

# Rapid Transit Implementation Working Group

## Report

4th Meeting of the Rapid Transit Implementation Working Group  
July 5, 2018  
Council Chambers

Attendance PRESENT: S. Rooth (Chair), Mayor M. Brown, Councillors J. Helmer, and H.L. Usher; D. Sheppard and E. Southern, and B. Westlake-Power (Acting Secretary).

ABSENT: Councillors P. Hubert , T. Park, M. van Holst and P. Squire.

ALSO PRESENT: A. Kemick, K. Paleczny, A. Rammeloo, J. Ramsay, M. Ribera, A. Rosebrugh and K. Scherr.

The meeting was called to order at 4:59 PM.

### 1. Call to Order

#### 1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

### 2. Scheduled Items

#### 2.1 J. Ramsay, Project Director - Bus Rapid Transit Project Updates

That it BE NOTED that the Bus Rapid Transit Project Update presentation from J. Ramsay, Project Director, as included on the July 5, 2018 Rapid Transit Implementation Working Group Agenda, was received.

#### 2.2 Josipa Petronic - Executive Director and CEO of the Canadian Urban Transit Research and Innovation Consortium (CUTRIC)

That it BE NOTED that the attached presentation from J. Petronic, Executive Director and CEO of the Canadian Urban Transit Research and Innovation Consortium (CUTRIC), with respect to the Pan-Canadian Electric Bus Demonstration and Integration Trial: Phase I, was received.

### 3. Consent

#### 3.1 3rd Report of the Rapid Transit Implementation Working Group

That it BE NOTED that the 3rd Report of the Rapid Transit Implementation Work Group, from its meeting held on March 8, 2018, was received.

### 4. Items for Discussion

#### 4.1 Briefing Package - Upcoming Public Consultation for London's Bus Rapid Transit System

That it BE NOTED that the Briefing Package with respect to the Upcoming Public Consultation for London's Bus Rapid Transit System, from J. Ramsay, Project Director, was received.

### 5. Deferred Matters/Additional Business

#### 5.1 Update on Proposed Audit - Rapid Transit Project

That it BE NOTED that a verbal update from K. Scherr, Managing Director Environmental & Engineering Services and City Engineer, with respect to the rescheduling of the proposed internal audit of the Rapid Transit Project, on the recommendation of the outsourced internal auditor, was received; it being noted that the adjusted schedule is expected to better align to milestones the audit was originally matched to.

**6. Adjournment**

The meeting adjourned at 6:19 PM.

# **Bus Rapid Transit** Project

Update

July 5, 2018





# Today's presentation

- TPAP consultation
- Continuing community engagement
- Other ongoing BRT work
- Introducing guest from CUTRIC





# Key Decisions

- January 2015  
Work starts on Rapid Transit Master Plan (RTMP)
- May 2017  
Council approves BRT network
- July 2017  
Council approves RTMP and Business Case
- May 8, 2018  
Council approves BRT design



# Transit Project Assessment Process

**120 Days**

## **TPAP Consultation Period**

- Consult with the public, property owners, businesses, regulatory agencies and First Nations communities.
- Prepare final Environmental Project Report.

**30 Days**

## **Public Review**

**35 Days**

## **Minister Review**



# What's Next

- Spring/Summer 2018  
Technical review of EPR and beginning of TPAP
- Spring/Summer 2018  
Ongoing public consultation
- Fall 2018  
30-day public review of Final EPR
- Fall 2018  
35 days for Minister to review the project

## Focus of consultation

What type of Rapid Transit system?  
2015/2016

Where will Rapid Transit run?  
2017

How will it work?  
Late 2017

Recommended design  
Spring 2018

Fine tune approved design  
Summer 2018

Detailed design  
2019

WE ARE  
HERE

# How Londoners Shape brt

- TPAP consultation  
2 public events and 10 “Transit Tuesday” sessions to give feedback on Council-approved designs
- Up next  
Individual and neighbourhood consultations to develop detailed design



# FOCUS OF CONSULTATION

- Review approved BRT plans, ask questions and share ideas to help fine tune the designs
- Provide feedback on the Draft Environmental Report
- Learn more about matters that are of interest to the Province and how to give feedback on these issues





# How we're engaging

- 12 opportunities
- Hosted 2 open houses on June 21
  - 111 Londoners participated
- Transit Tuesdays from July 10 – Sept. 11
- Virtual experience: [londonbrtmap.ca](http://londonbrtmap.ca)
- Email/phone/social





# HOW-TO VIDEO

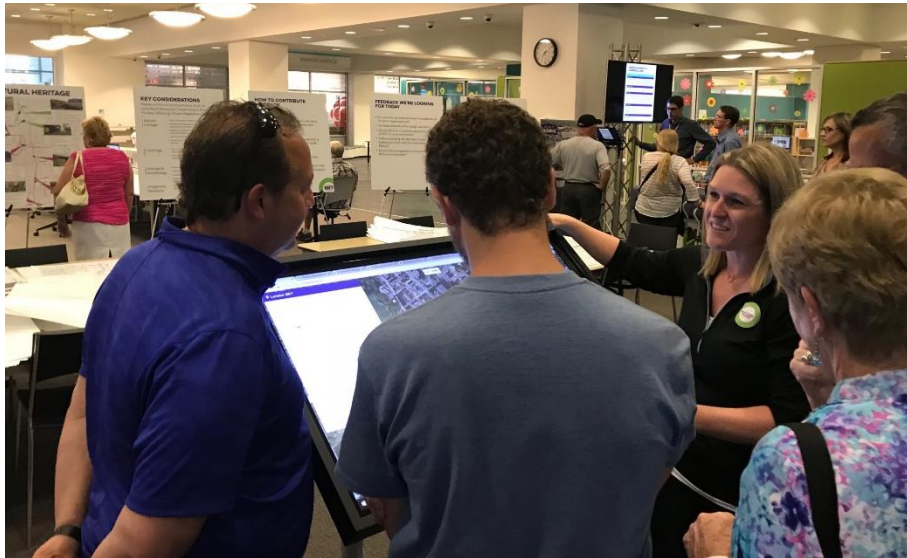
- Explains how Londoners can help fine tune BRT designs
- Played at consultation events and shared online



# What to expect

- BRT basics
- Approved BRT design
- Technical studies
- Matters of Provincial Interest





# The Virtual Experience

- Available online ([londonbrtmap.ca](https://londonbrtmap.ca)), at upcoming open houses, and during Transit Tuesdays
- 138 comments received to date





# ONGOING ENGAGEMENT

- Social media
- Toolkit
- Ongoing stakeholder engagement



# The Toolkit

- Available for distribution through digital and hard copy format





# Other brt business

- Provincial Transfer Payment Agreement
- Infrastructure Ontario
- Safety audit
- Rail crossing feasibility study



