Welcome

The purpose of today’s session is to:
• Update you on what we’ve heard from the community
• Share the preferred Rapid Transit network solution
• Present the draft Rapid Transit Master Plan

Representatives from the City and project consultant team are available to answer your questions and collect your feedback. Please also submit comments using the forms provided.

Richmond Street Municipal Underground Utilities Realignment Environmental Assessment Study

Visit the Public Open House for this study taking place here tonight. This study was initiated in response to the potential need to realign sewers in the vicinity of the Richmond Street Rapid Transit tunnel.

For more information, visit www.london.ca/EAs.
What is Shift?

Our Rapid Transit Initiative

This important initiative will transform transportation in London. Focusing on Rapid Transit as part of the transportation system – along with cars, buses, bikes and pedestrians – to help our city grow and prosper.

What will Shift achieve?

Shift will define where Rapid Transit will go, what it will look like, and how it will be implemented.

Shift is about finding environmentally sustainable ways to move people in London faster and create great places to live and work. And, it’s about developing the foundations to make London attractive for investment.
Project Timeline

2012
Council approves “Smart Moves” Transportation Master Plan

February 2015
Shift is launched with Public Information Centre #1 at Central Library

May 2015
Public Information Centre #2 at the Agriplex and Goodwill centre revealed the preliminary preferred Rapid Transit network

December 2015
Public Information Centre #3 at the Central Library presented a Hybrid Bus Rapid Transit and Light Rail Transit solution

May 2016
London City Council approves the initial Shift Business Case, which confirms Bus Rapid Transit as the preferred technology

December 2016
The Ministry of Municipal Affairs issues Notice of Decision approving The London Plan, which was approved by Council in June 2016

February 2017
Public Information Centre #4, tonight, presents the final Rapid Transit Master Plan, which will proceed to Council for approval after consideration of your input

Fall 2017
The Transit Project Assessment Process (TPAP) will develop the preliminary engineering design

2020-2025
A new Rapid Transit system is up, running, and ready for riders in London
Shift is a multi-phase Environmental Assessment (EA) – a public process that provides all citizens and stakeholders with the opportunity to provide input in planning and designing our Rapid Transit network.

The 1st stage of Shift is the **Rapid Transit Master Plan**.

The Rapid Transit Master Plan defines the rapid transit network, including route, technology and a preliminary list of stations.

After we incorporate your comments, the Master Plan will be recommended to City Council for adoption.

The plan, after it is adopted, will become the foundation for the next stage.

The 2nd stage of Shift is the ‘Transit Project Assessment’ study.

The Transit Project Assessment Process (TPAP) is a focused *Environmental Assessment* study that applies to Public Transit projects.

It is focused on the **engineering design** of the Rapid Transit network. This includes developing and evaluating design alternatives to build the network.

The evaluation will consider the positive and negative impacts of each alternative, and identify mitigation measures.

Additional public consultation will take place throughout this stage.
What We Heard Last Time

At Public Information Centre (PIC) #3, you told us:

• The **south tunnel portal** at Central Ave could impact businesses and traffic through Richmond Row.
• Riders must be able to **access Rapid Transit by foot, bike, bus and car.**
• Both **Bus Rapid Transit and Light Rail Transit** offer advantages to London.
• Rapid Transit needs to **connect to major trip generators** like Western, Fanshawe, the malls, downtown, the airport, train & bus stations, and hospitals.

You asked us:

• What impact will there be to my **property**?
• How will **traffic change** with Rapid Transit?
• Where will the **bus maintenance facility** go?
• What will happen to the **existing bus routes** along the corridors?
• What will Rapid Transit cost, and **who will fund** Rapid Transit?

