

Strategic Analysis for a Crucial Link
— Eglinton West LRT

Final Report — Eglinton West LRT
Community Working Group

January 2019

1. Introduction

The Eglinton West LRT (EWLRT) is a proposed extension of the Eglinton Crosstown LRT (ECLRT, TTC Line 5) from its western terminus at Mt. Dennis. The EWLRT will extend along Eglinton Ave. West from Mt. Dennis to the Mississauga bus rapid transit (BRT) at Renforth Gateway Station (Commerce Blvd.), and north from there to a proposed multi-modal Regional Transit Centre (RTC) near Pearson Airport. The EWLRT will improve transit between Toronto, Mississauga, the Airport Corporate Centre, the L. B. Pearson Airport and its surrounding employment area, thereby linking together communities, people, and jobs.

In November, 2017, Toronto City Planning recommended construction of the EWLRT “at-grade” in the middle of Eglinton Ave., with 10 new stops from Mt. Dennis to Commerce Blvd. and three more stops to the Airport.¹ The stops are shown in the figure below.



¹ 2017.EX29.1, Attachment 2,
<http://www.toronto.ca/legdocs/mmis/2017/ex/bgrd/backgroundfile-109250.pdf>.

However, in December 2017, in response to significant concerns raised by the public and local politicians, City Council directed staff to form a working group of community stakeholders – the **Community Working Group** (CWG) – “to investigate further grade separation and or tunneling options to further develop traffic modeling and an enhanced framework that places additional consideration on local community interest.”²

This report provides a concise summary of the activities, findings and recommendations of the Community Working Group. The CWG has produced two additional documents that present the results of its deliberations and analysis in greater detail. Referred to below as BCA and MEC, they are:

1. ***Eglinton West LRT Business Case Analysis*** (BCA), EWLRT CWG, November 2018, <https://drive.google.com/file/d/1kodYWKsQgn8ynQ8mU2HPd7K2CM1fp3Fn/view> .
2. ***Methodology and evaluation criteria for selection of Eglinton West LRT configuration*** (MEC), EWLRT CWG, August 23, 2018, https://drive.google.com/file/d/1m09cIYTZbu20yxI0GKUPCK1Yi_Oe2qO3/view .

The structure of this report is as follows:

- ❖ Section 2 presents an itemized summary of the CWG’s **Key Findings and Recommendations**.
- ❖ Section 3 reviews the **Background** of the EWLRT that led to formation of the Community Working Group.
- ❖ Section 4 presents highlights of the strategic **Business Case Analysis** and **Selection Methodology and Evaluation Criteria** that are documented in more detail in BCA and MEC.
- ❖ Section 5 gives brief **Conclusions**.
- ❖ Appendix A has details on the **Community Working Group** membership, activities, and challenges.
- ❖ Appendix B provides **Supplementary Information** that CWG members wish to document in support of their main reports.

² <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX29.1>, Decision 4.

2. Key Findings and Recommendations

Key findings and recommendations of the CWG, explained in more detail in the following sections and in the separate reports, BCA and MEC (listed above), are:

1. The numbers of air travelers, jobs in the airport employment area, and the anticipated rapid growth, indicate an urgent need for a **high capacity rapid transit** service such as could be provided by the EWLRT. Reasonably projected **demand for public transit by identified user groups significantly exceeds the additional capacity that the EWLRT could provide**, meaning that additional lines will also need to be planned (e.g., Dixon Rd.).
2. Considering current and anticipated growth of air travel and employment in the Pearson Airport area, it is almost certain that **the EWLRT will primarily transport commuters and air travelers between the airport area (north of Highway 401) and Toronto**. It makes no sense to plan just for the Toronto Segment, without also considering the section running to the airport.
3. EWLRT usage by commuters and air travelers will be sensitive to the level of service provided. To achieve optimal travel times, reliability, predictability, service frequency, capacity, safety and comfort, **the EWLRT should be fully-separated from the roads network, including at all intersections**, just like the ECLRT from Mt. Dennis to Laird. Such separation will significantly increase the EWLRT ridership capacity and provide a superior level of service. It will attract and carry more than twice as many riders when compared with an at-grade EWLRT integrated with the roads network.
4. **The CWG recommends a fully-separated** Eglinton West LRT (EWLRT) configuration that:
 - ensures reliable, rapid transit with no interaction with road users (autos, cyclists, pedestrians. etc.) from Mt. Dennis to the western terminus at the RTC (or Pearson Airport)
 - passes below-grade under Weston Rd.
 - has above-grade stops at Jane and Scarlett and above-grade (above flood level) track between Jane and Scarlett
 - is tunneled below-grade from west of Scarlett to west of Highway 427
 - has below-grade stops at Royal York, Islington, Kipling and Martin Grove
 - meets the “zero interaction” requirement west of Highway 427 in an unspecified, efficient manner
 - stops at Renforth Gateway station and has one more station (Convair or Silver Dart) before the terminus.

More analysis and input from other stakeholders is required to determine an optimum combination of below-grade, at-grade and/or above-grade segments west of Highway 427. This configuration has a total of nine LRT stops west of Mt. Dennis.

