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MOVING LONDON FORWARD

Our Rapid Transit Initiative

STRATEGIC PRIORITIES AND POLICY COMMITTEE

NOVEMBER 9, 2015

London
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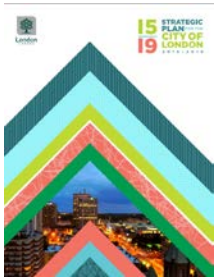
Context

- 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.

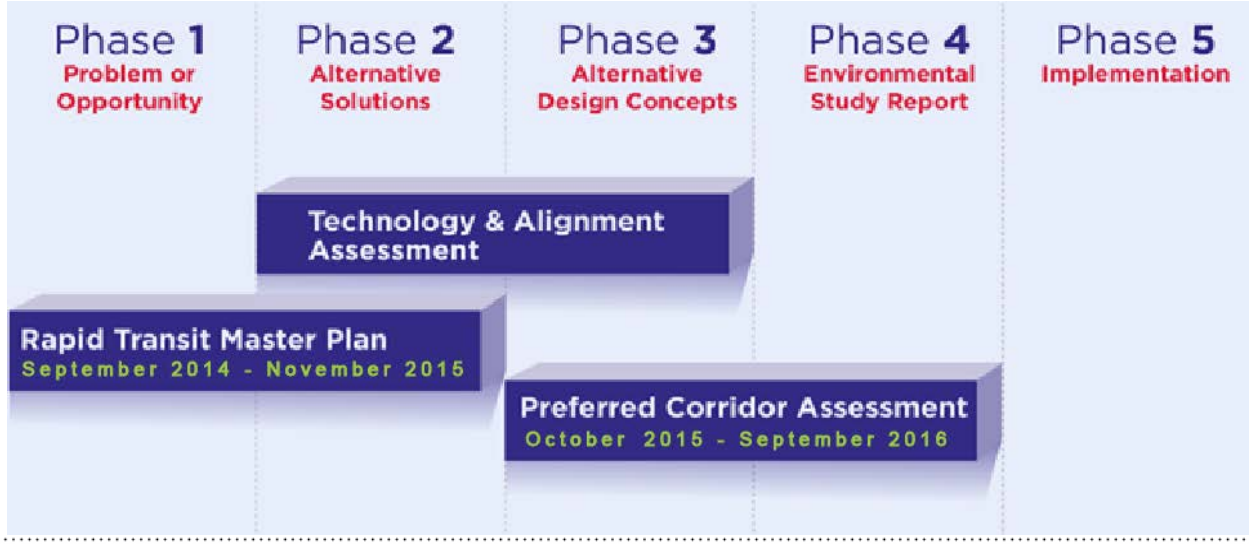
THELONDONPLAN



- 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

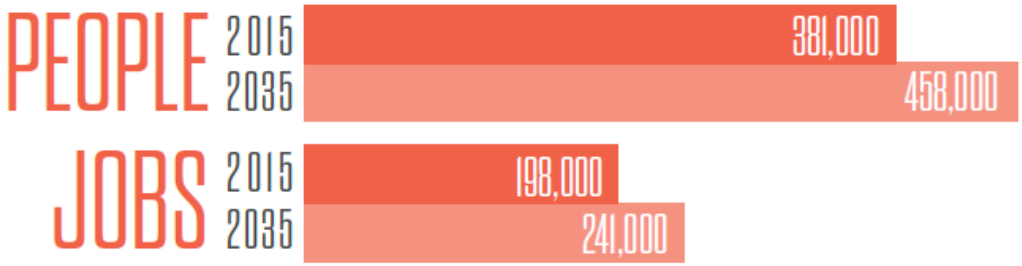
- The Rapid Transit Environmental Assessment (EA) is being undertaken to create a Rapid Transit Master Plan that adheres to the legislative requirements of the Environmental Assessment Act.
- The RT EA is progressing towards the stage of determining a preferred RT system and a network alternative based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



