Our Rapid Transit Initiative

PUBLIC INFORMATION CENTRE #3

DECEMBER 2, 2015
Context

- Rapid Transit is the primary recommendation of the Smart Moves Transportation Master Plan (TMP), a cornerstone of the (draft) London Plan, and a key feature in Council’s 2015-2019 Strategic Plan.

- Rapid Transit along with a complimenting land use strategy will facilitate greater mode shifts towards alternative transportation modes, helping to reduce traffic congestion and make transit a convenient, comfortable, and reliable travel option for residents.
Process

- The Rapid Transit Environmental Assessment (EA) is being undertaken to create a Rapid Transit Master Plan that adheres to the legislative requirements of the Environmental Assessment Act.
- The RT EA is progressing towards the stage of determining a preferred RT system and a network alternative based on a technology.
Rapid Transit Environmental Assessment

Problems and Opportunities

- Growing Congestion
- Transit Travel Times / Service Frequencies
- Growth Management
- Land Use and Density
- Existing Transit Ridership and Growth
- Commuter Travel Habits
- Catalyst for Change

Transit Ridership in London has grown by 94%

<table>
<thead>
<tr>
<th>Year</th>
<th>People 2015</th>
<th>Jobs 2015</th>
<th>People 2035</th>
<th>Jobs 2035</th>
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<tr>
<td></td>
<td>381,000</td>
<td>108,000</td>
<td>458,000</td>
<td>241,000</td>
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</table>
London’s Integrated Mobility

London is well connected within Ontario by rail, road and air.

Rapid Transit provides a local link to these larger networks.
London is Canada’s largest region without Rapid Transit... and carries more riders per capita than comparable cities.

- **London**: 63 rides per capita
- **Mississauga**: 43 rides per capita
- **Waterloo**: 43 rides per capita
- **Hamilton**: 42 rides per capita
- **York Region**: 23 rides per capita
Rapid Transit System Comparisons

- **London RT**
  - Peak Corridor Ridership: 2500

- **Queen St. Brampton BRT**
  - Peak Corridor Ridership: 2900

- **Mississauga/Brampton LRT**
  - Peak Corridor Ridership: 2450

- **Waterloo Region LRT**
  - Peak Corridor Ridership: 2450

- **Hamilton LRT**
  - Peak Corridor Ridership: 2100

- **Projected Future Peak Corridor Ridership**

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Our Rapid Transit Initiative
Rapid Transit Guiding Principles

- Transportation Capacity and Mobility
- Community Building and Revitalization
- Economic Development & City Building
- Ease of Implementation & Operational Viability

Fiscal Responsibility and Affordability
Place new emphasis on creating attractive transportation choices
Connect London to the surrounding region
Become one of the greenest cities in Canada
COMMUNITY BUILDING AND REVITALIZATION
Building strong and attractive neighbourhoods for everyone
Planning for exceptional spaces and places
Regenerating our urban neighbourhoods and main streets
ECONOMIC DEVELOPMENT AND CITY BUILDING

RAPID TRANSIT

ECONOMIC DEVELOPMENT AND CITY BUILDING

EASE OF IMPLEMENTATION AND OPERATIONAL VIABILITY

TRANSPORTATION CAPACITY AND MOBILITY

COMMUNITY BUILDING AND REVITALIZATION
Shaping our City around rapid transit
Catalyst for development
Growing inward and upward
Downtown investment
Build a mixed-use compact city
Planning a smart city
Building a city to attract talent and investment
Full-Time Employment

An 800-metre buffer from proposed RT corridors encompasses approximately 65% of all full-time employment in London.
EASE OF IMPLEMENTATION AND OPERATIONAL VIABILITY

ECONOMIC DEVELOPMENT AND CITY BUILDING

RAPID TRANSIT

TRANSPORTATION CAPACITY AND MOBILITY

COMMUNITY BUILDING AND REVITALIZATION
Public Engagement Initiative

- Over 50 events so far; 12,500 contacts
- Over 1,500 followers on Twitter, Facebook and YouTube
- Presentations to stakeholder groups
- Pop-up booths at public events
- MetroQuest Survey – 1,200 people submitted responses. Project eNewsletter
- Project Website