5. The above recommended, **fully-separated EWLRT will relieve traffic congestion, and will ensure maximum flexibility for future changes to the roads and evolution of the community.** By contrast, an EWLRT constructed at-grade, as recommended by the City Manager, would inevitably worsen the already serious traffic congestion along Eglinton Ave. through Etobicoke. Moreover, an at-grade EWLRT would severely limit options for future changes to address traffic issues or community evolution.
6. The **increased costs** of the recommended, fully-separated EWLRT relative to an at-grade, non-separated solution are **more than justified by the increased capacity, enhanced benefits (economic, operational, social and environmental) and higher benefit-to-cost ratio.** Only a fully-separated solution will adequately support a strategic vision and realistic goals for large scale adoption of rapid public transit.
7. The completed below-grade EWLRT through residential communities will **support development of higher-density, more complete communities.** By contrast, an at-grade or above-grade LRT would increase the barrier effect of a congested Eglinton Ave. that effectively divides the communities to its north and south and impedes evolution towards complete streets and a more vibrant, complete community.
8. Use of **tunnel boring, instead of cut-and-cover,** for the below-grade portion(s) of the recommended EWLRT will minimize street-level disruption of traffic and the community, during construction. Use of a single large-diameter tunnel boring machine may allow cut-and-cover to be avoided even for underground stations; ground-level access would require only small shafts.
9. The **results of traffic modeling work should not be trusted as input in support of EWLRT planning or design decisions.** Consultants have been engaged by the City to develop a model that simulates current traffic on arterial roads and traffic incursion into residential communities adjacent to the EWLRT Eglinton corridor. For numerous reasons discussed in Section 4 of BCA, including lack of adequate data for tuning and validation, the results of traffic modeling work are unlikely to be reliable.
10. The City's *Rapid Transit Evaluation Framework* (RTEF) is designed for comparative evaluation of alternative possible solutions. It gives equal weight to eight categories of evaluation criteria. However, the evaluation methodology fails to consider uncertainties and risks; and the weighting is both arbitrary and vulnerable to bias. **The CWG recommends that the simple scoring system of the RTEF be replaced with a much more sophisticated decision support system, such as the *Analytic Network Process* (ANP)** (see Section 3 of MEC). The ANP applies advanced mathematical techniques to evaluate the merits and sensitivities of different alternatives based on the knowledge and thoughts of all participating experts and stakeholders. The weightings of different criteria are determined as part of the analysis of participants' input instead of being arbitrarily imposed.
11. **All key stakeholders, including user and community groups, the GTAA, and interested governments at local, provincial and national level, should agree on vision**

and goals before delving into merits of alternative solutions. The same stakeholders, plus subject matter experts, should all be participants in the evaluation process (using ANP) to ensure the analysis is objective and unbiased.

12. The EWLRT Project Team that organized and led CWG meetings also controlled what information was made available to CWG members. Despite requests, **the CWG was not given access to reports or data (e.g., modeling studies) relevant to the EWLRT that were not already publicly available**, but which may have been used in support of the preparation of publicly available materials or the meeting presentations. Lack of access to such information impeded the CWG's efforts to fulfil its mandate, forcing reliance on independent research and prior knowledge of CWG members.

3. Background

The Eglinton Crosstown LRT (ECLRT) was conceived in the 2007 *Toronto Transit City - Light Rail Plan*³ as a light rail line that would provide rapid transit service from the L. B. Pearson Airport across the city along Eglinton Ave. to an eastern terminus at Kennedy Rd. An Environmental Assessment was completed in 2010 for the entire LRT corridor from the Airport to Kennedy. The portion west of Mt. Dennis was assumed to have 14 at-grade stops along Eglinton Ave. (at all cross roads) to Commerce Blvd., a new bridge over the 401, and three more at-grade stops to the Airport. Construction of the ECLRT began in March 2016, above-grade over Black Creek, below-grade from Keele to Laird, and at-grade the rest of the way to Kennedy. But the western portion, from Mt. Dennis to the Airport, was dropped from the initial phase — its implementation remains uncertain.

Transit Network Gaps

The Mississauga Transitway bus rapid transit (BRT) line entered full service in 2017, with an eastern terminus at Commerce Blvd. and Eglinton (Renforth Gateway Station). Lack of higher order transit to connect the ECLRT to the Mississauga BRT at Renforth Gateway and from there to the Airport has left serious gaps in the regional transit network. A 2014 proposal — part of the “Smart Track” program — to fill this gap with heavy rail from Mt Dennis along Eglinton and to the Airport was ultimately deemed not viable. The better solution would be to extend the Eglinton Crosstown LRT westward as originally planned, with the extension known as the Eglinton West LRT.