Rapid Transit Environmental Assessment

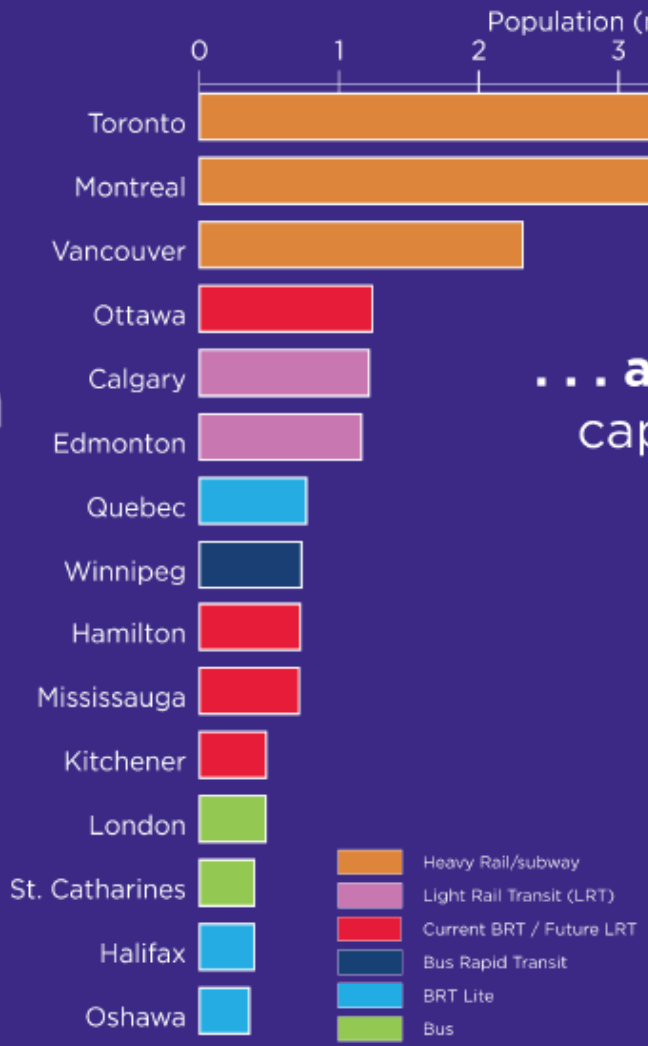
Problems and Opportunities

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



London's Integrated Mobility

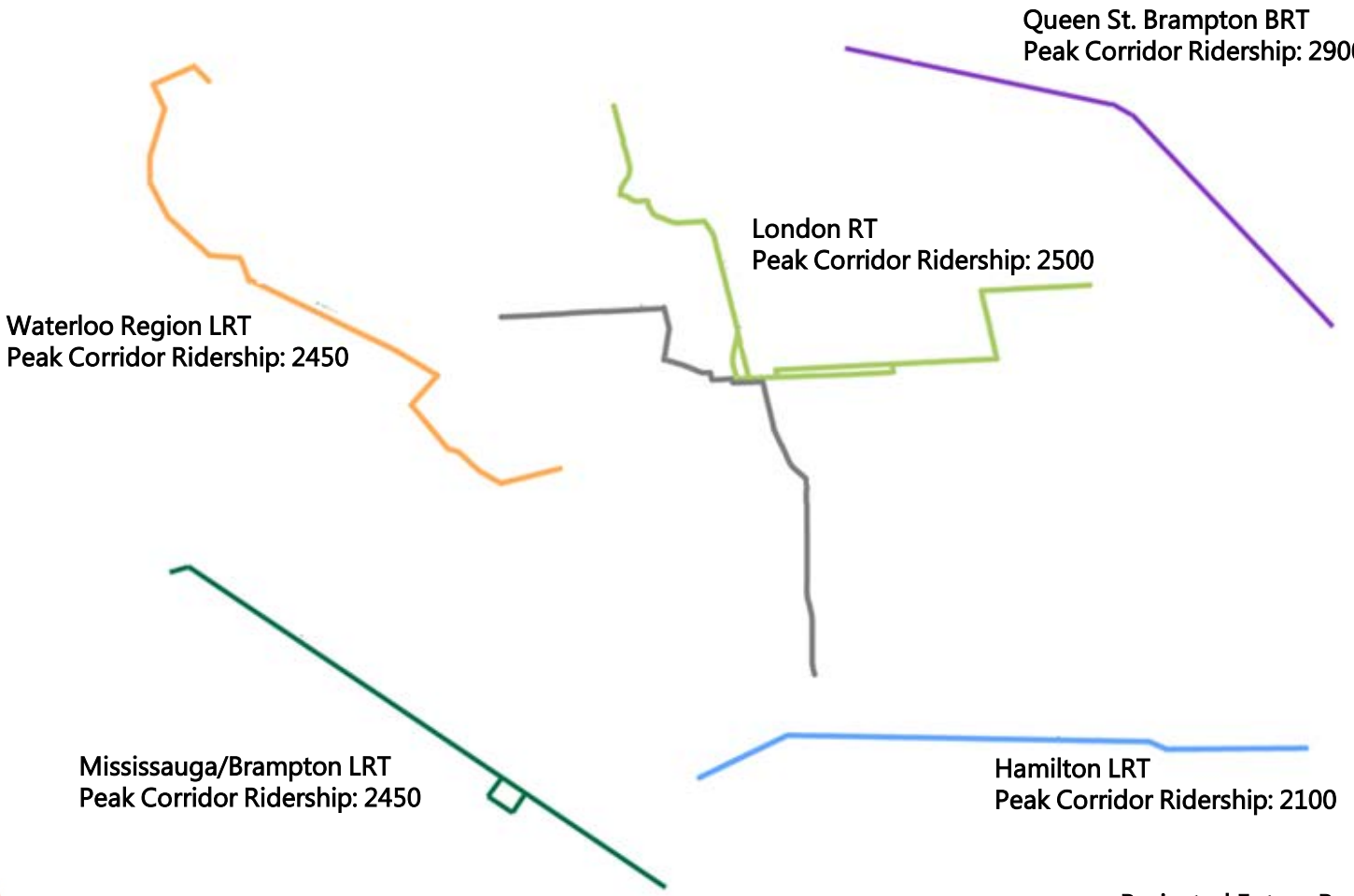
London is **Canada's largest region without Rapid Transit**



. . . and carries more riders per capita than comparable cities

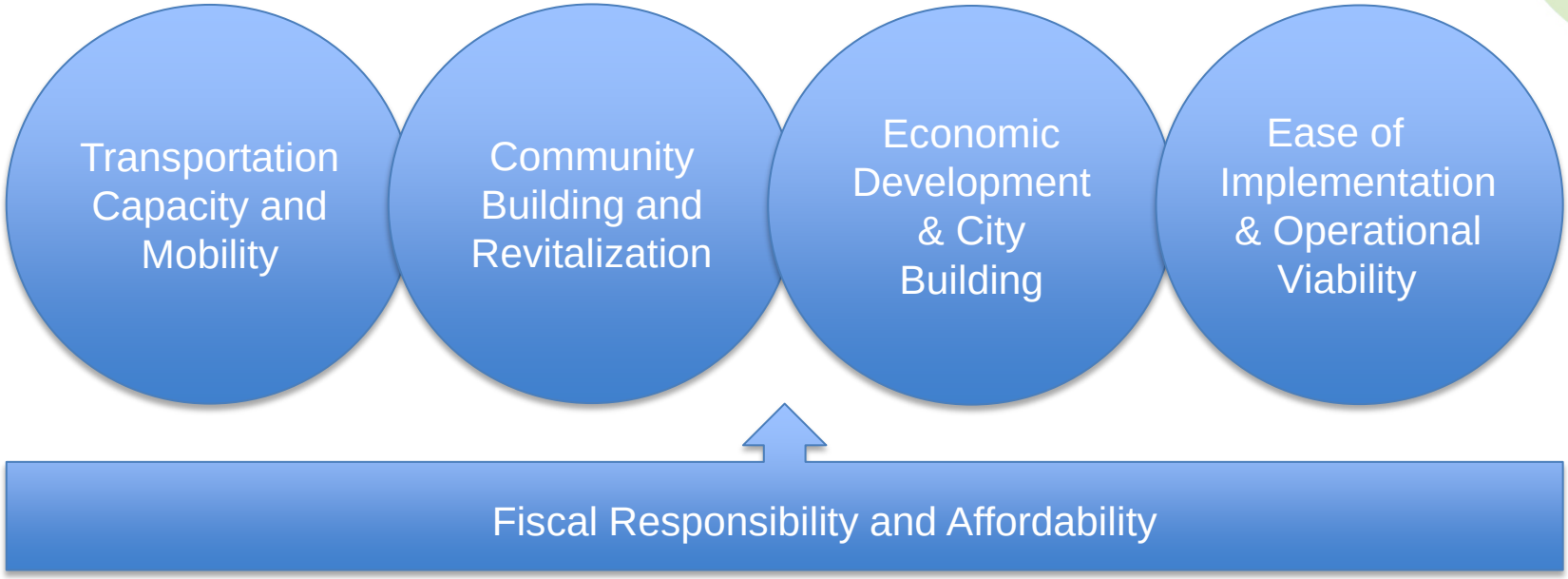
London	63 rides per capita
Mississauga	43 rides per capita
Waterloo	43 rides per capita
Hamilton	42 rides per capita
York Region	23 rides per capita

Rapid Transit System Comparisons



Projected Future Peak Corridor Ridership

Rapid Transit Guiding Principles



THE LONDON PLAN

EXCITING. EXCEPTIONAL. CONNECTED.

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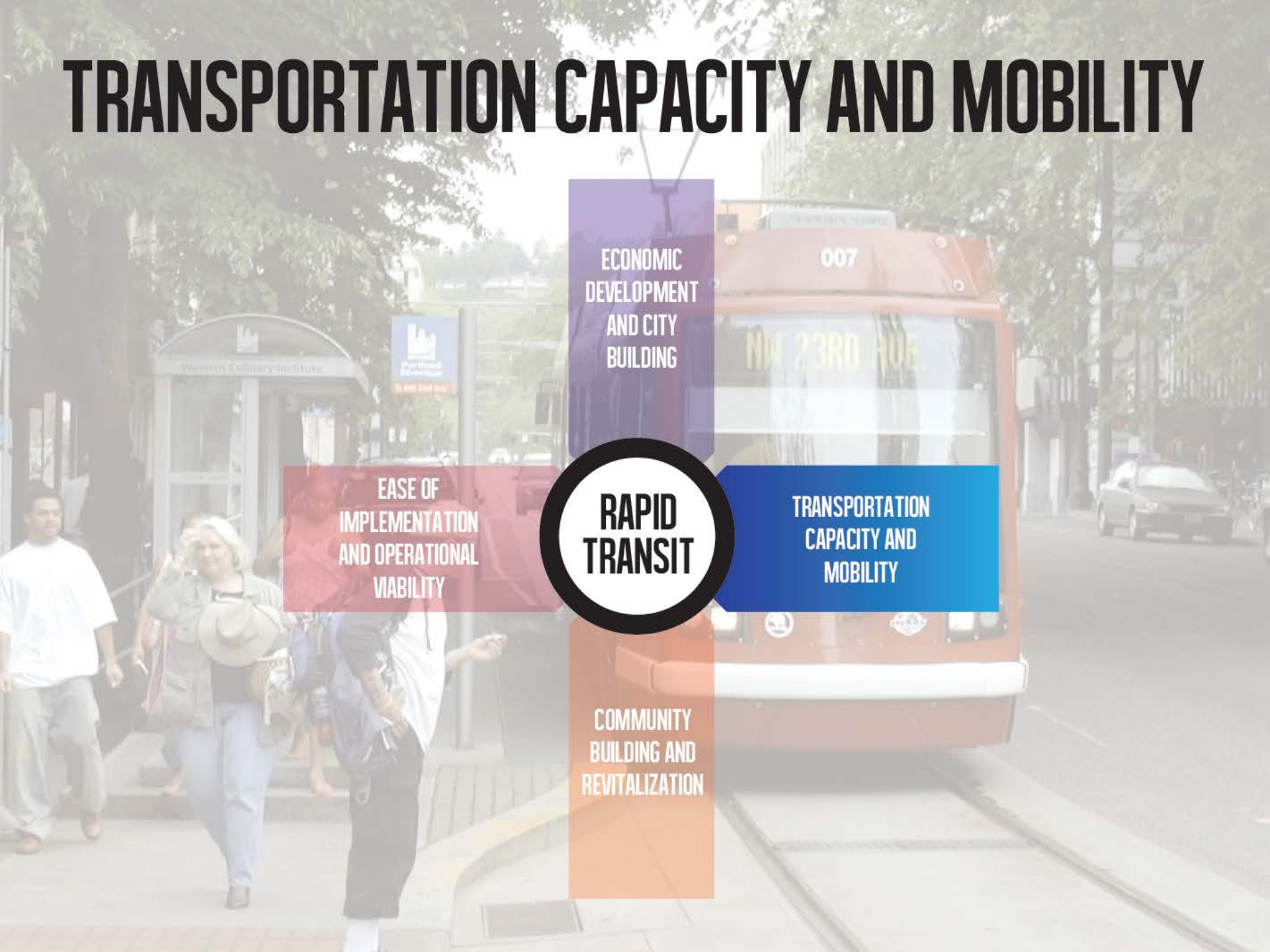
TRANSPORTATION CAPACITY AND MOBILITY



