SENT BY EMAIL: **August 12, 2025**

Olivia Chow, Mayor of Toronto	mayor_chow@toronto.ca
Mike Colle, City Councillor, Eglinton-Lawrence	councillor_colle8@toronto.ca
Josh Matlow, City Councillor, St. Paul's	councillor_matlow@toronto.ca
Hon. Prabmeet Sarkaria, Minister of Transportation	prabmeet.sarkaria@pc.ola.org
Michelle Cooper, MPP Ward 8, Eglinton-Lawrence	michelle.cooper@pc.ola.org
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URGENT CALL TO ACTION
SUBJECT: Allen Road & Eglinton Avenue West – Immediate Fix Needed

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This report is submitted by the Cedarvale & Upper Village Community Group (CUVCG) to document city planning gaps and design deficiencies and of the recently reinstated Allen Road & Eglinton Avenue West intersection and to advocate for immediate corrective measures.

The City of Toronto has had over thirteen years to study the Allen Road corridor and determine an effective design for the Allen & Eglinton intersection. Despite repeated calls from the community, city-commissioned technical reports, and multiple planning studies underscoring its critical role, the City approved and implemented a flawed 2-lane configuration at the northbound Allen Road on-ramp.

The intersection reopened in 2023, and the design has directly contributed to intensified traffic congestion, increased neighbourhood infiltration by frustrated drivers, and has eroded the safety and quality of life for local residents and businesses.

This intersection is not a minor arterial road. It is the terminus of a major expressway and a **critical transportation link**, carrying tens of thousands of vehicles daily to provincial highways and surrounding regional networks.

The CUVCG calls on the City to immediately adopt a dual-track remedial action plan:

1. **Accelerate the redesign and construction of a functional Allen & Eglinton intersection** leveraging existing studies, reports, drawings and resources. Implementation must begin no later than **Summer 2026** and adhere to an expedited construction plan.
2. **Launch a comprehensive, area-wide mobility study immediately**, without delaying intersection redesign efforts.

Until both are complete, all major transportation initiatives in the area, including eglintonTOday Complete Street, RapidTO Bathurst, and the Beltline Gap Connections, must be **paused or remain on hold**.

This matter requires your urgent attention and response.

Sincerely,

The Cedarvale & Upper Village Community Group (CUVCG)

FIXING THE ALLEN ROAD & EGLINTION INTERSECTION

------- URGENT CALL TO ACTION ------

Submitted by: The Cedarvale & Upper Village Community Group (CUVCG)

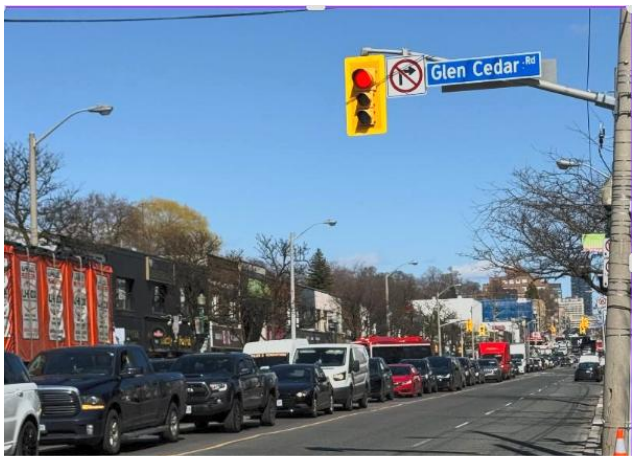
A SUMMARY OF OVERSIGHT BY THE CITY

A Flawed Design, Bypassed Expert Advice, Insufficient Study of the Area

- In 2020, the City of Toronto **abandoned a 90% complete 4-lane Allen Road on-ramp design** for a 2-lane alternative that was not supported by public consultation or technical analysis. Specifically, the 2-lane design currently in place **was never evaluated** in any technical report referenced in any city document received through FOI or public consultation.
- A **2016 CIMA+ Engineering report (see Schedule C)**, obtained via FOI, explicitly warned that implementing dual eastbound-left turns at the Allen on-ramp without additional northbound capacity would **worsen congestion**—a configuration now in place.
- In **2016,** the City **cancelled the Allen Road Environmental Terms of Reference (ToR)**[i], which was a foundational study mandated in multiple city-planning reports. It was critical to guide planning and growth along the Allen corridor and address long-standing dysfunction at Allen Road and Eglinton Avenue West.