Local Context

Eglinton Ave. W, in Etobicoke, passes through a mature, dominantly residential neighbourhood. It has a separated (often park-like) bicycle trail on its south side and several significant tree-lots on the north side. With few exceptions, properties have not been allowed driveways onto Eglinton, so it serves primarily as a thoroughfare. There is no plan and little prospect for transformation of Eglinton to a high density mixed-use Avenue. This is starkly different from the highly commercial, six-lane Eglinton Ave E from Don Mills to Kennedy, where the ECLRT is being constructed at-grade in place of the existing centre median / turn lanes.

From Weston Rd. (Mt. Dennis) to Renforth Dr., Eglinton Ave. has two through lanes in each direction, with left turn lanes at all intersections and bus bays / right turn lanes at many. It suffers from high traffic volumes and serious congestion across central Etobicoke. This is largely due to interchanges with Highways 401, 427 and 27 that make Eglinton a main artery connecting Toronto to Mississauga, Brampton and beyond. Eglinton connects the highways to many north-south arterials — Martin Grove, Kipling, Islington, Royal York, Scarlett, Jane — resulting in high left and right turn volumes at those roads. Retail developments at Lloyd Manor and Wincott also generate high turn volumes.

³ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2007.PG4.9>

Initial Business Case Analysis

In June 2016, Toronto City Planning released an Initial Business Case Analysis ⁴ (IBC) that compared the original 14+3 stop, at-grade EWLRT proposal to alternatives with fewer stops and/or some grade-separation. **The IBC found that a fully grade-separated alternative, with just one stop (Kipling) between Mt. Dennis and Renforth Gateway, would yield by far the greatest benefit and also the highest benefit-to-cost ratio.** However, arguments were subsequently made that an at-grade solution that stops at every current bus stop would provide better access for transit users and have fewer environmental impacts than grade-separated alternatives. Reducing the number of stops of an at-grade solution along Eglinton was seen as having a modest net benefit. Inexplicably, no consideration was given to providing better access by adding stops to the grade-separated alternative.

Concerns Raised By Residents

Residents living near the proposed EWLRT strongly opposed an at-grade LRT both before and after completion of the IBC. Their concerns, objections and preferences were clearly expressed at public meetings and through direct communications with elected representatives and involved staff and management in City Planning and at Metrolinx and the Ministry of Transportation.

Community members were convinced that **ridership demand would be much greater than predictions shown in the IBC.** No response was received to repeated requests for information about how (or whether) the models used to generate predictions had been validated. Predicted ridership shown in the IBC had very few riders boarding or alighting at the three major transfer points — Mt. Dennis, Renforth Gateway, and Pearson Airport. Given that the written justification, in the IBC, for the EWLRT emphasized the importance of the Airport and employment in the surrounding area, the ridership predictions are simply not believable. The disconnect between the convincing written arguments and the numbers from modeling is a clear indication that the modeling was not valid. **Since the ridership numbers relied upon for the IBC appear to be badly wrong, the assessed benefits of the alternative solutions are almost certainly badly wrong.**

Residents consistently expressed strong preference for the LRT to be tunneled through central Etobicoke. **None of the grade-separation alternatives considered in the IBC corresponded to what residents had asked for, and none could be considered a realistic alternative.** By considering only obviously unreasonable grade-separated alternatives, the IBC analysis was severely biased in favour of the at-grade alternative.

A widely-shared concern of residents was the likely **adverse impact of an at-grade LRT on local traffic.** Eglinton Ave. through Etobicoke has suffered serious congestion for many years. Eglinton and Martin Grove was identified in 2016 as one of the ten most congested intersections in Toronto. **Congestion on Eglinton has caused a growing problem of traffic incursion**

⁴ <https://www.toronto.ca/legdocs/mmis/2017/ex/bgrd/backgroundfile-109250.pdf>

into local neighbourhood roads, as drivers seek faster routes. Residents themselves use local roads to avoid Eglinton.

An at-grade LRT would employ curbing to keep other vehicles off the dedicated LRT tracks. At driveways and non-signalized intersections only right turns would be allowed. **Drivers who need to go left would be forced to choose longer alternate routes or combine a U-turn with a right-turn.** The IBC diminished the **inevitable increase in vehicle travel times and congestion** caused by the turn prohibitions, left turns permitted only during a green-arrow, and by signals “prioritized” for the LRT.⁵

Traffic congestion, incursion into local roads, and more trucks and aggressive drivers have been **making the roads less safe for all users**, including near community parks and schools. Perceived safety risks have made residents progressively less likely to walk or cycle within their own neighbourhoods. Cyclists, including adults, routinely use the sidewalks. Residents believe that **an at-grade LRT would inevitably lead to further increased congestion, incursion into local roads, and safety risks (especially to pedestrians and cyclists).** The IBC assumed, with no supporting analysis, that an at-grade LRT would reduce congestion. The IBC gave no consideration to the problem of non-local traffic incursion into residential neighbourhoods or the resulting safety impacts.

In spite of the strongly expressed opinions of affected residents, none of the grade separation alternatives considered in the IBC would suitably respond to the residents’ concerns or preferences. Indeed, the alternatives in the IBC that included grade separation all represented extreme cases that no one would consider reasonable. Residents raised the concern that such comparison is far from objective, or responsive to community interests, and leads to a lack of confidence that the IBC analysis was objective and unbiased.