You noted:

• **Rapid Transit is essential for London’s future success** given that comparable cities like Kitchener-Waterloo are buildings these systems.
• Any new **development should be transit supportive** near stations
• This needs to be engrained into **land use planning and urban design**
The assessment of alternative networks was revisited since the last PIC. This included an update to the Business Case which is an influential component of the decision to carry forward the Full BRT Alternative as the preferred Network.
Network Alternatives Examined
Preferred Corridors + RT Technology

**Base BRT**

**Full BRT (Preferred Network)**

**Hybrid (NE LRT + SW BRT)**

**Full LRT**
Evaluation Summary
(Ranking the Alternatives)

<table>
<thead>
<tr>
<th>Criteria/Measures</th>
<th>Business As Usual</th>
<th>Base BRT</th>
<th>Full BRT</th>
<th>Hybrid</th>
<th>Full LRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Building and Revitalization</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Public Space and Heritage</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transportation and Mobility</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Implementation</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Natural Environment</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Costs and Benefits</td>
<td>N/A</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Economic Effects</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Overall Rank</td>
<td>○</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

- ● is the highest score.
- ○ is the lowest score.

Full BRT is the preferred network alternative as it is best suited to ridership demand, provides a high quality of service and reliability, supports growth objectives, provides the highest value for the investment and is adaptable to future conditions.
City of London has committed $125 million toward our estimated $560 million Rapid Transit Initiative. To move forward, London is seeking approximately $435 million from federal and provincial partners.

The Preferred Network

- 24 km network
- 34 rapid transit stations
- 27 articulated buses
- 1.13 benefit-cost ratio
- $12.2 million annual operating costs
- $1.3 billion in transportation, environmental and economic benefits over the project lifespan.
Western University: Preferred Route

**Option 2: Lambton Drive through Alumni Circle** is the preferred route through WU campus.

- Good access to major trip generators on both sides of Western Road
- Excellent coverage of planned campus expansion areas
- Direct route for bus rapid transit
- Consistent with Western’s on-going Open Space and Landscape Plan

Design features and station locations will be explored in consultation with Western University. Existing bus routes will be modified to coordinate with rapid transit stations.
Old East Village: Preferred Route

**Two-way on King Street** is the technically preferred route, with one lane in each direction for BRT and one lane eastbound for general traffic.

- Supports growth along King Street and Dundas Street
- Allows for public realm improvements along Dundas Street
- Maintains traffic patterns with fewer turn restrictions and allows local transit along Dundas Street
- Less disruptive and lower cost to construct than the alternatives
- RT station locations are similar for all alternatives
- Better rider comprehension of RT route and station locations
Transit Ridership Demand

North Corridor
Downtown to Masonville via Richmond Street, University Drive, Lambton Drive, Western Road

East Corridor
Downtown to Fanshawe College via King Street, Dundas Street, Highbury Avenue and Oxford Street East

West Corridor
Downtown to Wonderland Road via Riverside Drive, Wharncliffe Road, and Oxford Street West

South Corridor
Downtown to White Oaks Mall via Wellington Road

North and East corridors will operate as one route with 5 minute service.
South and West corridors will operate as one route with 10 minute service.
Bus Rapid Transit (BRT) Elements

- Vehicles run primarily in dedicated lanes, but can operate in mixed-traffic.
- Has the flexibility to operate outside of dedicated lanes.
- Vehicles are high capacity, accessible and offer comfortable seating.
- BRT can cost between $15 to $40 million per route kilometre.
- Can carry up to 4,500 passengers every hour in each direction.
Technology is evolving: Electric Buses

400 km
Depending on the model, electric buses can travel for up to 400 km on a single charge

12 Years
The typical lifecycle of an electric bus is 12 years—similar to that of a standard bus

$200 K
The typical additional cost of an electric bus compared to a standard bus

0
The amount of point source emissions that are produced by electric buses
Focus Areas: Conceptual Design

Areas will be reviewed in detail during the Transit Project Assessment Process to evaluate design alternatives and minimize negative impacts.
Focus Area 1: Western University

Station locations will be confirmed in consultation with Western University during the TPAP process.

The alignment is consistent with Western’s on-going Open Space and Landscape Plan and approved by the Board of Governors.
Focus Area 2: Richmond Street North

Richmond Street between Grosvenor Street and University Drive

A decision needs to be made on whether this stretch of Richmond Street will have 2 lanes of traffic or 4 lanes of traffic. The decision will consider impacts of the two options, including:

• 4 lanes will require road widening and result in property impacts, reductions to driveways and parking, and the removal of some trees.