Community Requests & Warnings Disregarded

- In Fall 2022, the CUVCG presented the City with a proposal for a **Mobility Masterplan Study** by consultants TYLin and Urban SDK[ii] and a **Laneways-as-Bikeways pilot,** inspired by a 2018 report by Canadian Urban Institute[iii] to help guide growth, traffic management and cycling infrastructure in the area. **Both were disregarded by the City.**
- In February 2023, CUVCG submitted to the City, *A Case for an Urgent Study – Allen Road & Eglinton*[iv], proving the urgent need for a holistic, neighbourhood-wide mobility study to support a safe, functional and vibrant community in the long-term. Over 750 residents signed a petition supporting the request for a study.[v] **The city never acted on this request.**
- Since the reopening of the Allen & Eglinton intersection in May 2023, the community has endured exacerbated **gridlock, traffic chaos, and safety issues**. Minor, ad hoc adjustments made by the City to date have had little impact.



Eglinton looking east - Tues, Apr 22, 2025 3:36pm

Eglinton looking west - Sun, Apr 27, 2025 6:25pm

No Clear Plan, No Urgency

- The **handover of control of the Allen & Eglinton intersection from Metrolinx/Crosslinx to the City was long and difficult**. The transfer occurred in spring 2024 - a year after the reopening of the intersection. This delayed transfer of control still required enormous community advocacy and prolonged improvements at the intersection.
- In May 2024, after months of community pressure, the City paused the implementation of the eglintonTOday Complete Street in the vicinity of Allen Road until operational improvements were made at the intersection[vi]. However:
  - Signal optimization initiatives to date have delivered only marginal improvements to traffic flow.
  - **No physical traffic management initiatives have been made at the intersection, such as larger, enhanced signage and clear road markings to help minimize driver confusion.**
  - **The LRT stations at Allen & Eglinton remain closed to pedestrian access.** The City communicated that the station underpasses were designed solely for fare-paying users. This design choice prevents their use as general pedestrian crossings, which could have significantly reduced surface-level mobility conflicts and improved traffic flow at the Allen Road on and off-ramps.
- In Spring 2024, the Upper Village BIA and CUVCG jointly initiated a Streetscape Masterplan for Eglinton (between Allen & Bathurst) to plan and inform future traffic infrastructure and beautification projects, and to enhance streetscape conditions after years of traffic and construction. However:
  - **The city did not accept our original Project Charter**, which included detailed resident (138 responses) and business surveys, stalling meaningful progress on the project.[vii]
  - The city **unilaterally** broadened project engagement to unrelated BIAs - conflating the distinct needs of different neighbourhoods and further delaying timelines complicating and outcomes.
- In February 2025 – two years after the disastrous re-opening of the Allen & Eglinton intersection and relentless community advocacy – the city passed Motion MM26.12[viii] to begin studying **redesign options for the Allen & Eglinton intersection**. However:
  - No project team has been formed, no RFP has been issued, and no implementation timeline exists.
  - No formal updates or plan about the intersection redesign are expected until **Q1 2026, at the earliest**.
  - The scope lacks urgency, transparency, coordination, and a holistic strategy.

This situation is unacceptable. The community has endured years of construction, congestion and uncertainty while meaningful solutions remain unimplemented.