Community Working Group

After persistent engagement with their local Councillors and MPP, members of the central Etobicoke community were finally rewarded in December 2017 with the Executive Committee decision to direct staff to form the Community Working Group. Details regarding CWG membership and activities are given in Appendix A.

⁵ Both City and Metrolinx staff have admitted at CWG meetings that an at-grade LRT would require longer traffic signal cycle-times, with the potential for increased congestion and delay.

4. Strategic Analysis

The need for higher-order rapid transit along the proposed EWLRT corridor was never disputed by members of the CWG. However, it was clear from the IBC and other documents that the **analysis and decision making process that had led to selection of the at-grade LRT alternative was tactical, rather than strategic, with little evidence of the robust analysis expected by citizens.**

To properly investigate LRT grade separation or tunneling options the CWG would first need to understand the strategic context, including a clear vision and goals for the EWLRT consistent with its 60 year lifetime. The Context section of the IBC emphasized the transit needs of the Mississauga Airport Corporate Centre (MACC), Pearson Airport and surrounding employment area. But the **IBC did not develop a vision or state goals against which alternative solutions could be evaluated.** We have remarked above on the unreliability of ridership estimates used in the IBC. Combined, these observations suggest that **the IBC cannot serve as a reliable guide for decision making.**

4.1. Business Case Analysis

Using information gained at CWG meetings, independent research, prior knowledge and expertise of CWG members, and much discussion, the CWG prepared its report ***Eglinton West LRT Business Case Analysis*** (BCA). With guidance from the Metrolinx Business Case Framework, the BCA provides a critical analysis of the IBC while also developing a much more strategic business case analysis.

In its examination of the **Strategic Situation**, the BCA develops an understanding of the Problem and Opportunity. It then proposes a strategic Vision of what will be accomplished by the EWLRT and defines Goals that will allow the vision to be realized. Ability to achieve the vision and goals must be given high priority when deciding between alternative solutions.

The BCA then presents a **Transit Demand Analysis** that explains why the agent-based micro-simulation method employed by Metrolinx to obtain the ridership projections used in the IBC cannot be trusted. Adopting, instead, a macro-view, the BCA uses existing and planned air travel and employment numbers for Pearson Airport and surrounding employment area, and the GTAA's strategic reliance on public transit to achieve its objectives, to predict ridership demand for the EWLRT. The **projected EWLRT demand significantly exceeds the capacity of an LRT, even with trains running every two minutes in peak periods.** (Such frequent service can only be achieved by an LRT fully separated from the roads network.) The Union-Pearson Express (UPX), with capacity of only 600 passengers/hour, cannot fill the gap.

In its **Traffic Analysis**, the BCA examines the current problems of traffic congestion along Eglinton Ave. and incursion into residential neighbourhoods, and the origin of these problems in the larger scale network of arterial roads and highways. A critical analysis is given of traffic

simulation models, concluding that predictions they make are unlikely to be reliable due to lack of adequate data to validate the present situation and the likely dominant effect of macro-scale changes that are beyond the scope of what is being modeled. Even the modelers admit that predictions beyond 10 years cannot be trusted -- but the LRT lifetime is 60 years! Independent of the findings of any detailed modeling effort, one can confidently say that **introduction of an at-grade LRT will most certainly add to increased congestion and delay on Eglinton, with many undesirable effects for the local road system, safety, and the local community.**

Two alternative **Investment Options** are chosen for more detailed analysis:

Fully-Separated — the CWG’s recommended configuration (item 3 of Section 2, above), which has tracks and signals completely independent of the roads network

Non-Separated — the at-grade configuration recommended by Toronto City Planning, which is integrated with the roads network.

These two alternatives are far from equivalent, since independence of the fully-separated alternative from the roads system would result in a superior level of service and allow more frequent trains to **double** the peak capacity. They would solve the identified problems and seize the opportunities to different degrees, achieve different goals, and have significantly different cost, benefit and risk profiles.

The CWG’s BCA provides **Business Case Analysis** for the two alternatives, using the Strategic, Economic, Financial, and Deliverability and Operations views defined in Metrolinx guidelines. Due to the CWG’s limited access to information and resources, these analyses are necessarily at a high level and with corresponding uncertainty; but the numbers are based on comparison with other projects (such as the ECLRT) and scaling of publicly available information (such as GTAA reports and the TTC operating budget) to reflect the costs and benefits of each of the two alternatives.

The BCA shows that the **strategic business case strongly favours the fully-separated over the non-separated alternative.** The fully-separated alternative will carry twice as many passengers and provide a superior level of service. The non-separated alternative would have significant adverse impacts on the central Etobicoke community, increasing traffic congestion and incursion into local roads, making the roads less safe, and eliminating flexibility for future changes to the design of Eglinton Ave. and for strategic evolution of the community.