# Tpap questions?



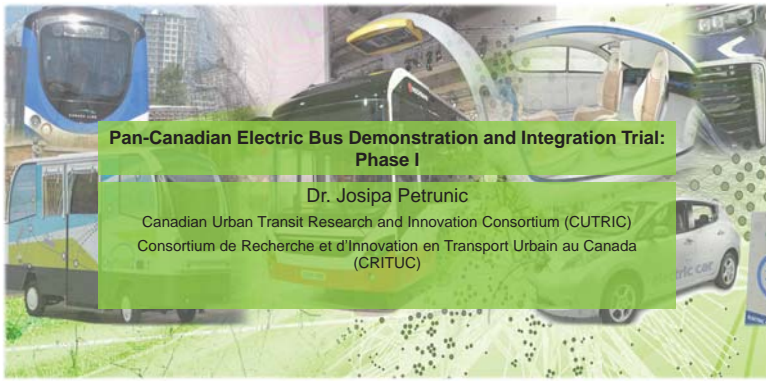




**CUTRIC-CRITUC**

**Dr. Josipa Petrunic  
Executive Director &  
CEO**



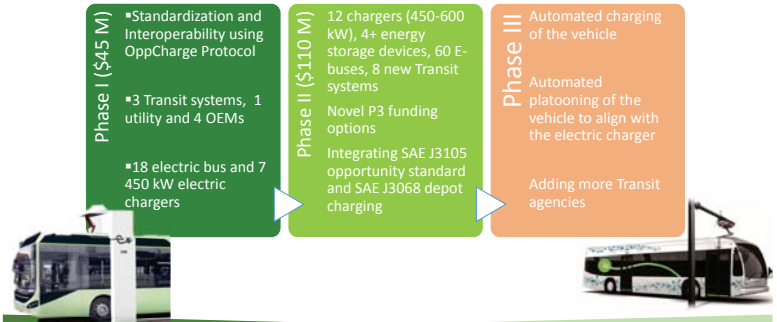


**Pan-Canadian Electric Bus Demonstration and Integration Trial: Phase I**

Dr. Josipa Petronic  
 Canadian Urban Transit Research and Innovation Consortium (CUTRIC)  
 Consortium de Recherche et d'Innovation en Transport Urbain au Canada (CRITUC)



**Pan-Canadian Electric Bus Demonstration & Integration Technology Trial: Outcomes Phases I, II, III**



**Pan-Canadian Electric Bus Demonstration and Integration Trial: Phase I: Project Planning and Launch Video**

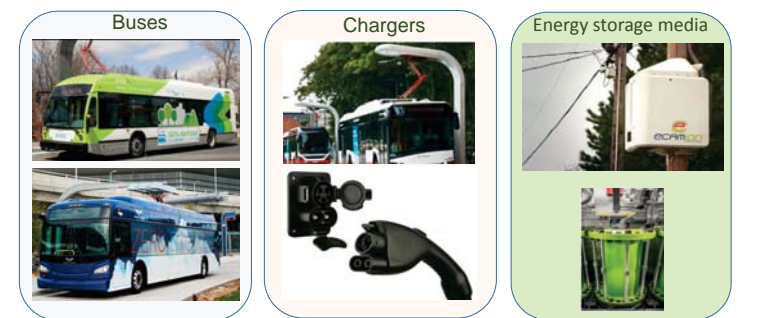
**Project Partners: Phase I (2017 – 2020)**



**Pan-Canadian Electric Bus Demonstration & Integration Trial: Phase I**



**Technologies in Focus for E-Bus Phase II**



## Transit Partners for E-Bus Phase II



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

10

## Prospective OEM and Utility Partners for Phase II



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

11

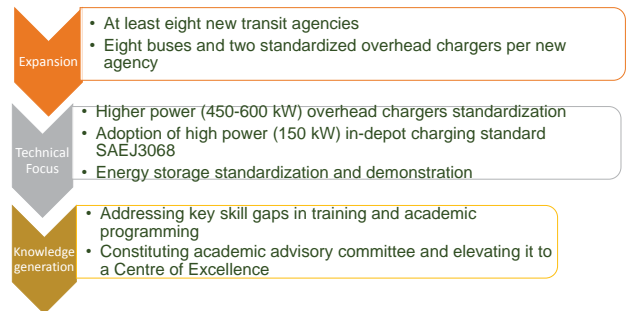
## Prospective Academic Partners for Phase II



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

12

## Scope for E-Bus Phase II



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

13

## Techno-economic modelling of an electric bus demonstration project in London Ontario Fast Transit Route "7" & "L"

Anaïssia Franca  
Dr. Yutian Zhao  
Dr. Garret Duffy  
Dr. Anahita Jami  
Dr. Josipa Petrunic

Canadian Urban Transit Research and Innovation Consortium (CUTRIC)  
Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC)  
July 5<sup>th</sup>, 2018

## Outline

- Routes and duty cycles
- E-bus energy consumption and SOC calculations
- Charging infrastructure simulation
- Comparative simulation of diesel bus fuel consumption
- Electricity costs estimations, simulation results and emissions calculation for each route
- GHG emission savings

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

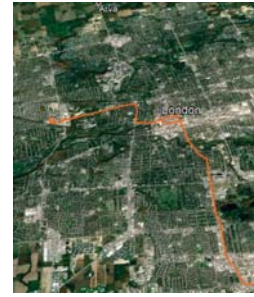


\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*

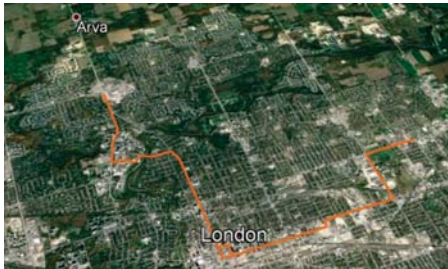


# Routes and duty cycles

## Route "7" map (28.6 km RT)



## Route "L" map (29.2 km RT)



## Route statistics

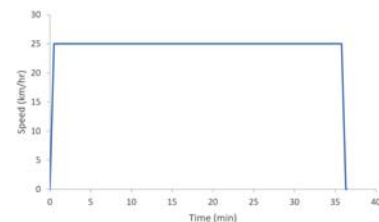
Name of route	Length of the route round trip (km)	Estimated time to complete the route round trip (min)
London route "7"	28.6	~ 70
London route "L"	29.2	~ 70

## Model the route elevation profile & topography

- Used Google Earth to define the path (.kml files)
- Calculated the distances between the nodes
- Used a DEM (Digital Elevation Model) database to obtain the raw data for elevations
- Used filtration/smoothing to obtain realistic road grades (multiple steps of Savitzky-Golay filter)

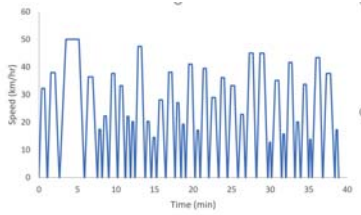
## Route L (29.2 km RT) - Duty cycles development

- Light duty cycle (1 driver, no auxiliary load)
  - Constant velocity, no stop



## Route L (29.2 km RT) - Duty cycles development

- Medium duty cycle (half full passenger load, half auxiliary load)
  - Stop for all scheduled (major) bus stops
  - Additional stops at 50 % of other stops: randomly selected from all the traffic lights, stops signs, passenger walks and other (unscheduled) bus stops

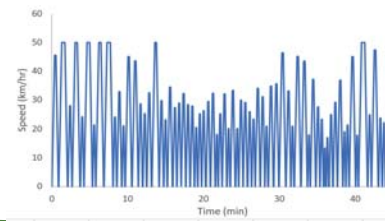


\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



## Route L (29.2 km RT) - Duty cycles development

- Heavy duty cycle (full passenger load, full auxiliary load)
  - Stop for all bus stops (scheduled/unscheduled), traffic lights, stop signs and additional stopping for pedestrians



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



## E-bus energy consumption and SOC calculations

### Key variables affecting the energy consumption

- Weight of the vehicle
- Auxiliary load
- Tire rolling coefficient
- Regenerative braking usage
- Gear ratio