• 2 lanes will result in increased congestion for general traffic, and require a shift in travel patterns.

Do you have suggestions on what this decision should consider in the next study phase?

Four Lanes of Traffic  Two Lanes of Traffic
Focus Area 3: Richmond Street Tunnel

The Rapid Transit tunnel, once completed, will:
Maintain transit service reliability, improve transit travel time, serve emergency vehicles, and avoid long-term impacts to Richmond Row businesses and public realm.
Focus Area 4: Downtown

Station locations will be confirmed during the next study phase.
Focus Area 5: Forks of the Thames

Riverside Dr. Station

Museum Station (potential)

Talbot St. Station

Station locations will be confirmed during the next study phase.
Focus Area 6: Wellington Road South

This section of Wellington Road needs an improved alignment plus widening for rapid transit. The design will be developed in the next study phase to minimize impacts, such as:

- Property impacts: land acquisition, reduced driveways, parking, trees; and,
- Traffic impacts: changes to lane configurations, restricted turning movements.

Station locations will be confirmed during the next study phase.
The design for two-way rapid transit on King Street will be developed in the next study phase to minimize impacts, such as:

- Property impacts: driveways, parking, trees; and,
- Traffic impacts: changes to lane configurations, congestion, and restricted turning movements.
Vision for Rapid Transit

The vision for the *Rapid Transit Master Plan* is intertwined with *The London Plan*’s Mobility goals. The plans recognize that there is an interconnected link between land use and mobility. The plans rely on each other to succeed.

Rapid Transit will form the backbone of an integrated multi-modal system.

Rapid Transit will enable corridors designed to provide a variety of safe, convenient, attractive, viable and accessible mobility options for all Londoners.

Rapid Transit will be leveraged to strategically promote and stimulate intensification while ensuring development is conducive to the efficient operation and attractiveness of public transit.
The Last Mile

Every rapid transit trip begins and ends with a different mode (either walking, cycling, or local transit). This is referred to as the “last mile.” The quality of this last mile trip is dependent on the integration of rapid transit with the active transportation network and connections to base transit services. This is a crucial component of a successful rapid transit system.

The active transportation network (sidewalks and bikeways) will be well connected to rapid transit.

The base transit network will be reconfigured to provide seamless connections to rapid transit.
Integration with Cycling

Cycling is a flexible and cost-effective option to address “first and last mile” connections. Safe and convenient routes to access stations will be important for maximizing the number of people who can reach the system easily.

Supporting Strategies

Provide BRT vehicles with a bike rack.

Provide safe and well-marked access to stations.

Prioritize constructing routes that connect to stations, when possible.

Coordinate the construction with cycling projects or protect for future construction, when possible.

Incorporate a mix of short and long-term bike options at stations where space allows. At stations with limited space, provide bike parking nearby.
The Last Mile

Planning for Pedestrians

Planning around stations will put pedestrians first. Making walking to stations safe and easy is important; walking will be a part of every rapid transit trip. The plan will provide for a continuous, attractive pedestrian network along the rapid transit corridors.

Supporting Strategies

Provide safe pedestrian crossings at regular intervals.

Explore opportunities for new pedestrian links when development of public and private occurs.

Prioritize snow removal at stations and along the corridors.

Minimize pedestrian wait times at station access points.

Accessible stations and vehicles across the rapid transit network.

In station areas, new pedestrian links can increase network connectivity and provide direct access to stations.

A continuous, attractive pedestrian space throughout the corridor will create a place people want to walk.

Signalized crosswalks will make it easy to access stations that are in the middle (median) of the roadway.

Sidewalk widths will be tailored to meet the needs in each section of the corridors.
Integration with Local Transit

Routes providing feeder service to rapid transit should have frequency that is no more than half that of Rapid Transit. For example, the wait time for a connecting bus from a rapid transit station that has 5 minute service should be a maximum of 10 minutes.

Base Service that duplicates rapid transit will be minimized.