The table below summarizes the **Economic** and **Financial** business cases:

Alternative	Economic benefit	Net cost	Benefit/cost ratio
Fully-separated	\$7.2 billion	\$2.3 billion	3.1
Non-separated	\$3.2 billion	\$1.1 billion	2.7

The **Deliverability and Operations** business case indicates that either alternative could be readily delivered using methods and capability already applied for the ECLRT. With complete independence from the roads and traffic, and reduced weather impacts, the fully-separated alternative is strongly favoured for operations.

4.2. Selection Methodology and Evaluation Criteria

Toronto’s *Rapid Transit Evaluation Framework* (RTEF) defines three policy principles and eight high-level evaluation criteria to support decision making in a *Consultative Approach to Transportation Planning*. The CWG report ***Methodology and evaluation criteria for selection of Eglinton West LRT configuration*** (MEC) briefly summarizes the RTEF, provides an analysis of its weighting of the criteria, and presents a detailed list of sub-criteria deemed important by CWG members.

The methodology of RTEF for ranking of alternatives relies on a simple scoring system based on illusory “equal” weighting of criteria. It fails to acknowledge the existence of or to take into consideration the inevitable uncertainties and risks associated with the anticipated outcomes. With the objective of guiding **better, unbiased, objective decisions** the CWG proposes adoption of a **more sophisticated and mathematically sound decision support system, such as the well-established Analytic Network Process (ANP)**. Use of the ANP would help ensure that major decisions with high stakes, involving human perceptions and judgments, and whose resolutions have long-term repercussions are sensibly founded on the knowledge, opinions and priorities of all relevant experts and stakeholder groups.

The sub-criteria proposed in MEC, under the major criteria categories of the RTEF, are quite extensive. For details the reader should consult MEC. Here we list only the number of sub-criteria in each category to illustrate the arbitrariness of giving equal weight to each complete category:

Category	# of sub-criteria
Travel experience	24
Travel choice	5
Social equity	10
Shaping the city	8
Healthy neighbourhoods	16
Public health & environment	9
Supports growth	7
Affordable	4

The ANP maintains objectivity by determining suitable weightings and corresponding sensitivities as part of the mathematical analysis of participants’ input.

5. Conclusions

In investigating grade separation and/or tunnelling options, the Community Working Group found it necessary to conduct a strategic analysis of the entire Eglinton West LRT initiative. This analysis revealed that rider demand is likely to be far greater than assumed in the Initial Business Case. Not only grade separation, but full separation of the LRT from the roads network will best serve the anticipated demand by doubling the LRT capacity and providing an improved level of service that will meet the expectations of both air travelers and commuters.

An at-grade LRT along Eglinton through central Etobicoke would inevitably worsen the already serious traffic congestion, cause more incursion of non-local traffic into residential communities, and make the roads less safe. If constructed at-grade or above-grade, the LRT would make Eglinton more of a barrier between north and south and would severely constrain future efforts to improve traffic or enhance the community. In contrast, constructing the LRT below-grade along this mature residential stretch would leave flexibility for future efforts to improve traffic and/or transform Eglinton to a more vibrant avenue that better serves and integrates the community.

Too much trust has been placed in agent-based micro-simulation modeling efforts for both transit ridership and traffic. The data available to modelers is insufficient in quality, quantity, time span and statistical characterization to adequately support the independent tasks of tuning and validating the models. The necessary reliance on modelers' assumptions about future changes makes the model predictions even less reliable than the assumptions. Adopting a macro-view is more likely to produce reliable predictions about long-term transit demand and traffic conditions, albeit with less granularity. At the very least, predictions from micro-simulations should be checked for sensitivity to assumptions and for consistency with long-term economic and development plans and corresponding macro models.

The Community Working Group has found that the approach used by Toronto to identify and perform comparative evaluation of alternative transit options is not sufficiently rigorous and is susceptible to bias via the choice and grouping of criteria. Using the eight categories of evaluation criteria identified in the RTEF only as suggestive groupings, the CWG has identified 83 sub-criteria for consideration when deciding the best path forward for the EWLRT. Other stakeholder groups will almost certainly add to the list. Evaluation of alternatives, with due consideration to the large number of (sub-)criteria and to the knowledge and opinions of many experts and stakeholder groups, is a daunting but necessary task. To support unbiased, objective decision-making for major transit (and other) investments, including the EWLRT, the City should adopt a much more sophisticated and mathematically sound decision support system that involves active participation by all significant stakeholder groups. The CWG recommends adoption of the Analytic Network Process, for which good software and consulting support is available, and which has been successfully applied in other jurisdictions for

comparable transit decision problems. Using such an inclusive and bias-free process will be important to enhance public confidence that decisions are supported by robust analysis.

Appendix A — The Community Working Group

Mandate

The direction from Toronto City Council (2017.EX29.1) was that the Eglinton West LRT Community Working Group (CWG) should address three areas of concern:

- investigate further Grade Separations and/or tunneling options
- further develop traffic modeling
- an enhanced framework that places additional consideration on local community interest.