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



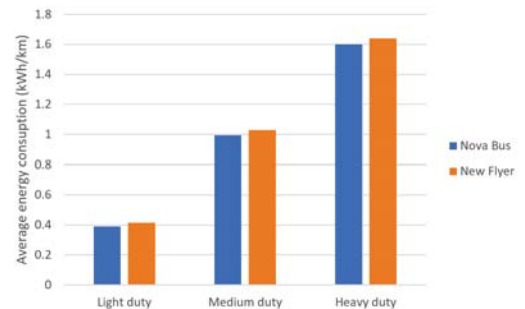
\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



## Ebus energy consumption and charging power calculations

- Used in-house Matlab and Python code
- Physical characteristics of 12m New Flyer XE40 and a 12m Nova Bus LFSE
- Accounted for variation in topography
- Regenerative braking power split: 35%
- Constant accessory draw
  - Heavy duty cycle: 10,000 W
  - Medium duty cycle: 5,000 W
  - Light duty cycle: 0 W

## Average energy consumption Route "7" (28.6 km RT) with Nova Bus (76 kWh) & New Flyer (200 kWh)



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.\*



### State of Charge (SOC) - Route "7" (28.6 km RT) with Nova Bus (76 kWh)

	South to West				West to South			
	kWh per km	Total kWh used	SOC at route end		kWh per km	Total kWh used	SOC at route end	
			5 % buffer	10% buffer			5 % buffer	10 % buffer
Light duty	0.4	5.79	87.0%	82.0%	0.38	5.45	87.5%	82.5%
Medium duty	0.99	14.29	75.2%	70.2%	1.0	14.3	75.2%	70.2%
Heavy duty	1.6	23.04	63.1%	58.1%	1.6	23.0	63.1%	58.1%

Note: Ideal battery initial SOC = 100%, 5 % buffer initial SOC = 95%, 10 % buffer initial SOC = 90 %



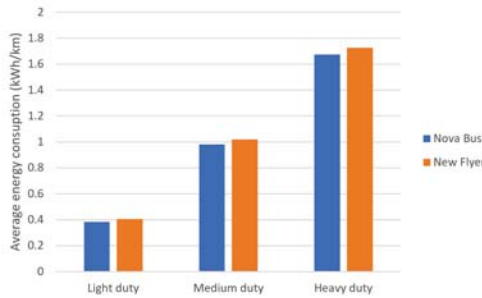
### State of Charge (SOC) - Route "7" (28.6 km RT) with New Flyer (200 kWh)

	South to West				West to South			
	kWh per km	Total kWh used	SOC at route end		kWh per km	Total kWh used	SOC at route end	
			5 % buffer	10% buffer			5 % buffer	10 % buffer
Light duty	0.43	6.12	91.8%	86.8%	0.4	5.73	92.0%	87.0%
Medium duty	1.03	14.82	87.2%	82.2%	1.03	14.76	87.2%	82.2%
Heavy duty	1.64	23.63	82.6%	77.6%	1.64	23.58	82.6%	77.6%

Note: Ideal battery initial SOC = 100%, 5 % buffer initial SOC = 95%, 10 % buffer initial SOC = 90 %



### Energy consumption Route "L" (29.2 km RT) with New Flyer (200 kWh)



### State of Charge (SOC) - Route "L" (29.2 km RT) with Nova Bus (76 kWh)

	East to North direction				North to East direction			
	kWh per km	Total kWh used	SOC at route end		kWh per km	Total kWh used	SOC at route end	
			5 % buffer	10% buffer			5 % buffer	10 % buffer
Light duty	0.35	5.17	87.8%	82.8%	0.42	6.1	86.5%	81.5%
Medium duty	0.95	13.94	75.7%	70.7%	1.01	14.79	74.5%	69.5%
Heavy duty	1.66	24.19	61.5%	56.5%	1.69	24.74	60.7%	55.7%

Note: Ideal battery initial SOC = 100%, 5 % buffer initial SOC = 95%, 10 % buffer initial SOC = 90 %



### State of Charge (SOC) - Route "L" (29.2 km RT) with New Flyer (200 kWh)

	East to North direction				North to East direction			
	kWh per km	Total kWh used	SOC at route end		kWh per km	Total kWh used	SOC at route end	
			5 % buffer	10% buffer			5 % buffer	10 % buffer
Light duty	0.37	5.45	92.1%	87.1%	0.44	6.45	91.6%	86.6%
Medium duty	0.99	14.41	87.4%	82.4%	1.05	15.27	87.0%	82.0%
Heavy duty	1.71	24.91	81.9%	76.9%	1.74	25.44	81.6%	76.6%

Note: Ideal battery initial SOC = 100%, 5 % buffer initial SOC = 95%, 10 % buffer initial SOC = 90 %



## Charging infrastructure simulation



## Electricity demand – Route “7” (28.6 km RT) Nova Bus (76 kWh) 450 kW charger

	South to West direction						West to South direction					
	Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%		Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%	
	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Endpoint charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)
Light duty	0.77	5.79	<b>0.89</b>	6.7	1.09	8.16	0.73	5.45	<b>0.84</b>	6.31	1.02	7.68
Medium duty	1.91	14.31	<b>2.21</b>	16.55	2.69	20.15	1.91	14.32	<b>2.21</b>	16.56	2.69	20.16
Heavy duty	3.08	23.07	<b>3.56</b>	26.68	4.33	32.49	3.07	23.02	<b>3.55</b>	26.63	4.32	32.43

Note: Ideal charging: the energy from the grid goes straight to the battery  
 Typical efficiency: 86% of the energy from the grid goes to the battery (91% charger efficiency, 95 % battery management system efficiency)  
 Worst case efficiency: 71% of the energy from the grid goes to the battery

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Electricity demand – Route “7” (28.6 km RT) New Flyer (200 kWh) 450 kW charger

	South to West direction						West to South direction					
	Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%		Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%	
	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Endpoint charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)
Light duty	0.82	6.12	<b>0.94</b>	7.08	1.15	8.63	0.77	5.74	<b>0.89</b>	6.64	1.08	8.08
Medium duty	1.98	14.84	<b>2.29</b>	17.16	2.79	20.9	1.97	14.77	<b>2.28</b>	17.08	2.77	20.8
Heavy duty	3.15	23.65	<b>3.65</b>	27.36	4.44	33.31	3.15	23.61	<b>3.64</b>	27.31	4.43	33.25

Note: Ideal charging: the energy from the grid goes straight to the battery  
 Typical efficiency: 86% of the energy from the grid goes to the battery (91% charger efficiency, 95 % battery management system efficiency)  
 Worst case efficiency: 71% of the energy from the grid goes to the battery

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Electricity demand – Route “L” (29.2 km RT) Nova Bus (76 kWh) 450 kW charger

	East to North direction						North to East direction					
	Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%		Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%	
	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Endpoint charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)
Light duty	0.69	5.17	<b>0.8</b>	5.98	0.97	7.28	0.81	6.11	<b>0.94</b>	7.06	1.15	8.6
Medium duty	1.86	13.96	<b>2.15</b>	16.15	2.62	19.66	1.97	14.8	<b>2.28</b>	17.13	2.78	20.85
Heavy duty	3.23	24.21	<b>3.73</b>	28.0	4.55	34.1	3.3	24.76	<b>3.82</b>	28.64	4.65	34.88

Note: Ideal charging: the energy from the grid goes straight to the battery  
 Typical efficiency: 86% of the energy from the grid goes to the battery (91% charger efficiency, 95 % battery management system efficiency)  
 Worst case efficiency: 71% of the energy from the grid goes to the battery

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Electricity demand – Route “L” (29.2 km RT) New Flyer (200 kWh) 450 kW charger

