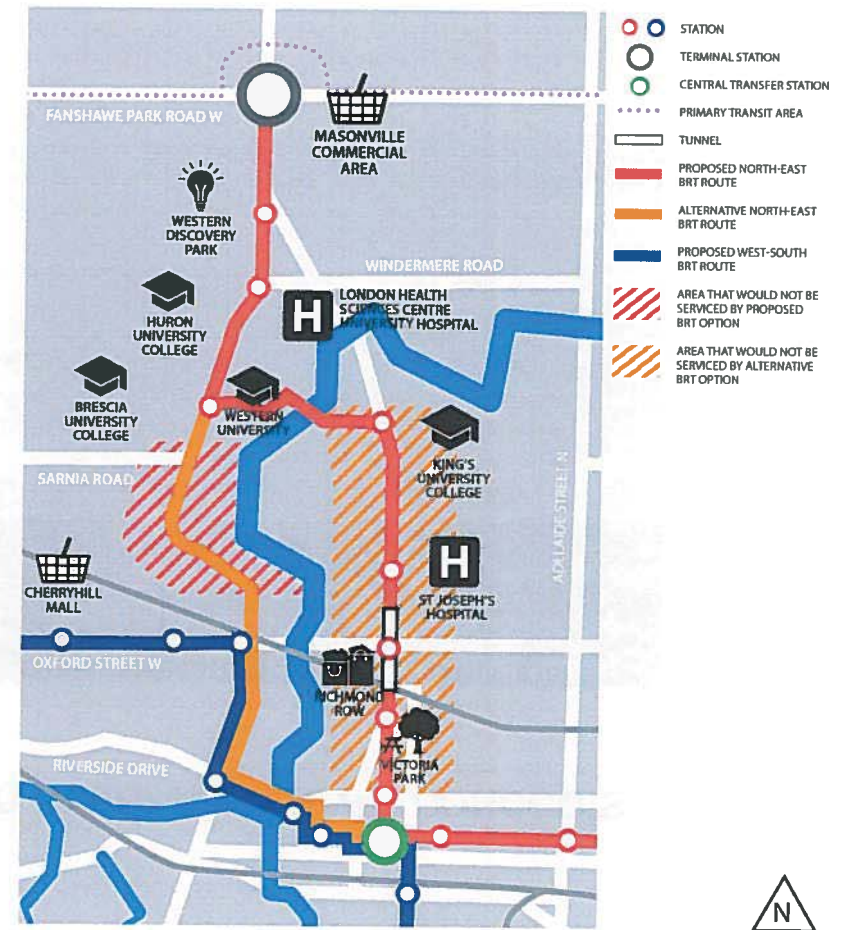
- Potential property impacts based on initial high level concepts

	Richmond Street Corridor with Transit Tunnel at CPR	Wharncliffe Road / Western Road	Richmond Street Corridor with At Grade Rapid Transit	Richmond Street Combined Grade Separation
Number of properties where PARTIAL property may be required	22	147	26	22
Number of properties where FULL property may be required	4	48 (* 24)	8 (* 1)	17-24 (* 1)

* Designated heritage properties

North-South Corridor Alternatives

- Richmond Street corridor is compatible with Growth Management objectives of London Plan
 - Provides ridership opportunities by connecting significant activities and supporting intensification



North-South Corridor Alternatives

Combined Grade Separation Underpass vs. Tunnel

Benefits:

- Eliminates impacts of rail crossing delays for all users
- Less potential for impact to Victoria Park archeological resource

Concerns:

- Eliminates on-street parking spaces
- Significant property impacts
- Greater construction impacts to tunnel
- Permanent divide down Richmond ROW

North-South Corridor Alternatives

At-grade Transit Lanes vs. Tunnel

Benefits:

- Costs less to build and maintain
- Removes the cost and construction risk associated with the tunnel
- Lower potential for impacts on Victoria Park archeological resource
- Significantly reduces construction impacts on Richmond Row

Concerns:

- Reduces benefits as tunnel provides for transit reliability
- Eliminates on-street parking spaces
- Some property impacts

Next Steps

- **Confirm Preferred Corridors**
 - Complete stakeholder and public consultation regarding corridors
 - Committee & Council decision on Rapid Transit Corridors (May 15 & 16)
- **Finalize Master Plan**
 - Finalize the Master Plan based on public input and Council direction
 - Seek Council approval of Master Plan
- **Update Business Case**
 - Update required if corridors or costs change significantly
- **Launch TPAP**
 - Commence Transit Project Assessment Process (Preliminary design, public consultation, mitigation measures)