Membership

The CWG members were selected in early 2018 by Councillors Stephen Holyday (Ward 3) and John Campbell (Ward 4) following an open request for participants from within the local community. Selection criteria included representation of resident organizations or public transit user communities, prior community contributions, and skills relevant to the subject matter. The members are:

Jim Chapman
Don Charles
Janice Charles
John Disalvo
Jurij Fedyk
Martin Green (Chair, after July 10, 2018)
Joseph Lorincz
Frank Pallotta
Phil Poulos
Margareta Shpir
Christopher Solecki
Laila Strazds (Chair, until July 10, 2018)
Steven Tufts

One additional person was selected, but attended only one meeting and did not respond when invited to participate in preparation of CWG reports.

The CWG Chair can be contacted by email, on an ongoing basis, at magreen@sympatico.ca.

Meetings

City staff on the Eglinton West LRT Project Team organized and directed six CWG meetings. This included setting the agenda, inviting presenters, and organizing presentation materials and CWG member exercises/workshops. Subject matter experts from Toronto, the TTC, Metrolinx and engaged consulting firms were invited to present and answer questions on specific areas of

planning, modeling, design, financing and construction. Representatives of the Councillors for Toronto Wards 2, 3 and 4 attended as observers. The Project Team engaged independent facilitators to lead some meeting segments (e.g., workshops) and prepare the minutes.

Meeting 1 - March 7, 2018:

Introductions; Terms of Reference; meeting protocols; work plan.

Meeting 2 - April 3, 2018:

Existing planning and decision-making process; Metrolinx Business Case Framework; EWLRT Initial Business Case.

Meeting 3 - May 8, 2018:

EWLRT design options; Metrolinx 2041 Regional transportation Plan; City of Toronto's Transit Network Plan; TTC evaluation of transit user-experience; CWG workshops on Community Fit, User Experience, Transit Network.

Meeting 4 - June 5, 2018:

Traffic modeling - methodology, tools, data, validation, limitations, questions, concerns.

Meeting 5, June 26, 2018:

Cost of LRT options (at-grade, above-grade, below-grade); partnerships and financing.

Meeting 6, July 10, 2018:

Costing clarification (Contingency allowance); Rapid Transit Evaluation Framework; workshop for CWG evaluation of LRT options.

CWG members were also invited to attend a meeting of the EWLRT Stakeholder Advisory Group (SAG) on July 18, 2018. This was focused on, and encouraged input to, a land use Planning and Streetscape Study underway for the Eglinton West study area. It appears that the premise of this study is that the EWLRT will be constructed at-grade.

Access to Information

The Project Team controlled what information would be made available to CWG members. URLs were provided to relevant publicly-available documents. Files with slides of presentations prepared for CWG meetings were shared via email, after each meeting. The meeting minutes recorded CWG questions and the responses of subject matter experts.

Despite requests, CWG members were not provided access to reports or data (e.g., modeling studies) relevant to the EWLRT that were not already publicly available, but which may have been used in support of the preparation of publicly available materials or the meeting presentations. A CWG member was advised that a Freedom of Information request would be required even though the existence of requested information could not be known in advance. Any such request would be costly and likely not result in disclosure before the CWG's work was completed.

Independent CWG Activities

From the outset, CWG members perceived that those organizing the CWG meetings were strongly committed to the at-grade concept approved by Council in July 2016. Meeting agendas and presentations were designed to progressively educate CWG members about the planning and evaluation process, including through exercises / workshops. The CWG was repeatedly told that Council had already approved the at-grade solution, on which work was proceeding. Members of the Project Team and their invited experts showed little interest in seriously considering grade separation alternatives favoured by CWG members, creating a sometimes confrontational environment. There was little opportunity or time during meetings for CWG members to adjust the agenda, determine and collect what information they considered important to their work, and engage in meaningful discussion with each other and with the experts in attendance. This led CWG members to discuss organizing independent meetings.

It became clear that the staff-organized meetings would not allow the CWG to fulfill its purpose: meaningful consideration of alternatives involving grade separation, critical examination of traffic modeling, and changes to the evaluation framework so it would more appropriately consider community interest. To avoid failure, CWG members exchanged contact information and agreed to work collaboratively, independent of the Project Team and the meetings it organized.

CWG members conducted their own research, developed a shared online repository of relevant information, communicated with each other via email, and contributed as they were able to produce reports that present a consensus view. They held three independent meetings, each attended by almost all members, to discuss pros and cons of different LRT alternatives, arrive at consensus, and develop communications plans.

Individually and collectively, CWG members will continue to engage municipal and provincial leaders so their decision making process and outcome for the EWLRT will be suitably guided by the CWG's findings and recommendations.

Appendix B — Supplementary Information

Comparison of Alternatives

The following table indicates how the CWG believes the **Non-Separated** and **Fully-Separated** EWLRT alternatives would respond to the high-level criteria of the City's Rapid Transit Evaluation Framework.