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

Shaping our City around rapid transit

Catalyst for development

Growing inward and upward

Downtown investment

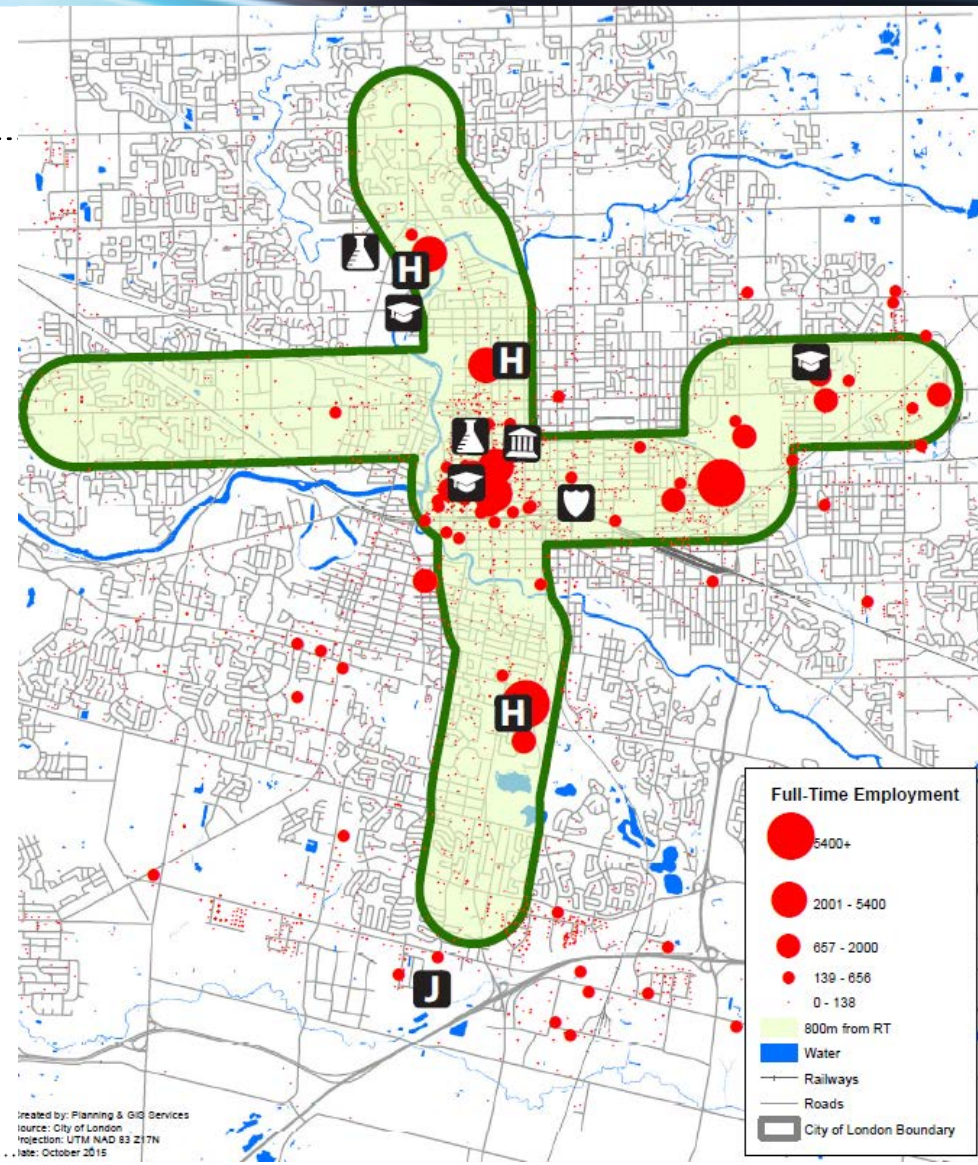
Build a mixed-use compact city

Planning a smart city

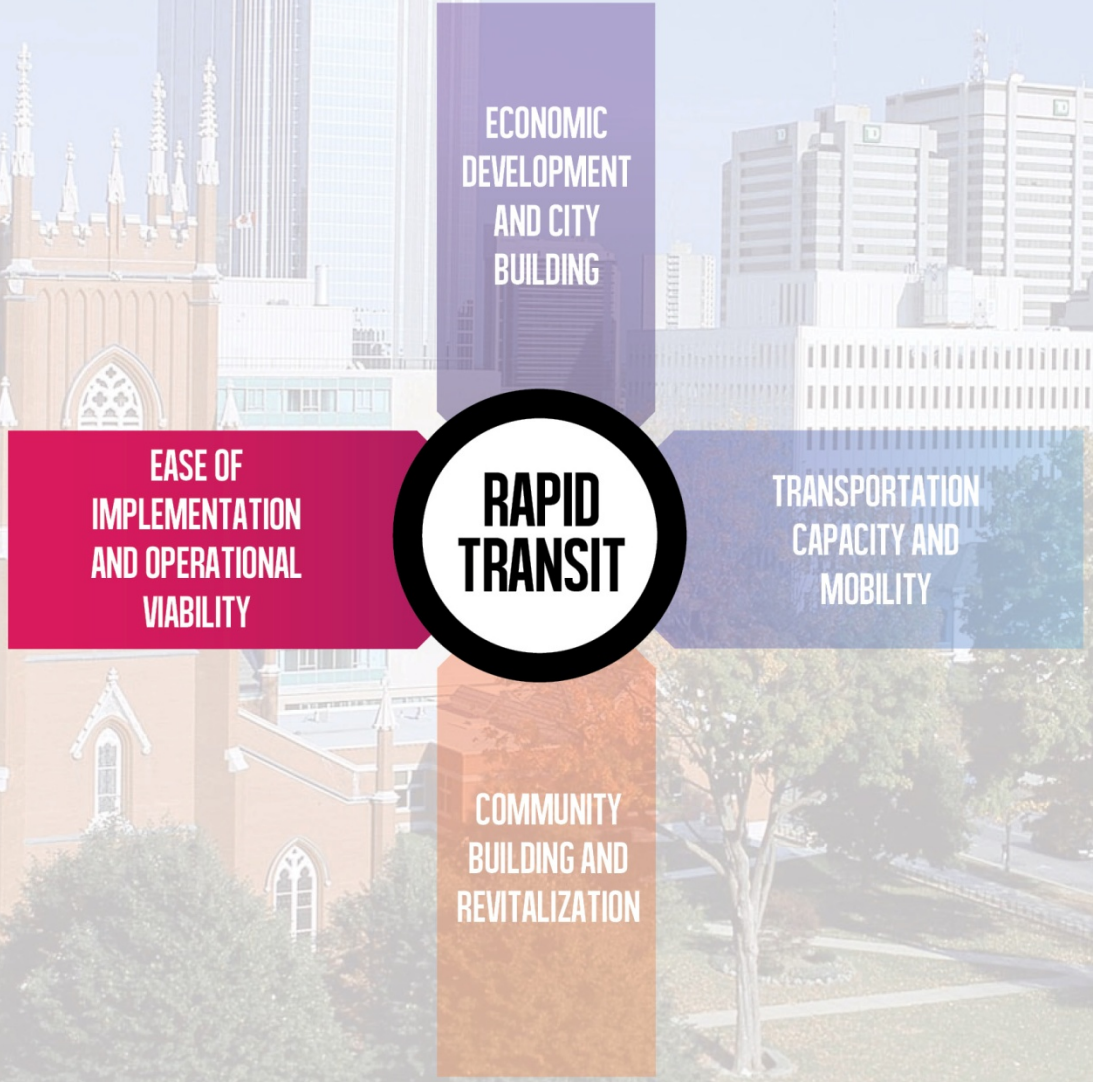
Building a city to attract talent and investment