	East to North direction						North to East direction					
	Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%		Ideal charging 100 %		Typical efficiency 86 %		Worst case efficiency 71%	
	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Endpoint charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)	Charging time (min)	Energy from the grid (kWh)
Light duty	0.73	5.46	<b>0.84</b>	6.31	1.03	7.69	0.86	6.46	<b>1.0</b>	7.47	1.21	9.09
Medium duty	1.92	14.43	<b>2.23</b>	16.69	2.71	20.32	2.04	15.28	<b>2.36</b>	17.68	2.87	21.53
Heavy duty	3.32	24.93	<b>3.85</b>	28.84	4.68	35.12	3.4	25.47	<b>3.93</b>	29.46	4.78	35.87

Note: Ideal charging: the energy from the grid goes straight to the battery  
 Typical efficiency: 86% of the energy from the grid goes to the battery (91% charger efficiency, 95 % battery management system efficiency)  
 Worst case efficiency: 71% of the energy from the grid goes to the battery

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Comparative simulation of diesel bus fuel consumption

### Fuel consumption simulation – New Flyer 2013 XD35

- Used Python code developed in-house, based on work from [1]

Vehicle parameters	Value	Unit
Vehicle curb weight	11,113	kg
Mean passenger weight	75	kg
Maximum passengers	65	-
Engine maximum power	209	kW
Drivetrain efficiency	95	%
Rolling coefficient	Provided by OEM	-

Fuel parameters	Value	Unit
LHV of low sulfur diesel	42.6	MJ/kg
Diesel density	850	kg/m <sup>3</sup>
CO <sub>2</sub> content of fuel *	2.630	kg CO <sub>2</sub> /L fuel

\*Note: emission factors for mobile fuel combustion of diesel in heavy-duty vehicles, see [2]

[1] W. Edwardes and H. Rakha "Modeling Diesel and Hybrid Bus Fuel Consumption with Virginia Tech Comprehensive Power-Based Fuel Consumption: Model Enhancements and Calibration Issues Model". Transportation Research Record: Journal of the Transportation Research Board, No. 2533  
 [2] BC Ministry of Environment "2016/17 B.C. Best practices Methodology for quantifying greenhouse gas emissions" Victoria, May 2016

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Fuel consumption - Route "7" (28.6 km RT)

Runs (Round trips) per week to compare with fast charging: 744

	Light-Duty	Medium-Duty	Heavy-Duty
Fuel used per run (round trip) per bus (L)	6.4	10.9	16.1
Fuel efficiency of diesel equivalent (L/100km)	<b>22.3</b>	<b>37.9</b>	<b>56.1</b>
Emitted CO2e per year (kg)	656,227	1,114,254	1,646,306
Cost of diesel per year @\$0.9116/L (\$)	<b>\$227,459</b>	<b>\$386,218</b>	<b>\$570,636</b>

\* Note: \$0.9116/L based on London Transit's average fuel price over the last 10 years

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Fuel consumption - Route "L" (29.2 km RT)

Runs (Round trips) per week to compare with fast charging: 1488

	Light-Duty	Medium-Duty	Heavy-Duty
Fuel used per run (round trip) per bus (L)	6.5	10.9	16.9
Fuel efficiency of diesel equivalent (L/100km)	<b>22.2</b>	<b>37.4</b>	<b>58</b>
Emitted CO2e per year (kg)	1,326,210	2,231,419	3,460,870
Cost of diesel per year @\$0.9116/L (\$)	<b>\$459,686</b>	<b>\$773,446</b>	<b>\$1,199,593</b>

\* Note: \$0.9116/L based on London Transit's average fuel price over the last 10 years

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Electricity costs estimations, emission reduction and simulation results for each route

## Assumptions on the schedule (revised)

### Rapid Transit Operating Schedule Information

The "7" Corridor will operate on a 10 minute frequency during the following periods  
 Monday – Saturday from 6am to midnight (**18 hours of operation**)  
 Sunday & Stat Holidays from 7am to 11pm (**16 hours of operation**)

The "L" Corridor will operate on a 5 minute frequency during the following periods  
 Monday – Saturday from 6am to midnight (**18 hours of operation**)  
 Sunday & Stat Holidays from 7am to 11pm (**16 hours of operation**)

**Stop at the terminal station: 5 min (maximum charging time is less than 4 min)**

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Sample route "7" weekday schedule

Total # round trips/day: Weekday: 108, Saturday: 108, Sunday: 96

West to South			South to West		
Wonderland & Oxford (starts)	White Oaks (arrive)	STOP time (min)	White Oaks (starts)	Wonderland & Oxford (arrive)	STOP time (min)
6:00	6:35	5	6:00	6:35	5
6:10	6:45	5	6:10	6:45	5
6:20	6:55	5	6:20	6:55	5
6:30	7:05	5	6:30	7:05	5
6:40	7:15	5	6:40	7:15	5
6:50	7:25	5	6:50	7:25	5
7:00	7:35	5	7:00	7:35	5
7:10	7:45	5	7:10	7:45	5
...			...		

eBus B - 10 min frequency  
 eBus A - 10 min frequency

## Sample route "L" weekday schedule

Total # round trips/day: Weekday: 216, Saturday: 216, Sunday: 192

West to South			South to West		
Wonderland & Oxford (starts)	White Oaks (arrive)	STOP time (min)	White Oaks (starts)	Wonderland & Oxford (arrive)	STOP time (min)
6:00	6:35	5	6:00	6:35	5
6:05	6:40	5	6:05	6:40	5
6:10	6:45	5	6:10	6:45	5
6:40	7:15	5	6:40	7:15	5
6:45	7:20	5	6:45	7:20	5
6:50	7:25	5	6:50	7:25	5
...			...		

eBus B - 5 min frequency  
 eBus A - 5 min frequency

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.





## Fully electrifying the route is possible

- According to the developed schedule, **8 buses are required for route "7", 16 buses are required for route "L"**, therefore **24 electric buses** are needed
- Four chargers are required, at each North, East, West and South terminals
- Route "7" : Two buses charge in a 15min interval (used for demand charges calculations)
- Route "L": Three buses charge in a 15min interval (used for demand charges calculations)
- There is a possibility to refine the model to include longer stops and charging at the Central Transit Hub if this is a preferred strategy

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Charging costs – Route "7" (28.6 km RT) Nova Bus (76 kWh)

	Light	Medium	Heavy
Yearly MWh estimated	507	1,290	2,077
Electricity cost (CAD \$)	\$59,258	\$150,692	\$242,669
Regulatory cost (CAD \$)	\$5,531	\$14,062	\$22,642
Delivery cost (CAD \$)	\$11,058	\$21,625	\$32,477
<b>Total charging cost for a year (CAD \$)</b>	<b>\$75,848</b>	<b>\$186,378</b>	<b>\$297,789</b>
Diesel cost for a year (CAD \$)*	\$227,459	\$386,218	\$570,636
Diesel cost for a year with cap & trade (SCAD)	\$239,271	\$406,275	\$600,270
<b>Benefits (CAD \$)</b>	<b>\$151,611</b>	<b>\$199,840</b>	<b>\$272,847</b>
<b>Benefits (CAD \$) if cap &amp; trade</b>	<b>\$163,423</b>	<b>\$219,897</b>	<b>\$302,481</b>

Note:

Used London Hydro Rates: General Service, Greater Than 50 KW with no interval meter rates

\* at \$0.9116/L based on London Transit's average fuel price over the last 10 years  
\*\* with a current carbon price of \$18/TCO2e

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Charging costs – Route "7" (28.6 km RT) New Flyer (200 kWh)