The top priorities for Rapid Transit are:

1. Fast travel time
2. Frequency
3. Walkable communities
4. Capital and Operating Costs
5. Coverage Area
6. Minimize Transfers
7. City Image
8. Comfortable Ride
Preliminary Recommended Corridors
Western University

Route alternatives through the Campus area

Potential Alignment: RT along University Drive and Middlesex Drive
Rapid Transit Technologies

Common Characteristics of Rapid Transit Technologies

• Frequent service along the RT corridors, allowing riders to use the service without needing to consult a schedule
• Express Service – Fewer stations – Stations located at major trip generators
• Dedicated lanes for rapid transit, physically separated from other traffic where feasible.
• Programed traffic signals to prioritize the movement of rapid transit vehicles
• Enhanced stations: Stations with larger, more prominent waiting areas, shelters, seating, bike racks, ticket vendors.
Network Alternatives

**Base BRT**
- Similar to Transportation Master Plan BRT alternatives
- No major capital works (Richmond Street tunnel and University Avenue bridge)
- BRT vehicles run in mixed traffic on Wellington Street between Baseline Road and Downtown

**Full BRT**
- Adds major structural projects, including a Richmond Street Tunnel under the CP Rail line and the bridge over the North Thames on University Drive to maximize transit operating speeds

**Hybrid**
- Same major structural projects as the Full BRT alternative
- Incorporates LRT along the preferred north and east corridors via downtown with BRT along the south and west corridors.

**Full LRT**
- This alternative incorporates a semi-exclusive LRT system along the entirety of the preferred RT route.
Network Alternatives – Base BRT

Characteristics

• 19 km of BRT along a semi-exclusive right-of-way
• 4.6 km of BRT in mixed traffic
• 31.4 million riders/year by 2035
• $270 million capital cost
• $13.8 million/year O+M costs
• 840,000 transit travel hours saved
• 12 million auto vehicle km saved
• Moderate potential impact on City Building and Social Community
Network Alternatives – Full BRT

Characteristics

- 22 km of BRT along a semi-exclusive right-of-way
- 1.6 km of BRT mixed traffic
- 31.6 million riders/year by 2035
- $500 million capital costs
- $12.2 million/year O+M costs
- 985,000 transit travel hours saved
- 12.9 million auto vehicle km saved
- Moderate potential impact on City Building and Social Community
Network Alternatives - Hybrid

Characteristics

- **13.2** km of LRT along a semi-exclusive right-of-way
- **9** km of BRT semi-exclusive lanes
- **1.6** km of BRT in mixed traffic
- **32** million riders/year by 2035
- **$880** million in capital costs
- **$11.1** million/year in O+M costs
- **1,170,000** transit travel hours saved
- **14.7** million auto vehicle km saved
- High potential impact on City Building and Social Community
Network Alternatives – Full LRT

Characteristics
- **23.7 km** of LRT along a semi-exclusive right-of-way
- **32.1 million** riders/year by 2035
- **$1,150 million** in capital costs
- **$11.5 million/year** in O+M costs
- **1,226,000** transit travel hours saved
- **15.1 million** auto vehicle km saved
- Highest potential impact on City Building and Social Community
### Network Comparison

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Base BRT</th>
<th>Full BRT</th>
<th>Hybrid</th>
<th>Full LRT</th>
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<tr>
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<td>Ease of Implementation and Operational Viability</td>
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Base BRT, Full BRT, and Hybrid are viable rapid transit solutions and an enhancement to the current transit system.
## Benefits Case