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



Public Engagement

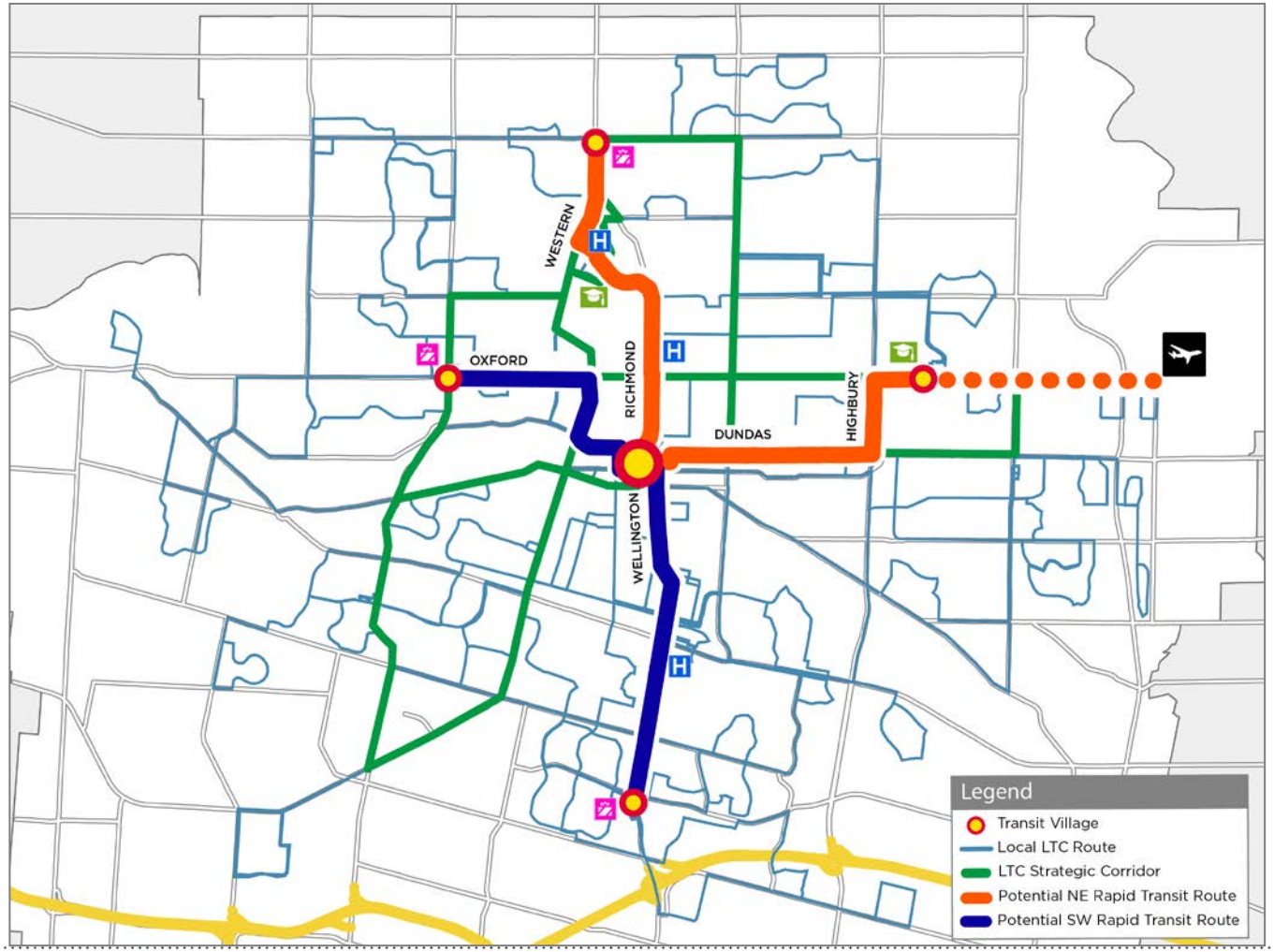
Public Engagement Initiative

- 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:

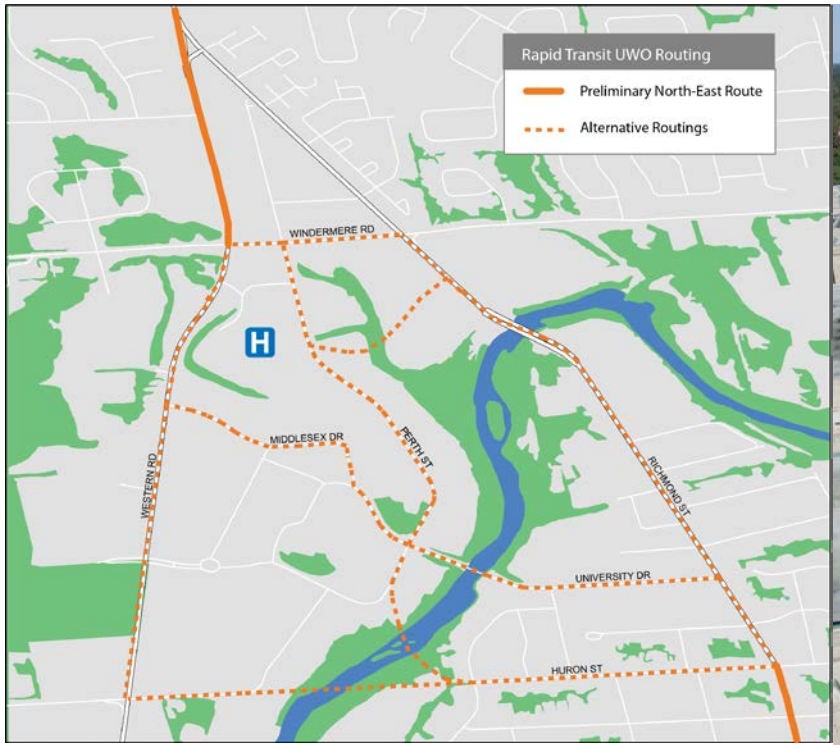
1. Fast travel time
2. Frequency
3. Walkable communities
4. Capital and Operating Costs
5. Coverage Area
6. Minimize Transfers
7. City Image
8. Comfortable Ride