	Light	Medium	Heavy
Yearly MWh estimated	535	1,334	2,130
Electricity cost (CAD \$)	\$62,475	\$155,913	\$248,837
Regulatory cost (CAD \$)	\$5,832	\$14,549	\$23,218
Delivery cost (CAD \$)	\$11,468	\$22,271	\$33,210
<b>Total charging cost for a year (CAD \$)</b>	<b>\$79,775</b>	<b>\$192,732</b>	<b>\$305,264</b>
Diesel cost for a year (CAD \$)*	\$227,459	\$386,218	\$570,636
Diesel cost for a year with cap & trade (SCAD)	\$239,271	\$406,275	\$600,270
<b>Benefits (CAD \$)</b>	<b>\$147,684</b>	<b>\$193,486</b>	<b>\$265,372</b>
<b>Benefits (CAD \$) if cap &amp; trade</b>	<b>\$159,496</b>	<b>\$213,543</b>	<b>\$295,006</b>

Note:

Used London Hydro Rates: General Service, Greater Than 50 KW with no interval meter rates

\* at \$0.9116/L based on London Transit's average fuel price over the last 10 years  
\*\* with a current carbon price of \$18/TCO2e

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Charging costs – Route "L" (29.2 km RT) Nova Bus (76 kWh)

	Light	Medium	Heavy
Yearly MWh estimated	1,009	2,571	4,379
Electricity cost (CAD \$)	\$117,964	\$300,735	\$512,190
Regulatory cost (CAD \$)	\$10,998	\$28,032	\$47,739
Delivery cost (CAD \$)	\$15,230	\$31,416	\$49,948
<b>Total charging cost for a year (CAD \$)</b>	<b>\$144,192</b>	<b>\$360,182</b>	<b>\$609,876</b>
Diesel cost for a year (CAD \$)*	\$459,686	\$773,446	\$1,199,593
Diesel cost for a year with cap & trade (SCAD)	\$483,557	\$813,611	\$1,261,889
<b>Benefits (CAD \$)</b>	<b>\$315,494</b>	<b>\$413,264</b>	<b>\$589,717</b>
<b>Benefits (CAD \$) if cap &amp; trade</b>	<b>\$339,365</b>	<b>\$453,429</b>	<b>\$652,013</b>

Note:

Used London Hydro Rates: General Service, Greater Than 50 KW with no interval meter rates

\* at \$0.9116/L based on London Transit's average fuel price over the last 10 years  
\*\* with a current carbon price of \$18/TCO2e

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Charging costs – Route "L" (29.2 km RT) New Flyer (200 kWh)

	Light	Medium	Heavy
Yearly MWh estimated	1,065	2,656	4,507
Electricity cost (CAD \$)	\$124,558	\$310,679	\$527,054
Regulatory cost (CAD \$)	\$11,613	\$28,959	\$49,124
Delivery cost (CAD \$)	\$15,882	\$32,310	\$51,252
<b>Total charging cost for a year (CAD \$)</b>	<b>\$152,053</b>	<b>\$371,947</b>	<b>\$627,430</b>
Diesel cost for a year (CAD \$)*	\$459,686	\$773,446	\$1,199,593
Diesel cost for a year with cap & trade (SCAD)	\$483,557	\$813,611	\$1,261,889
<b>Benefits (CAD \$)</b>	<b>\$307,633</b>	<b>\$401,499</b>	<b>\$572,163</b>
<b>Benefits (CAD \$) if cap &amp; trade</b>	<b>\$331,504</b>	<b>\$441,664</b>	<b>\$634,459</b>

Note:

Used London Hydro Rates: General Service, Greater Than 50 KW with no interval meter rates

\* at \$0.9116/L based on London Transit's average fuel price over the last 10 years  
\*\* with a current carbon price of \$18/TCO2e

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



## Ontario 2015 Grid Emissions [2]

	Solar / Wind / Bioenergy	Natural Gas	Nuclear	Coal	Waterpower
Electricity production (TWh)	14.2	15.9	92.3	0	37.3
Percentage of the grid use (%)	8.89	9.96	57.80	0.00	23.36

- Total electricity production (2015): 159.7 TWh
- Total emission (2015): 7.1 MT CO<sub>2</sub>e
- The emission is calculated as **0.044 Tonne CO<sub>2</sub>e/MWh**

\*Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



### Emission reduction – Route “7” (28.6 km RT) Nova Bus (76 kWh)

	Light	Medium	Heavy
Yearly electricity estimated (MWh)	507	1290	2077
Yearly diesel use (L)	249,516	423,671	625,972
CO2e from electricity (Tonne)	22	57	91
CO2e from diesel (Tonne)*	656	1,114	1,646
CO2e reduction for a year (Tonne)	<b>634</b>	<b>1,057</b>	<b>1,555</b>

\* : Mobile emission factor for mobile fuel combustion of diesel in heavy-duty vehicles is 2.63 kg CO2e/L

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



### Emission reduction – Route “7” (28.6 km RT) New Flyer (200 kWh)

	Light	Medium	Heavy
Yearly electricity estimated (MWh)	535	1334	2130
Yearly diesel use (L)	249,516	423,671	625,972
CO2e from electricity (Tonne)	24	59	94
CO2e from diesel (Tonne)*	656	1,114	1,646
CO2e reduction for a year (Tonne)	<b>633</b>	<b>1,056</b>	<b>1,553</b>

\* : Mobile emission factor for mobile fuel combustion of diesel in heavy-duty vehicles is 2.63 kg CO2e/L

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



### Emission reduction – Route “L” (29.2 km RT) Nova Bus (76 kWh)

	Light	Medium	Heavy
Yearly electricity estimated (MWh)	1009	2571	4379
Yearly diesel use (L)	504,262	848,448	1,315,920
CO2e from electricity (Tonne)	44	113	193
CO2e from diesel (Tonne)*	1,326	2,231	3,461
CO2e reduction for a year (Tonne)	<b>1,282</b>	<b>2,118</b>	<b>3,268</b>

\* : Mobile emission factor for mobile fuel combustion of diesel in heavy-duty vehicles is 2.63 kg CO2e/L

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



### Emission reduction – Route “L” (29.2 km RT) New Flyer (200 kWh)

	Light	Medium	Heavy
Yearly electricity estimated (MWh)	1065	2656	4507
Yearly diesel use (L)	504,262	848,448	1,315,920
CO2e from electricity (Tonne)	47	117	198
CO2e from diesel (Tonne)*	1,326	2,231	3,461
CO2e reduction for a year (Tonne)	<b>1,279</b>	<b>2,115</b>	<b>3,263</b>

\* : Mobile emission factor for mobile fuel combustion of diesel in heavy-duty vehicles is 2.63 kg CO2e/L

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



**Thanks for your attention !**

Copyright © 2018 Canadian Urban Transit Research and Innovation Consortium (CUTRIC), Consortium de recherche et d'innovation en transport urbain au Canada (CRITUC). All rights reserved.



# Rapid Transit Implementation Working Group

## Report

3rd Meeting of the Rapid Transit Implementation Working Group  
March 8, 2018  
Council Chambers

Attendance                   PRESENT: S. Rooth (Chair), Councillors J. Helmer, P. Hubert, P. Squire, and M. van Holst; D. Sheppard and E. Southern, and B. Westlake-Power (Acting Secretary).

ABSENT: Mayor M. Brown; Councillors T. Park and H. Usher.

ALSO PRESENT: Councillor S. Turner, H. Beecroft, K. Burns, C. James, K. Paleczny, A. Rammeloo, J. Ramsay, C. Saunders, K. Scherr, S. Spring and E. Soldo.