The Allen Road Expressway carries up to 100,000 vehicles each weekday, connecting Toronto directly to the 400-series highways and the broader regional network. After more than a decade of construction, consultation and expert analysis, further study and delay is not an option. This critical intersection—located at the terminus of a major and vital transportation corridor—requires immediate, coordinated action by all levels of government.

EVIDENCE OF OVERSIGHT AND CRITICAL PLANNING GAPS

The Current Allen On-Ramp Design Does Not Incorporate Key Expert Recommendations

The 2016 CIMA+ Engineering report evaluated 3- and 4-lane on-ramp configuration options. The current, city-approved 2-lane on-ramp design at Allen Road was never assessed in the report and **clearly contradicts engineering recommendations**. The table below provides an overview of the design options that were evaluated in the CIMA+ report.[ix]

Table 1: Analysis Scenarios

Scenarios	Off-ramp intersection		On-ramp intersection		
	Eastbound	Westbound	Eastbound	Westbound	Northbound (receiving)
Base case	2 lanes + 1 bus lane	2 lanes	L-T-T	T-R-R	3 lanes
Option 1	2 lanes + 1 bus lane	2 lanes	L-L-T	T-R-R	3 lanes
Option 2	2 lanes + 1 bus lane	2 lanes	L-L-T	T-R-R	4 lanes
Option 3	2 lanes + 1 bus lane	2 lanes	L-L-T-T	T-R-R	4 lanes
Option 3A	3 lanes	2 lanes	L-L-T-T	T-R-R	4 lanes
Option 4	2 lanes + 1 bus lane	2 lanes	L-LT-T	T-R-R	4 lanes

Note: L = left-turn lane; LT = shared left/through lane; T = through lane; R = right-turn lane

1. **Expert Advice Unheeded**

   The City requested that CIMA+ evaluate: (a) a double eastbound left-turn lane at the on-ramp, and (b) additional northbound receiving lanes on Allen Road.

   CIMA+ clearly advised that implementing a double eastbound left-turn, without increasing northbound receiving lanes, would reduce overall intersection capacity and worsen traffic flow.

   "*Provision of a double EBL turn lane on Eglinton Avenue without increasing the number of receiving lanes on Allen Road reduces intersection capacity as the WBR and EBL movements can no longer be called at the same time. Consequently, traffic operations at the on-ramp intersection are adversely impacted. Further there are traffic operations concerns, as only one eastbound through lane is provided at the on-ramp intersection. Traffic safety is also of concern in the eastbound direction due to an increase in weaving between the two ramp intersections.*"[x] The City's 2-lane design appears to have disregarded these concerns.

   The CIMA+ report used the City's Synchro models but it flagged concerns about the reliability of Synchro due to close intersection spacing conditions. CIMA+ recommended using microsimulation tools (e.g., Vissim or Aimsun) for more accurate analysis, but these were outside the City's scope and were not utilized in the study.[xi]

2. **Abandonment of Existing Design Work**

   The original 4-lane on-ramp design was already 90% complete and ready for approval before the City suddenly scrapped it in 2020 and proceeded with the existing 2-lane design, which cost at least $1.4M in change orders. FOI email correspondence indicate that the city prioritized avoiding alterations to noise walls, retaining walls and sidewalks along the east side of the Allen Road over long-term traffic performance and functionality of this transit hub.[xii]

   Figures 1 -3 below illustrate the Allen Road on-ramp configurations over time: (1) the 3-lane design that existed before the LRT construction began in 2012, (2) the cancelled 90% complete 4-lane design that accommodated simultaneous eastbound and westbound movements, (3) the final approved 2-lane design currently in place that has created traffic chaos in the community.