Criterion	Non-Separated	Fully-Separated
Travel Experience for transit users	POOR: Affected by weather and problems in intersections. One accident stops LRT.	BEST: No impact from weather, auto, truck, pedestrian, cyclist.
Travel Experience for other transportation modes	POOR: Negative impact to all other forms of transportation. Construction will severely impact already congested street and repair/replacement of rails etc. during 60 yr lifespan will also impact traffic flow. Reduction in some turning lanes will impact traffic flow. Wider intersections will impact all other forms of travel. Transit riders crossing to/from center lanes will impact all other forms of travel.	BEST: Actually improves auto, truck and cyclist travel by removing transit interactions with other forms of travel. Fewer users crossing lanes of traffic improves safety. No reduction in current lane structure. Repair/replacement of rails etc. during 60 yr lifespan will have minimal impact to surface use.
Travel Choice	POOR: Develops integrated network but reduced performance of surface route will not take users away from existing subway. Users will opt for faster transit in crowded environment requiring more transfers.	BEST: Develops integrated network with faster transit times
Social Equity	POOR: Does not balance benefits for other modes of transportation. Auto, truck, cyclist and pedestrian travel will be negatively impacted, especially the aged and mobility challenged.	BEST: Actually improves auto, truck and cyclist travel by removing transit interactions with other forms of travel. Fewer users crossing lanes of traffic improves safety.
Shaping the City	POOR: No flexibility for future transportation uses.	BEST: Surface left as is. In best position for evolution of modern transportation systems, community transformation and development.
Healthy Neighbourhoods	POOR: Weakens existing neighbourhoods. Widening of Eglinton Ave. will divide community. Auto/truck traffic will be negatively impacted pushing vehicles into neighbourhoods. Slower traffic flow will increase noise and air	BEST: minimizes all forms of disruption to existing neighborhoods. Minimizes air pollution, noise and heat island effects. Improves auto, truck and cyclist travel by removing transit interactions with other forms of travel, which also reduces traffic

	<p>pollution. Overhead wires etc. will reduce the visual appeal of the neighbourhood. Wider roadway will reduce pedestrian/cycling safety. 2 major schools will be crossing 2 active lanes of traffic to get to LRT. Disruption to traffic flow during construction and renewal phases.</p>	<p>into local neighbourhoods. Minimizes disruption during construction and renewal. Enhances visual appeal of neighbourhood. Enhances safety for pedestrians, cyclists, children, students, seniors and users of mobility devices.</p>
Public Health & Environment	<p>POOR: Negative impact to all other forms of transportation will increase air pollution and increase traffic infiltration into quiet neighbourhoods. Amount greenspace, trees etc. will be reduced.</p>	<p>BEST: minimizes noise. Improves air quality. Maintains greenbelt, trees, woodlots and green corridors. Minimizes Summer road level heat. Increases use of transit instead of cars. Reduces air pollution.</p>
Supports Growth	<p>POOR: Slower surface routes will not keep pace with below grade LRT to the East. Loss of surface space for LRT greatly reduces flexibility of future transportation systems. Negatively impacts already congested roadway.</p>	<p>BEST: Improves transit utilization through reliability, predictability and speed. Ensures flexibility for future growth of transit system and use. Higher transit speeds will handle larger volumes of riders which will be required to handle the Airport Employment Area. Improves auto, truck and cyclist travel by removing transit interactions with other forms of travel.</p>
Affordable/Cost Utilization	<p>POOR: Spending a lot of money to improve transit but negatively impacting auto/truck/cycle/pedestrian forms of travel. Greatly reduces flexibility to address future transportation needs.</p>	<p>BEST: Spending more money than non-separated transit but getting more for your money, making this the best business case. Transit times are less with separated LRT vs non-separated. This reduction in travel times allows the LRT to move more passengers. This increase in transit volume more than offsets the higher cost...yielding a lower cost/transit user. Faster travel times also promote higher utilization. The higher cost also yields other benefits over a non-separated LRT:</p> <ul style="list-style-type: none"> - improvements to auto / truck / cycle / pedestrian travel. - surface space left unchanged for future transportation / development uses. - lower pollution - no loss of green space, trees etc. - reduces traffic infiltration into quiet neighbourhoods

Number and Location of Stops

The CWG believes that the EWLRT should be viewed as a higher order rapid transit line, and not a local service. It should have stops only where warranted by sufficient numbers of users. The projected numbers of users of potential secondary stops, not at arterial roads, along Eglinton seems too few to warrant construction of costly stations at those locations. Eliminating four secondary stops would also reduce total travel time by several minutes for most passengers. The CWG thus recommends that **stations should only be located at arterial roads where transfers to/from intersecting transit lines would ensure strong station usage**. Existing secondary Eglinton bus stops would be best served by re-designed bus routes (e.g., Royal York) that would carry passengers to nearby LRT stations; this could include community buses that better serve residents north and south of Eglinton. Provision should be made for convenient passenger drop off / pick up at each station.

Station design

The CWG recommends that LRT stations be unobtrusive and modest, with as little street-level presence as possible consistent with providing safe access for the anticipated number of station users at peak times. Architectural design should be in keeping with style and materials of the established local neighbourhoods.