### 1. Call to Order

#### 1.1 Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

### 2. Scheduled Items

#### 2.1 Public Open House Materials and Design Renderings - Preferred Design Options for the Bus Rapid Transit Corridors

That it BE NOTED that the Rapid Transit Implementation Working Group received a presentation from J. Ramsay, Project Director Rapid Transit, as included in the March 8, 2018 Agenda.

### 3. Consent

#### 3.1 2nd Report of the Rapid Transit Implementation Working Group

That it BE NOTED that the 2nd Report of the Rapid Transit Implementation Working Group, from its meeting held on February 8, 2018, was received.

### 4. Items for Discussion

None.

### 5. Deferred Matters/Additional Business

None.

### 6. Adjournment

The meeting adjourned at 6:20 PM.



## OVERVIEW OF PUBLIC CONSULTATION OPPORTUNITIES

The BRT project has entered into a formal 120-day period of public consultation, which began on June 7, 2018 with a formal [Notice of TPAP Commencement](#).

During this 120-day period Londoners will be able to give input at [12 consultation sessions](#), as well as online:

- **2 Open House drop-in sessions**  
June 21, 11 a.m. – 2 p.m. and 5 – 8 p.m.  
Central Library, 251 Dundas St.
- **10 Transit Tuesday drop-in sessions**  
3 – 7 p.m. each Tuesday, from July 10–Sept. 11  
Rapid Transit Office, Central Library, 251 Dundas St. (2<sup>nd</sup> floor – enter through the mall).
- **New interactive section on [project website](#)**  
Londoners will be able to review consultation materials and provide feedback online using a digital map of the BRT network.

As part of ongoing efforts to inform the public of consultation opportunities, a [short video](#) explaining how Londoners can get involved is being shared on the project website and through social media.

At each session Londoners will have the chance to:

- Review council-approved BRT plans, ask questions and share ideas.
- Check out the route and submit comments online using a new [BRT virtual map tool](#).
- Give feedback on the [Draft Environmental Report](#), which includes details on the BRT project and identifies potential impacts of the project as well as plans to address those impacts.
- Learn more about matters that are of interest to the Province – such as natural environment, cultural heritage, and Indigenous affairs – and how to provide feedback on these issues.



**BUS  
RAPID  
TRANSIT**

Londoners can also submit comments at any time by emailing

[shift@london.ca](mailto:shift@london.ca). A formal recording of all feedback and comments

from the public, stakeholders and involved agencies will be included in the final

Environmental Project Report.



## SAMPLE SOCIAL MEDIA POSTS

Londoners will have many opportunities this summer to give input on the approved BRT designs. This is the biggest project in London's history, and input from Londoners is vital. #ldnont #ldnbrt <http://ow.ly/Ptu730kuBZF>

Wondering how you can get involved in upcoming consultations for BRT? Check out this short explainer video: <http://ow.ly/M2tl30kuCoc>

Can't make it to one of the 12 drop-in sessions this summer? Not a problem - you can also give feedback online through this interactive BRT map: [www.LondonBRTmap.ca](http://www.LondonBRTmap.ca) , or email feedback to [shift@london.ca](mailto:shift@london.ca) #ldnont #ldnbrt

Today's the day. Come out to Central Library in Citi Plaza for a BRT public Open House between 11 a.m. and 2 p.m. and 5 p.m. – 8 p.m. @CityofLdnont's BRT Team will be there to answer questions, address concerns and listen to feedback. #ldnont #ldnbrt

Transit Tuesdays are a great opportunity to speak 1-on-1 with the BRT project team. Stop by the Rapid Transit Office any Tuesday from July 10 - Sept. 11, 3 - 7p.m., and help shape the BRT design. For more details, visit: <http://ow.ly/Ptu730kuBZF>

---

# CONSULTATION

- [Notice in The Londoner](#)
- [Brochure \(mailed to all residents\)](#)
- [Posters](#)
- [Bus shelter ads](#)
- [Social media posts](#)
- [E-blasts to subscribers](#)
- [Radio ads](#)
- [Explainer video](#)
- [Media advisory](#)

# NOTICE IN THE LONDONER

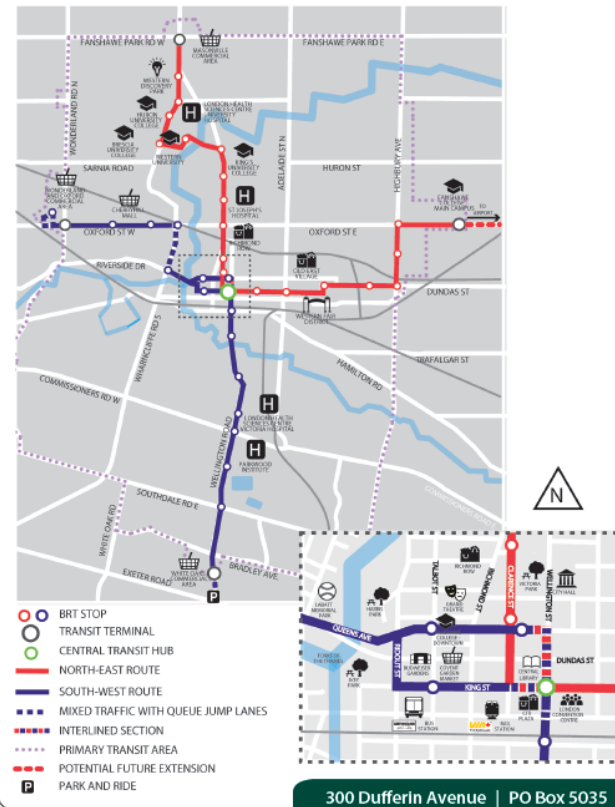
## Public Notices & BIDDING OPPORTUNITIES



### Notice of Commencement and Notice of Public Consultation: London's Bus Rapid Transit System – Transit Project Assessment Process

#### The Project

The City of London's Bus Rapid Transit System will provide more frequent and reliable transit service to Londoners. On July 25, 2017, London City Council approved the Rapid Transit Master Plan that defined the network, stop locations and that the system would operate as a Bus Rapid Transit system.



#### The Process

The City of London is assessing the impacts of the Bus Rapid Transit System according to the Transit Project Assessment Process (TPAP), as prescribed in Ontario Regulation 231/08. TPAP focuses on the assessment of potential impacts of a selected transit project, in this case, the approximately 24 km Bus Rapid Transit network comprised of north, east, south, and west corridors, and a one-way downtown couple.

This Notice of Commencement marks the beginning of the formal 120-day TPAP consultation period, starting June 7, 2018, and ending when the Notice of Completion is issued. As part of TPAP, an Environmental Project Report (EPR) will be filed, documenting any potential environmental effects and mitigation requirements of the project. Documents related to the Project, including technical studies and consultation materials, are available on the project website. The public, regulatory agencies, Indigenous communities, and other interested persons will have an opportunity to review the EPR during a formal 30-day review period. Viewing locations of the EPR will be published in the Notice of Completion. Objections may be submitted to the Minister of the Environment and Climate Change during this period. All information produced as part of this project is available on the project website at [www.londonbrt.ca](http://www.londonbrt.ca).

#### Consultation

During the 120-day TPAP consultation period, the City of London will be hosting consultation in two formats, as detailed below. The purpose of each session is to obtain feedback on the Council-approved design.

At each session you will have the chance to:

- Review the Council-approved BRT plans, ask questions and share ideas to help fine tune the designs.
- Provide feedback on the Draft Environmental Report, which outlines the BRT project in detail, identifies the potential impacts and the plans to mitigate those impacts.
- Learn more about matters that are of interest to the Province – such as natural environment, cultural heritage, and Indigenous affairs – and understand how to provide feedback on these issues.