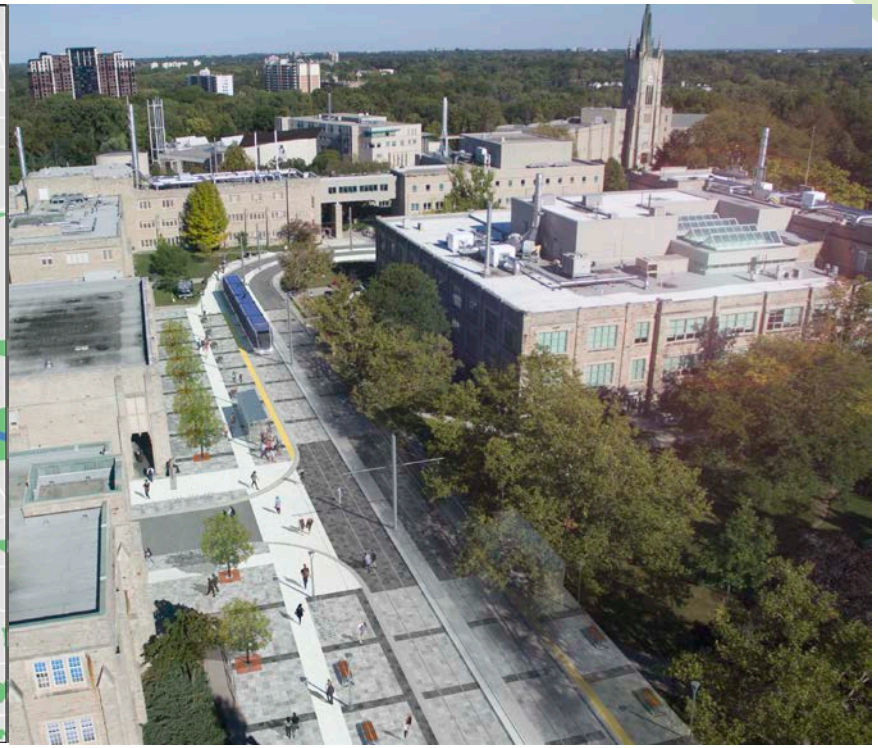
Preliminary Recommended Corridors



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.

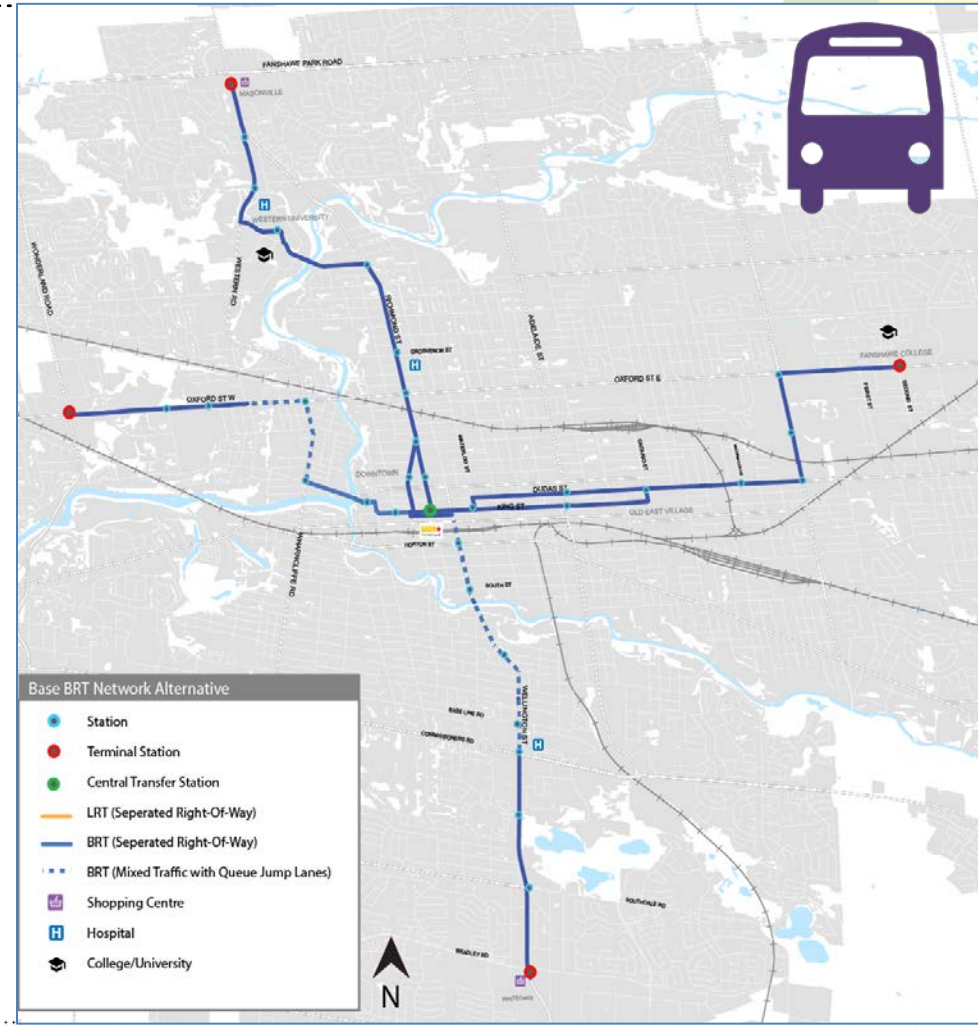
Full LRT

- This alternative incorporates a semi-exclusive LRT system along the entirety of the preferred RT route.

Network Alternatives – Base BRT

Characteristics

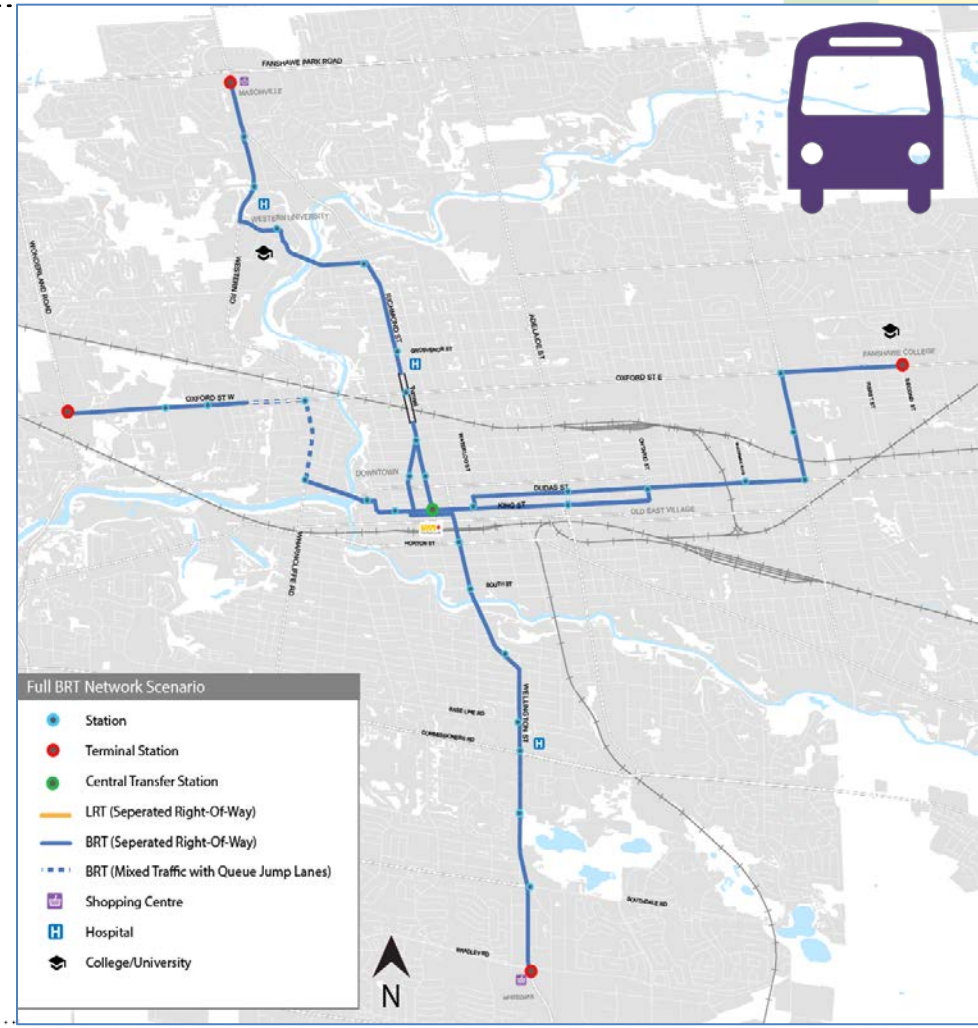
- **19** km of BRT along a semi-exclusive right-of-way
- **4.6** km of BRT in mixed traffic
- **31.4** million riders/year by 2035
- **$270** million capital cost
- **$13.8** million/year O+M costs
- **840,000** transit travel hours saved
- **12** million auto vehicle km saved
- Moderate potential impact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