Routes that don’t connect to rapid transit should not be extended or deviate significantly from a logical path just to connect to rapid transit.

Combined transit service will increase by 35% between 2015 and 2035.
Integration with Land Use Planning

The London Plan

*The London Plan* is the City’s Official Plan and was approved in 2016. It is the playbook for city-building over the next 20 years. The plan focuses on growing inward and upward, with 45% of growth to be infill and intensification, and the majority of that growth will be in the Primary Transit Area.

Rapid Transit is a key component of the plan. There are three key areas that will support transit-oriented development:

1) **Downtown** will be the focus of high density intensification and be held to a high standard for urban design and walkability. It will support all modes of travel.

2) **Transit Villages** will anchor the end of each corridor. They will become mid to high density, mixed-use areas, where Londoners can live, work and play.

3) **Rapid Transit corridors** will support appropriate intensification along the routes and encourage transit and active travel.

![Various levels of intensification along BRT corridors](image)
Changes to Traffic Circulation

Along Rapid Transit Corridors, moving people will be the highest priority.

BRT will travel in dedicated, centre-running (median) lanes for over 90% of the network to provide reliable service.

BRT median lanes will be separated from regular traffic by curbs and pavement markings.

At major intersections, traffic movements will stay the same as today. At minor streets and driveways, traffic will not be able to cross the BRT median lanes.

Emergency vehicles will be able to use BRT lanes and the rapid transit tunnel.
Transit Signal Priority (TSP)

Transit signal priority (TSP) is a technology to maintain the BRT schedule.

This can be achieved through:

- **Passive TSP** – signals are timed to provide a “greenwave” for BRT.
- **Active TSP** – signals will adjust to give a green light to BRT when behind schedule (see right).
Transit-oriented or transit-supportive development means development which is designed to be well connected and integrated with transit systems, helps to make transit use more efficient, comfortable and attractive, provides quality pedestrian amenities to support the walk to and from transit services and generates ongoing demand for transit ridership.”

- The London Plan
The LTC currently operates two bus maintenance and storage facilities.

BRT ridership forecasts indicate that approximately 27 new articulated buses will be required by 2034 to serve demand.

It is anticipated that the current storage and maintenance facilities will be adequate to support the 2034 BRT system.

The Highbury facility opened in 1971 and has been expanded four times. It is currently approaching capacity.

The Wonderland facility opened in 2011. It has space for 110 buses and currently operates around 50% capacity. The facility includes a number of modern environmentally friendly features.
Urban Design

BRT Corridors and Transit Villages

The Transit Villages and BRT corridors have the potential to:

• encourage transit oriented mixed-use development and intensified urban form;
• provide an enhanced pedestrian realm, including continuous pedestrian clearways, public spaces and amenities;
• provide infrastructure for active transportation;
• optimize tree canopy and green infrastructure; and
• provide flexible open spaces to encourage a lively community.
Future Opportunities

There are opportunities to enhance the rapid transit network, beyond the scope of this study, including:

• Extension along Clarence Street south of King Street to meet future intercity High Speed Rail.

• Extension along Oxford Street East from Fanshawe College to London’s International Airport.

• Convert some or all segments to Light Rail Transit (LRT) subject to future conditions, ridership demand, and cost-benefit assessment.
Next Steps in the Process

- Rapid Transit Master Plan (RTMP) will be presented to Council for adoption.
- Once adopted by Council, we will advance the design and conduct more public consultation to show specific challenges and solutions that mitigate negative impacts.
- We will initiate the Transit Project Assessment 6-month process (TPAP) with additional consultation and opportunities for your input.
- Design refinements, property and utility impacts, station locations and minor route refinements can occur as the design evolves.
Stay Involved

What do you think?
The City wants to hear your thoughts on the proposed Rapid Transit Master Plan.

Let us know by:
• Completing a Comment Sheet and putting into the comment box tonight
• Talking with a project team representative tonight
• Emailing us at Shift@London.ca

You can also stay up to date by following us on the social media accounts below.

Social Links

www.shiftlondon.ca
shift@london.ca
@shiftlondon
facebook.com/shiftlondon
@shiftlondon