#### Open House at Central Library:

- June 21, 11 a.m. – 2 p.m. and 5 – 8 p.m., Central Library, 251 Dundas St.

There is no presentation during this event, so you can drop in at your convenience during the times provided.

Buses you can take to Central Library: 1, 2, 3, 4, 6, 7, 9, 12, 13, 15, 19, 20, 21, 23, 26, 90

#### "Transit Tuesdays" at the Rapid Transit Office:

- 3 – 7 p.m. every Tuesday, from July 10 – Sept 11

Rapid Transit Office, 2nd floor of Central Library, 251 Dundas St. Enter through the Mall.

Drop in at your convenience – no appointment necessary!

Buses you can take to Central Library: 1, 2, 3, 4, 6, 7, 9, 12, 13, 15, 19, 20, 21, 23, 26, 90

At each of the 12 public drop-in sessions, project staff from the City and the consultant team will be available to answer questions and collect feedback, which will be used to finalize the Draft Environmental Project Report and refine the design.

The Draft Environmental Project Report is available on the project website, [www.londonbrt.ca](http://www.londonbrt.ca).

You can also submit comments at any time by emailing [shift@london.ca](mailto:shift@london.ca) or either of the individuals below. A formal recording of all feedback and comments from the public, stakeholders and involved agencies will be included in the final Environmental Project Report.

**Jennie Ramsay, P. Eng.**  
Project Director, Rapid Transit  
City of London  
Tel: 519-661-2489 x 5823  
[jaramsay@london.ca](mailto:jaramsay@london.ca)

**Margaret Parkhill, P. Eng.**  
Project Manager  
IBI Group  
Tel: 519-472-7328  
[margaret.parkhill@bigroup.com](mailto:margaret.parkhill@bigroup.com)

Information will be collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) and the Environmental Assessment Act. Comments will become part of the public record. Any personal information such as name, address and telephone number included in a submission may become part of the public record unless the commenter specifically requests that such personal details not be included in the public record. This Notice first issued: June 7, 2018.

300 Dufferin Avenue | PO Box 5035 | London, ON N6A 4L9 | 519 661-CITY (2489) | [www.london.ca](http://www.london.ca)

[Return](#)





# BROCHURE MAILED TO ALL RESIDENCES

## MAKING EXISTING BUS SERVICE BETTER.

By building a strong spine of rapid transit service across north-east and south-west corridors, BRT will enhance London's overall transit system.



- BRT Stop
- Transit Terminal
- Central Transit Hub
- North-East Route
- South-West Route
- - - Mixed Traffic with Queue Jump Lanes
- - - Interlined Section
- - - Primary Transit Area
- - - Potential Future Extension
- P Park and Ride

Give feedback online at [londonbrt.ca](http://londonbrt.ca)



LONDON'S  
**BRT**  
SYSTEM

## JOIN US THIS SUMMER

12 opportunities to share your feedback



On May 8, City Council approved the design for London's Bus Rapid Transit (BRT) system, giving residents a clearer picture of how BRT will look across the city. But there's still work to do before construction starts in 2020, and the City wants to hear from you.

Do you have feedback on the proposed BRT stops? Wonder how plans might impact parking or deliveries for your business? Have a great idea for your neighbourhood?

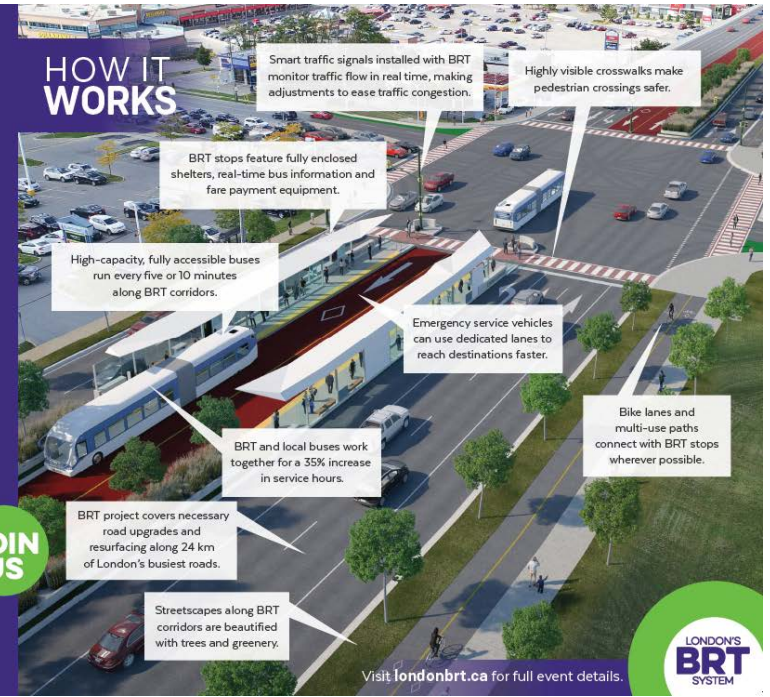
### This summer, Londoners can:

- Review the approved BRT plans, ask questions and share ideas to fine tune the designs.
- Give feedback on the Draft Environmental Project Report, which outlines the BRT project, identifies potential impacts and lists plans to address them.
- Learn more about how to give feedback on matters of interest to the Province - such as natural environment, cultural heritage and Indigenous affairs.

**2 Open House sessions: June 21**  
11 a.m. - 2 p.m. and 5 - 8 p.m.  
Central Library, 251 Dundas St.

**Transit Tuesdays: July 10 - Sept. 11**  
3 p.m. - 7 p.m. drop-ins every Tuesday  
Rapid Transit Office, Central Library,  
251 Dundas St., 2nd floor. Enter through the mall.

## HOW IT WORKS



JOIN US

Visit [londonbrt.ca](http://londonbrt.ca) for full event details.

LONDON'S  
**BRT**  
SYSTEM

[Return](#)



# POSTERS

Distributed at community centres, libraries, YMCA branches and City Hall.



**LONDON'S BRT SYSTEM**

Join us...  
**OPEN HOUSE**  
June 21, 2018

The Bus Rapid Transit plan has reached another milestone, and we want to hear from you. Come check out the approved plans, ask questions, and help us fine tune the design.

- **Open House: June 21**  
11 a.m. – 2 p.m. and 5 – 8 p.m. at Central Library, 251 Dundas St.
- **Transit Tuesdays: July 10 – Sept. 11**  
3 p.m. – 7 p.m. every Tuesday at the Rapid Transit Office  
Central Library, 251 Dundas St., 2nd floor. Enter through the mall.

Buses you can take to Central Library:  
1, 2, 3, 4, 6, 7, 9, 12, 13, 15, 19, 20, 21, 23, 26, 90

These are family-friendly events – feel free to bring your kids! If you require any special accommodation, please contact the Rapid Transit Office at [shift@london.ca](mailto:shift@london.ca) or 519-930-3518.

Can't make it to an event? Not a problem!  
Send feedback online at [LondonBRT.ca](http://LondonBRT.ca)



[Return](#)



# BUS SHELTER ADS

Running from July – end of August.