Network Alternatives – Full BRT

Characteristics

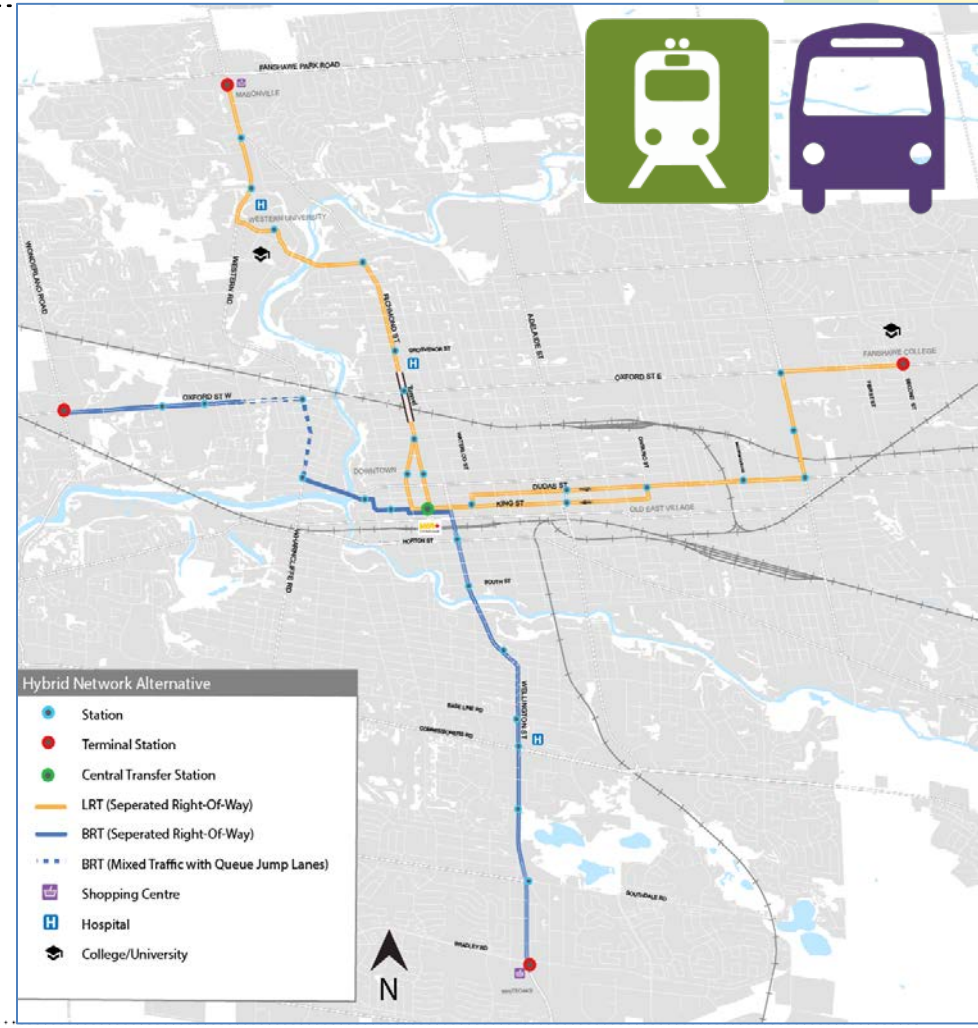
- **22** km of BRT along a semi-exclusive right-of-way
- **1.6** km of BRT mixed traffic
- **31.6** million riders/year by 2035
- **$500** million capital costs
- **$12.2** million/year O+M costs
- **985,000** transit travel hours saved
- **12.9** million auto vehicle km saved
- Moderate potential impact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



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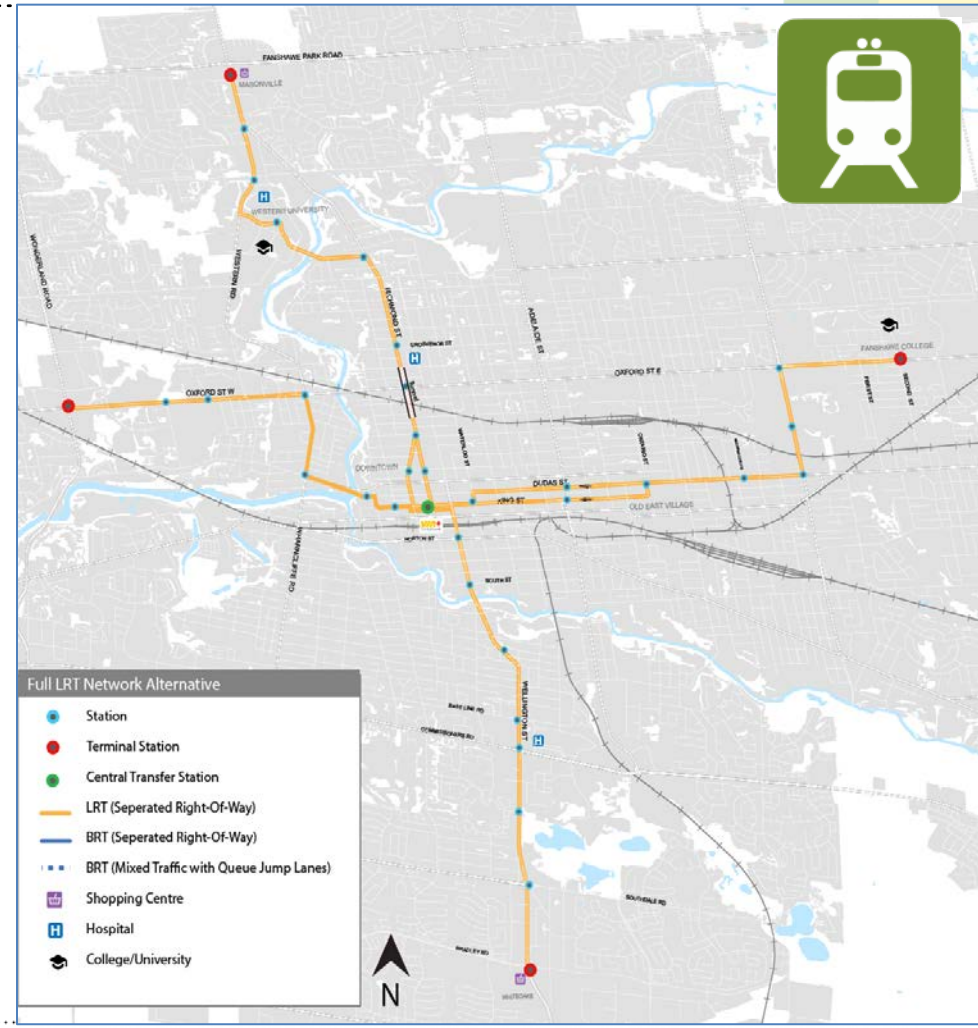
Network Alternatives – Full LRT

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

Criteria	Base BRT	Full BRT	Hybrid	Full LRT
Capital Cost				
Operating Cost				
Economic Development and City Building				
Transportation Capacity and Mobility				
Community Building and Revitalization				
Ease of Implementation and Operational Viability				