<table>
<thead>
<tr>
<th>Description</th>
<th>Base BRT</th>
<th>Full BRT</th>
<th>Hybrid</th>
<th>Full LRT</th>
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<tr>
<td><strong>COSTS - FINANCIAL ACCOUNT</strong></td>
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<tr>
<td>Capital Costs (CAPEX)</td>
<td>$ 280</td>
<td>$ 497</td>
<td>$ 880</td>
<td>$ 1,142</td>
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<td>Operating Costs to 2049</td>
<td>$ 370</td>
<td>$ 319</td>
<td>$ 287</td>
<td>$ 252</td>
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<td>Total Costs</td>
<td>$ 650</td>
<td>$ 816</td>
<td>$ 1,167</td>
<td>$ 1,394</td>
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<td><strong>BENEFITS - AGENCY</strong></td>
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<td>Additional Fares</td>
<td>$ 84.65</td>
<td>$ 90.88</td>
<td>$ 103.33</td>
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<td><strong>BENEFITS - TRANSPORTATION USERS</strong></td>
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<tr>
<td>Auto User Time Savings</td>
<td>$ 112</td>
<td>$ 114</td>
<td>$ 114</td>
<td>$ 119</td>
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<tr>
<td>Transit User Time Savings</td>
<td>$ 292</td>
<td>$ 344</td>
<td>$ 409</td>
<td>$ 429</td>
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<td>Auto Operating Cost Savings</td>
<td>$ 38</td>
<td>$ 41</td>
<td>$ 47</td>
<td>$ 48</td>
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<td>Safety Savings</td>
<td>$ 22</td>
<td>$ 23</td>
<td>$ 27</td>
<td>$ 28</td>
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<td>Sub-total</td>
<td>$ 465</td>
<td>$ 523</td>
<td>$ 597</td>
<td>$ 623</td>
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<td><strong>SUMMARY</strong></td>
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<tr>
<td>Total Costs (2015 $)</td>
<td>$ 650</td>
<td>$ 816</td>
<td>$ 1,167</td>
<td>$ 1,394</td>
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<td>Benefit - Cost Ratio</td>
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<td>GHG Emissions Savings</td>
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<td>Short Term GDP Gains</td>
<td>$ 123</td>
<td>$ 227</td>
<td>$ 399</td>
<td>$ 520</td>
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<td>Long Term GDP Gains</td>
<td>$ 16</td>
<td>$ 14</td>
<td>$ 12</td>
<td>$ 13</td>
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<td>Land Value Uplift</td>
<td>$ 80</td>
<td>$ 90</td>
<td>$ 110</td>
<td>$ 115</td>
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<td>Total Social Benefits</td>
<td>$ 221.1</td>
<td>$ 333.3</td>
<td>$ 523.1</td>
<td>$ 650.5</td>
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<td>Benefit-Cost Ratio including Social</td>
<td>1.19</td>
<td>1.16</td>
<td>1.05</td>
<td>0.99</td>
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<td>City Building and Social Community (City Image, Urban Regeneration Benefits, Catalyst for Development)</td>
<td>✔</td>
<td>✔✔</td>
<td>✔✔½</td>
<td>✔✔</td>
</tr>
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</table>

Our Rapid Transit Initiative
Preliminary Preferred Network Characteristics

- A city-wide rapid transit long term solution that is scalable in implementation
- High quality stations and corridors
- Grade separation of rapid transit from freight rail lines (Richmond Street tunnel under the CP Rail line) to limit delays
- A semi-exclusive LRT line in the highest demand corridors (North and East)
- A semi-exclusive BRT line in the lower demand corridors (South and West)
- A supporting network of feeder buses providing direct access to the rapid transit corridors
Potential Cross Sections Visuals
Potential Cross Sections Visuals
Potential Cross Sections Visuals
Potential Cross Sections Visuals
Potential Cross Sections Visuals
Rapid Transit Funding

• The new federal government has promised to investment in significant improvements to public transit across Canada

• The Province plans to allocate $15 billion dollars in public transit projects outside of the GTHA as part of the *Moving Ontario Forward* initiative

• Projects outside of the GTHA have been funded through 1/3 partnerships with the Province and Federal governments as the projects are municipally driven, owned and operated.

• City of London *Moving Ontario Forward* submission – Funding up to $1.1 billion for Rapid Transit, work together to select the right option
Rapid Transit Summary

• The City of London’s financial commitment of approximately $125 million for Rapid Transit implementations, combined with an investment from provincial and/or federal government, will facilitate significant social, economic, and environmental benefits for London and Southwestern Ontario.

• Final recommended rapid transit solution and implementation will be scalable based on available funding envelopes and financial affordability.

• The Hybrid (BRT/LRT) network alternative will be utilized as the preliminary preferred alternative for funding dialogue and the basis for the next round of community engagement and public input for the Rapid Transit Environmental Assessment.
Questions?