[Return](#)



# SOCIAL MEDIA POSTS

 **Shift London** @ShiftLdnOnt · Jun 8

Have your say on BRT, #Ldnont's Rapid Transit system. Two public drop-in sessions at the Central Library this month kick off a summer of consultations to fine tune the approved designs. Your input can make a difference. We want to see you there. [ow.ly/tyfg30kpr6p](https://ow.ly/tyfg30kpr6p)



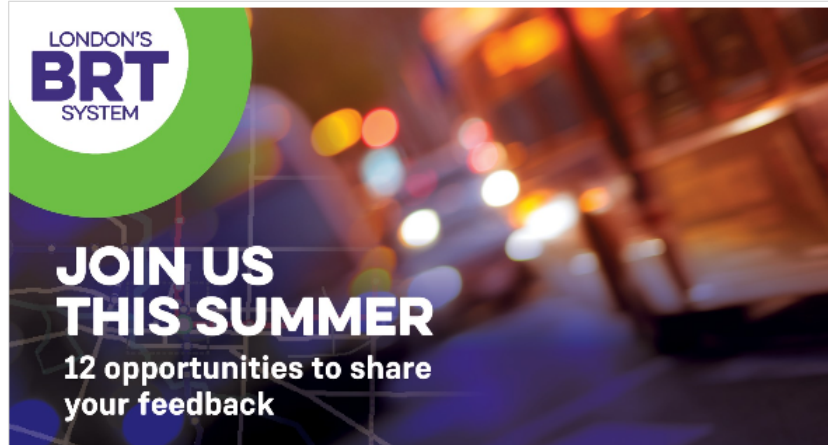
LONDON'S  
**BRT**  
SYSTEM

**JOIN US  
THIS SUMMER**  
12 opportunities to share  
your feedback

[Return](#)



# E-BLASTS



On May 8, City Council approved the design for London's Bus Rapid Transit (BRT) System, giving residents a clearer picture of how BRT will look across the city. But there's still work to do before construction starts in 2020, and the City wants to hear from you.

[View the approved plans](#)

Do you have feedback on the proposed BRT stops? Wonder how plans might impact parking or deliveries for your business? Have a great idea for your neighbourhood?

### **This summer, Londoners can:**

- Review the approved BRT plans, ask questions and share ideas to fine tune the designs.
- Give feedback on the Draft Environmental Project Report, which outlines the BRT project, identifies potential impacts and lists plans to address them.
- Learn more about how to give feedback on matters of interest to the Province - such as natural environment, cultural heritage and Indigenous affairs.

### **2 Open House sessions: June 21:**

11 a.m. - 2 p.m. and 5 - 8 p.m.

[Return](#)



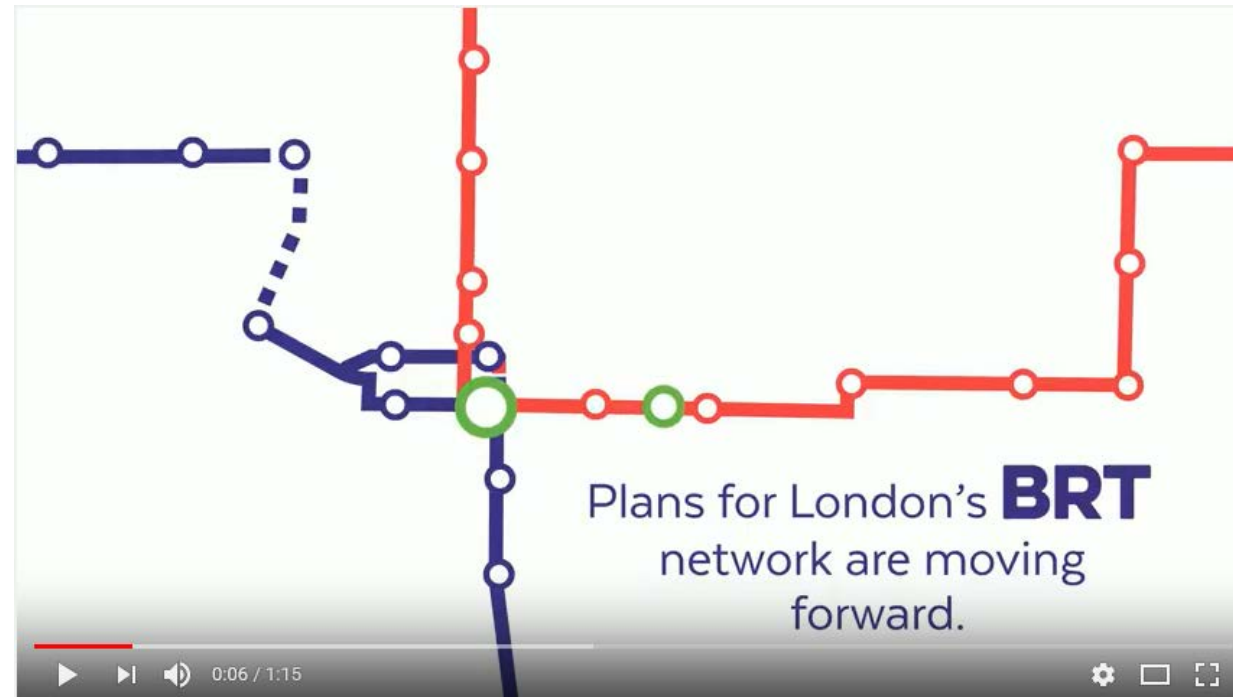
# RADIO ADS



[Return](#)



# EXPLAINER VIDEO



[Return](#)



# MEDIA ADVISORY

## Media Advisory: Public Consultation Events for London's Bus Rapid Transit System

City of London  
Media Advisory  
Monday June 18, 2018

The City of London's Rapid Transit Office is kicking off another series of public consultations by unveiling an interactive online map of the BRT network at two drop-in events Thursday June 21. The BRT team will then host weekly Transit Tuesday drop-in sessions for ten weeks during the summer as part of its ongoing consultation with Londoners.

At each of the 12 drop-in consultation sessions, Londoners will have the chance to:

- Review Council-approved BRT plans, ask questions and share ideas to help fine tune the designs.
- Check out the route and submit comments online using a new BRT virtual map tool.
- Give feedback on the Draft Environmental Report, which includes details on the BRT project, and identifies potential impacts and the plans to address them.
- Learn more about matters that are of interest to the Province – such as natural environment, cultural heritage and Indigenous affairs – and how to provide feedback on these issues.

Londoners who can't make it out to any of the drop-in sessions can view the materials from the events and provide feedback through the interactive online map at [www.londonBRT.ca](http://www.londonBRT.ca).

### WHERE AND WHEN:

Two open house drop-in sessions Thursday June 21, Central Library, 251 Dundas St.

Early session:

Open House from 11 a.m. – 2 p.m.

Late session:

Open House from 5 – 8 p.m.

Transit Tuesdays drop-in sessions: July 10 – Sept. 11

3 p.m. – 7 p.m. every Tuesday

Rapid Transit Office, 2<sup>nd</sup> floor of the Central Library, 251 Dundas St. Enter through the mall.

Drop-in format – no appointment necessary

Online at [www.londonBRT.ca](http://www.londonBRT.ca)

Media contact:

April Kemick

Communications Manager, Rapid Transit

226-973-9923

[Return](#)





# HOW IT WORKS

Smart traffic signals installed with BRT monitor traffic flow in real time, making adjustments to ease traffic congestion.

BRT and local buses work together for a 35% increase in service hours.

High-capacity, fully accessible buses run every five or ten minutes along BRT corridors.

Highly visible crosswalks make pedestrian crossings safer.

Bike lanes and multi-use paths connect with BRT stops wherever possible.

Emergency service vehicles can use dedicated lanes to reach destinations faster.

BRT stops feature fully enclosed shelters, real-time bus information and fare payment equipment.

BRT project covers necessary road upgrades and resurfacing along 24 km of London's busiest roads.

Streetscapes along BRT corridors are beautified with trees and greenery.