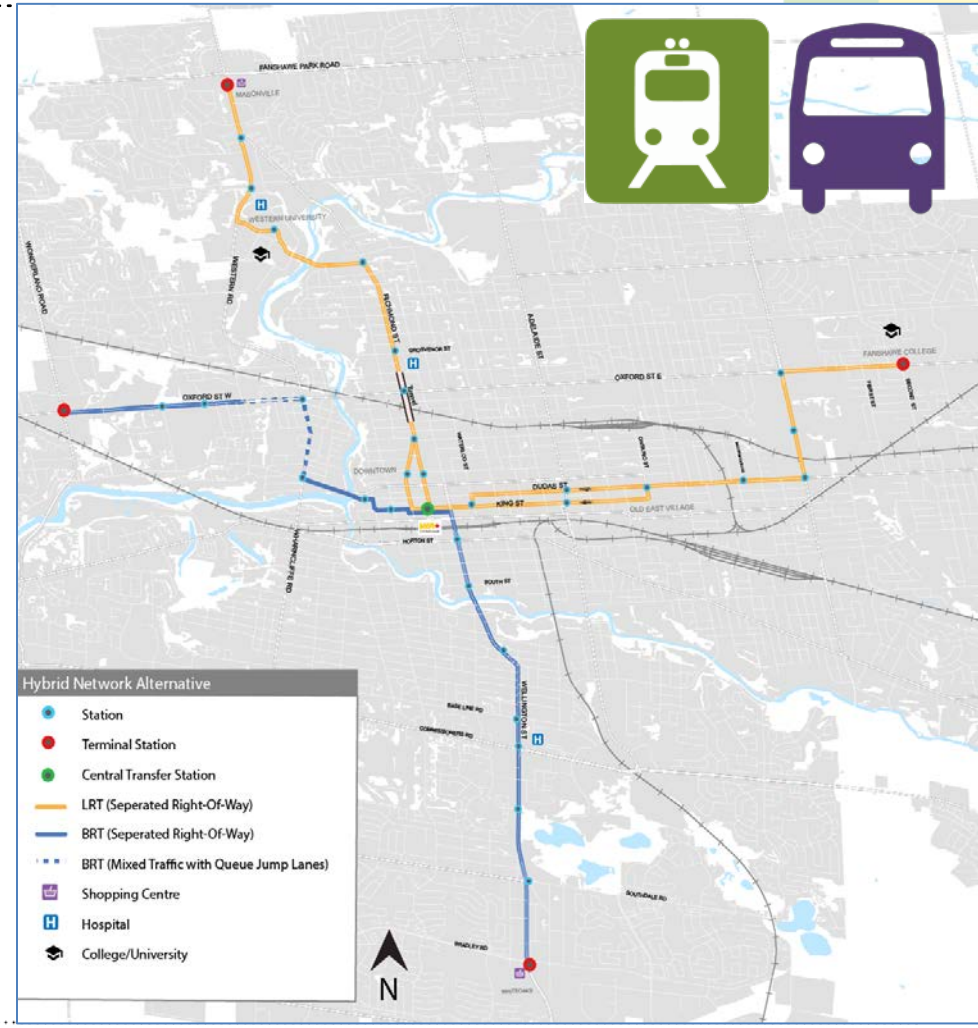
Base BRT, Full BRT, and Hybrid are viable rapid transit solutions and an enhancement to the current transit system.

Benefits Case

Description	Base BRT	Full BRT	Hybrid	Full LRT
COSTS - FINANCIAL ACCOUNT				
Capital Costs (CAPEX)	$ 280	$ 497	$ 880	$ 1,142
Operating Costs to 2049	$ 370	$ 319	$ 287	$ 252
Total Costs	$ 650	$ 816	$ 1,167	$ 1,394
BENEFITS - AGENCY				
Additional Fares	$ 84.65	$ 90.88	$ 103.33	$ 106.45
BENEFITS - TRANSPORTATION USERS				
Auto User Time Savings	$ 112	$ 114	$ 114	$ 119
Transit User Time Savings	$ 292	$ 344	$ 409	$ 429
Auto Operating Cost Savings	$ 38	$ 41	$ 47	$ 48
Safety Savings	$ 22	$ 23	$ 27	$ 28
Sub-total	$ 465	$ 523	$ 597	$ 623
SUMMARY				
Total Costs (2015 $)	$ 650	$ 816	$ 1,167	$ 1,394
Total Benefits Transportation User and Agency Benefits(2015 $)	$ 550	$ 614	$ 700	$ 730
Benefit - Cost Ratio	0.85	0.75	0.60	0.52
SOCIAL BENEFITS - ENVIRONMENTAL				
GHG Emissions Savings	$ 2.03	$ 2.18	$ 2.47	$ 2.55
SOCIAL BENEFITS - ECONOMIC DEVELOPMENT				
Short Term GDP Gains	$ 123	$ 227	$ 399	$ 520
Long Term GDP Gains	$ 16	$ 14	$ 12	$ 13
Land Value Uplift	$ 80	$ 90	$ 110	$ 115
Total Social Benefits	$ 221.1	$ 333.3	$ 523.1	$ 650.5
Benefit-Cost Ratio including Social	1.19	1.16	1.05	0.99
City Building and Social Community (City Image, Urban Regeneration Benefits, Catalyst for Development)	✔	✔✔	✔✔½	✔✔✔

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



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Potential Cross Sections Visuals