Grade Separation

During CWG meetings, City staff and other agency representatives argued that grade separation would offer little benefit for traffic because the “at-grade” option would use signal coordination for the LRT. Staff deemed there to be no difference in development potential with or without grade separation, even though grade separation would place fewer restrictions on left turns and would not require separate left turn signals and longer signal cycle times. CWG members were not persuaded by those arguments/claims, and believe that an at-grade LRT would have significant adverse impacts on both traffic and development potential. An at-grade LRT would impose great restrictions on future efforts to improve the roads network or evolve toward a more vibrant community. A below-grade LRT would have no adverse impacts on traffic or development potential, and would ensure maximum flexibility for future changes. Grade separation should actually improve traffic -- buses on Eglinton would be reduced, fewer pedestrians would need to walk across intersections to access transit, and more drivers would switch to transit.

It is the consensus of the CWG that the LRT should be completely below grade from west of Scarlett Rd. to west of Martin Grove Rd. This was also overwhelmingly requested by concerned local residents, in their statements at several public meetings. Above-grade is recommended across the Humber valley in order to avoid flooding concerns. The challenges of a 230 kV Hydro transmission Right-Of-Way and the 427/401 interchange mean that a fully-separated LRT from Martin Grove to west of 427 will almost certainly need to be below-grade, including going under Mimico Creek (which itself runs in a concrete tunnel under Eglinton). The portion beyond

the 427 could employ a mix of grade separations to most efficiently connect with the BRT at Renforth Gateway, pass over the 401, and proceed to the new Regional Transportation Centre near the Airport — staying fully-separated from the roads network all the way.

The IBC considered alternatives with just one station below grade at a major transfer point to North/South transit -- e.g., Royal York, Islington, Kipling or Martin Grove -- while returning to grade (or above grade in some instances) for the remainder of the line. This would reduce traffic impacts at just the one intersection, without any significant reduction of travel time. Having such localized grade-separation at multiple stops (which was not considered in the IBC) would create a "Roller-Coaster" effect with changes in elevation before and after each of these stations and produce a very unpleasant ride experience. Full independence of the roads and traffic signals is needed to significantly reduce travel times and allow more frequent (2 minute) service.

Traffic on Eglinton West

Eglinton Avenue from the 427 to Black Creek Drive was once intended to become the "Richview Expressway", with high capacity connections just west of Martin Grove to Highways 401 and 427. Although the Expressway was cancelled, some of the Highway links were constructed. High volumes of traffic to/from 401 and 427 add to the already-heavy local traffic confined to just four through lanes on Eglinton. This has made Martin Grove and Eglinton one of the most congested intersections in Toronto. Instead of its nominal hourly capacity of 1600 vehicles, this intersection has actual peak hour volumes of nearly 3000 vehicles -- creating massive traffic jams every day. Making traffic even more treacherous, many eastbound vehicles on Eglinton (from Renforth), in efforts to find alternate routes that evade the gridlock on Eglinton, merge across three fully-occupied lanes to proceed north on Martin Grove. Over the years, upgrading of the Highways to carry more traffic and increased employment in the Mississauga Airport Corporate Centre have made the loading and congestion of Eglinton steadily worse.

A high-order solution must be developed to resolve this growing traffic problem. Such a solution will require a multi-jurisdictional approach to address transportation -- public and private -- throughout the region. Toronto acting alone cannot create an effective solution. As an example, adding one more lane in each direction along Eglinton would draw increased traffic through this corridor until it is again limited by congestion; and it would create worse congestion further east, beyond Royal York, where lane expansion is impossible due to narrower Right-Of-Way. Such a Toronto-only and roads-focused response fails to address the strategic complexity of the problem of moving people and goods.

Public transit that supplements, instead of relying on, the roads will need to be a major (perhaps dominant) component of the regional strategy for movement of people. This is no different from the problem of moving people from the suburbs to downtown Toronto -- for which the subways are indispensable. Building the EWLRT at-grade, down the centre of Eglinton, would severely restrict options for reconfiguration or widening of Eglinton at a later date. Building the EWLRT in

a below-grade tunnel will ensure maximum flexibility for plans for future growth, keeping all options open for both the roads and development of the community.

Development Along Eglinton

A wide corridor on the north side of Eglinton, set aside for the Richview Expressway, was held by the City for many years to maintain flexibility for future transit expansion. However, in recent years some of those lands were quietly transferred to Build Toronto (now CreateTO) and made available for residential and commercial development projects. Both road and transit must now be accommodated in the existing 45 m ROW. Residents of condominiums, townhouses and apartments, newly-built very close to the edge of the ROW, would be badly impacted by the noise and visual intrusion of an at-grade or above-grade LRT, making both those options undesirable.

New developments are in progress or pending at Widdicombe Hill Blvd, Kipling, Wincott and the former "Plant World" site just east of Royal York (a massive project with four towers of 20+ stories, over 1300 parking spaces and over 93,000 m² of residential accommodations). If the EWLRT is constructed, then other sites are likely to be (re)developed with higher density. All of these developments will place additional demands on both Eglinton and local roads of the adjacent communities. If the LRT were to be at-grade, options for changing the roads to accommodate and manage growth would be very limited.