FIGURE 1: Pre-LRT Construction (May 2012) 3-Lane Allen Road NB On-Ramp Configuration

- **Simultaneous movements for EBL & WBR at on-ramp**
- **WBR right turns permitted during red light signal**

FIGURE 2: Abandoned 90%-Designed 4-Lane Allen Road NB On-Ramp Configuration

- **4-lane ramp 90% complete design permitting 2 EBL & 2 WBR simultaneous movements.**
- **Design cancelled in 2020 to seemingly avoid costs related to alterations to eastern noise wall and pedestrian walkway (see FOI email correspondence attached)**

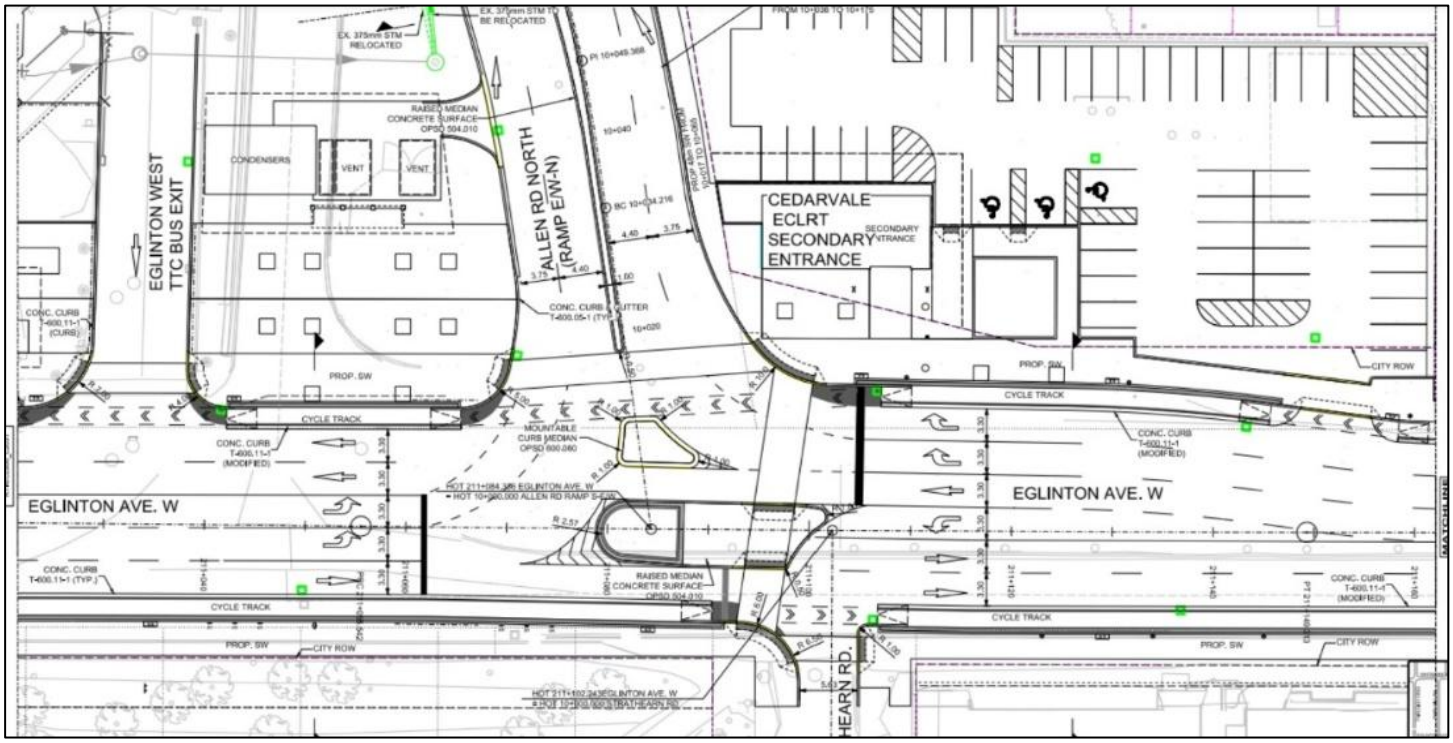
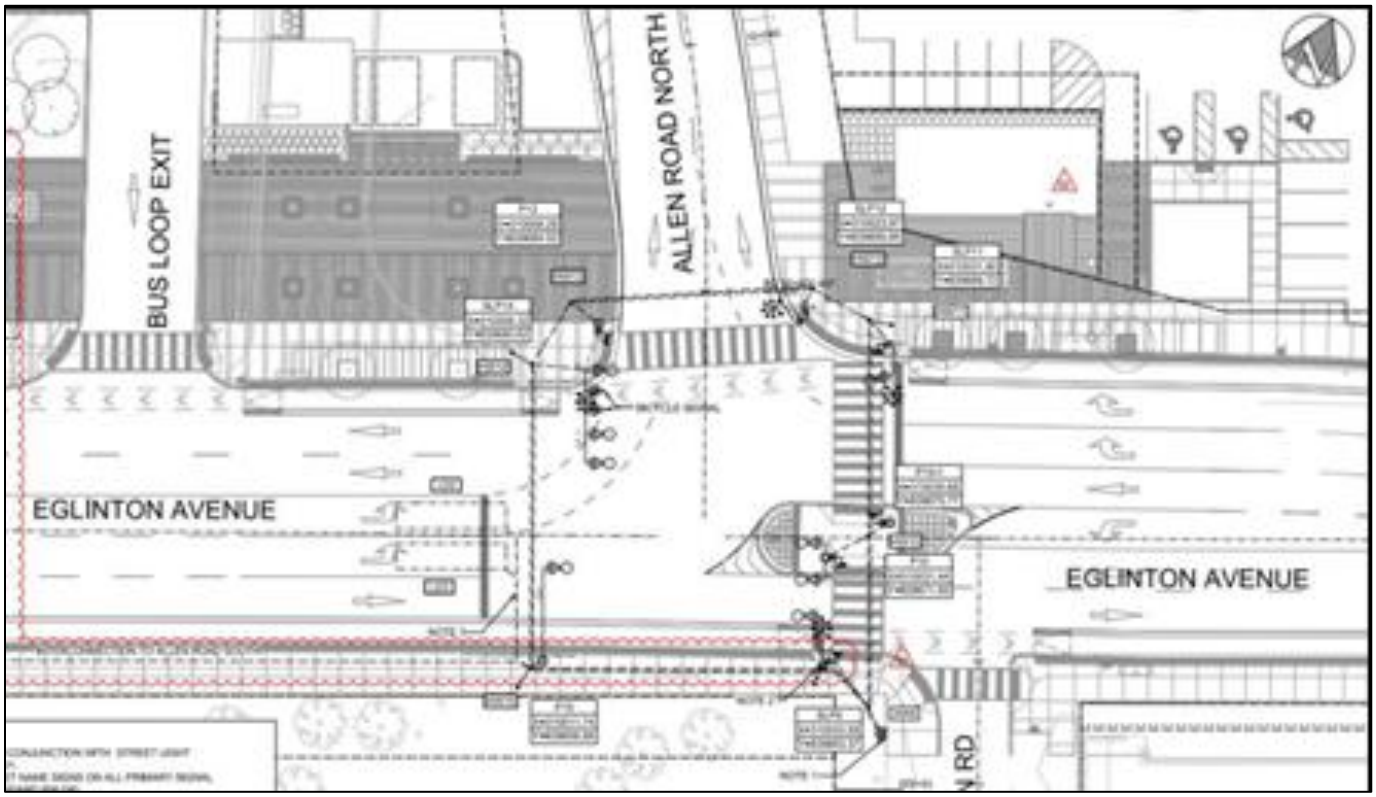