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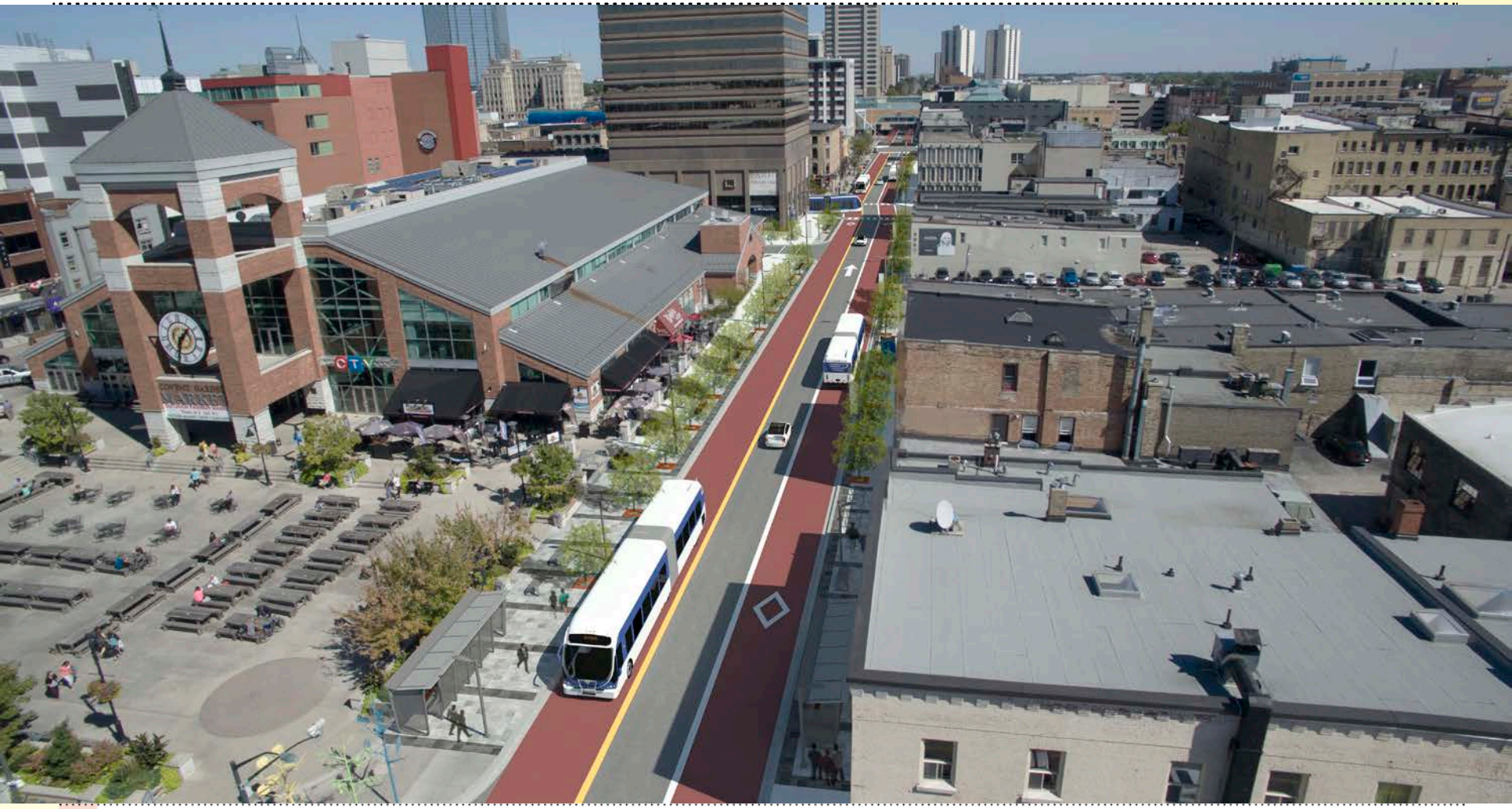
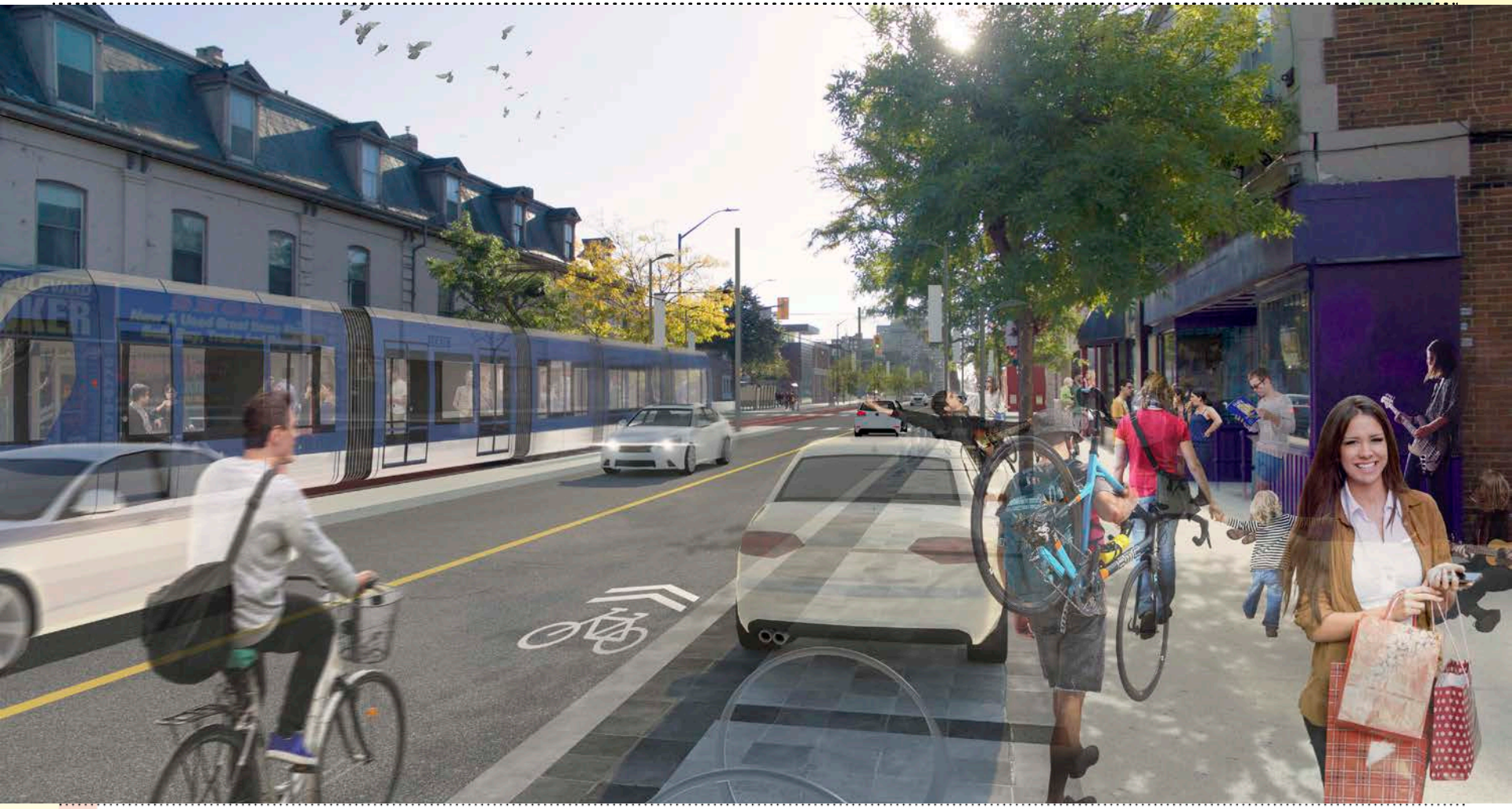
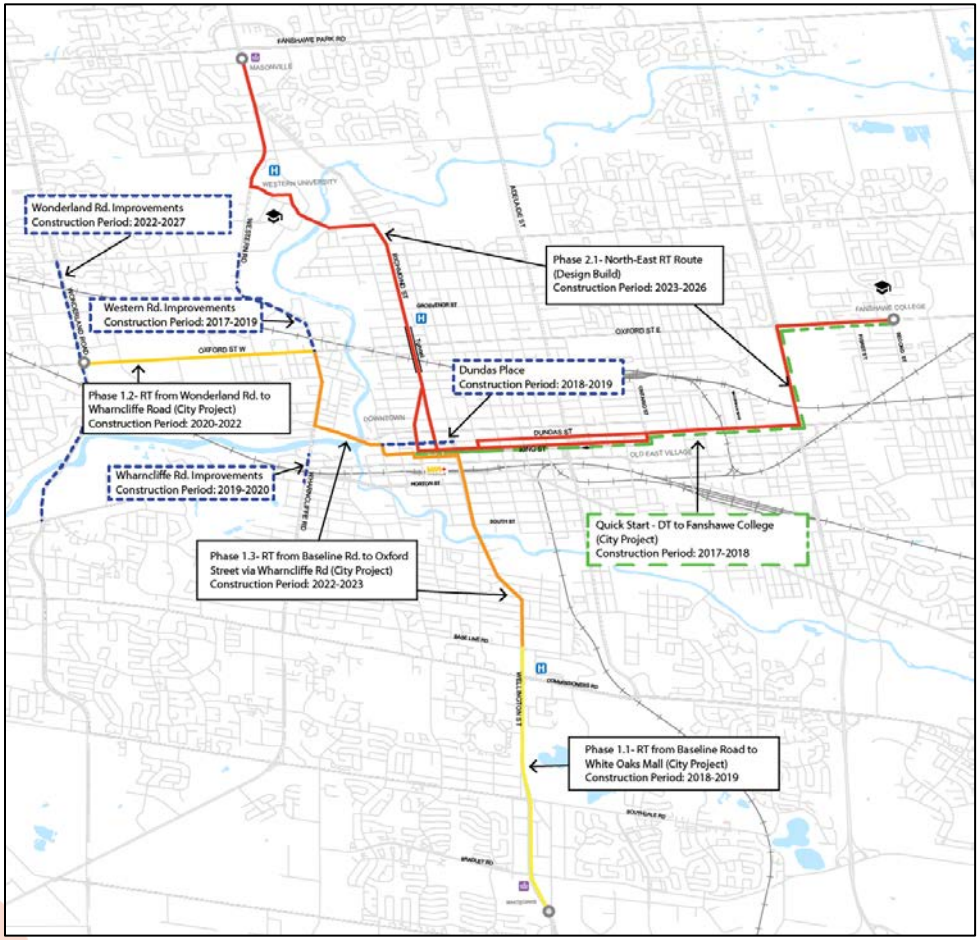


Potential Cross Sections Visuals



Potential Project Phasing (subject to funding)



Project	Year
Rapid Transit Projects	
Quick Start	2017-2018
Wellington Street, South of Baseline Road	2018-2019
Oxford Street West	2020-2022
Wharncliffe Road	2022-2023
Wellington Street, North of Baseline Road	2022-2023
North-East RT Route	2023-2026
Related Improvements to the Road Network	
Western Road	2017-2019
Dundas Place	2018-2019
Wonderland Road	2022-2027

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.