FIGURE 3: Current 2-Lane Allen Road NB On-Ramp Configuration

- **Final 2-lane ramp restricting EBL & WBR simultaneous movements, which CIMA+ warned against.**
- **Design change order cost over $1.4M, created traffic chaos and was not supported by any report or study obtained through the FOI request or public consultation.**



3. **Years of Inaction**
   Despite multiple city-planning reports (EglintonConnects[xiii], Allen Greenway Project[xiv], Lawrence Allen Revitalization Plan[xv], Allen Road Technical Feasibility Study) and city council motions mandating comprehensive review and study of the Allen Road corridor and the Allen Road and Eglinton Avenue intersection[xvi,xvii], the city did not undertake the necessary strategic planning and **in 2016 cancelled the Allen Road Environmental Assessment and its Terms of Reference.** This decision, combined with the absence of a coordinated study addressing the broader transportation corridor, surrounding precinct, and impacted communities (i.e. the holistic neighbourhood-wide mobility study) reflects oversight and a concerning gap in long-term planning.

SHORT-TERM FIXES: INSUFFICIENT, INEFFICIENT AND UNCOORIDINATED

The City's current response measures are fragmented and rushed, consuming valuable resources without addressing the root problem. Immediately accessible initiatives should be prioritized and executed without delay while the final intersection redesign is being investigated.

- Current neighbourhood cut-through traffic mitigation measures have not been holistically studied. Street programming needs to be coordinated with complementary analyses, including a review of **existing parking bylaws, peak time designations, signal locations and timing, and and an assessment of potential spillover effects on adjacent streets.**
- Pilot the '**Laneways as Bikeways'** strategy to test innovative cycling solutions and reduce surface mobility conflicts. Data gathered should inform the final road configurations for this complex area.
- Employ advanced **microsimulation tools (Vissim or Aimsun as recommended by CIMA+) and heat maps** to produce traffic pattern data precise operational modeling.
- Install larger, **more visible signage and clear road markings** to improve wayfinding and reduce drive confusion.
- Projects such as RapidTO Bathurst and Growing Glencairn are currently proceeding in a silo. They must be integrated into a unified, neighbourhood-wide transportation masterplan, ensuring alignment with the macro-vision for this critical network.

CUVCG DEMAND – DUAL-TRACK ACTION PLAN

TRACK 1 - Immediate Redesign and Re-Construction of the Intersection

- City must immediately create and assign a specialized project team to this area.
- City must leverage existing reports, studies, drawings and resources (CIMA+ report, original 4-lane designs, Metrolinx documents, previous consultant advice, planning studies, etc.) to develop a new, functional intersection that widens the mouth of Allen on-ramp to increase vehicular capacity and redesigns surface crossings that reduce mobility conflicts while ensuring efficient vehicular flow. We don't need to start from scratch and solicit new consultants and studies.
- **Construction and implementation must begin no later than Q3 2026, with strict adherence to accelerated timelines to prevent additional hardship for local businesses and residents, economic impacts from commuter congestion, and further deterioration of public safety.**

TRACK 2 - Simultaneous Area-Wide Mobility Study

- Launch a coordinated and holistic neighbourhood-wide study, aligned with the Growing Glencairn Study and other planning initiatives, to assess factors such as:
  - Multimodal travel patterns and networks.
  - Current signal locations and timing optimization.
  - Development intensification impacts from both existing local applications in the pipeline as well as forecasted growth from surrounding MTSAs and PMTSAs such as: Lawrence Allen Revitalization Plan, Yorkdale Master Plan, Downview Park.
  - Street (both arterial and residential) and rear laneway assessments and re-programming, including parking bylaws, peak hour times, cycling, turning and one-way street restrictions.

Moratorium on Other Major Projects

- Suspend eglintonTOday, RapidTO Bathurst, Beltline Gap Connections and other programs until:
  - A functional new Allen & Eglinton intersection is built and re-opened, and
  - The area-wide mobility plan is complete.

CONCLUSION: THE TIME FOR ACTION IS NOW

Despite more than a decade of construction, community engagement and expert analysis, persistent oversight and City planning gaps have obstructed the implementation of urgently needed solutions for the Allen Road corridor - particularly at the Allen Road and Eglinton Avenue West intersection.

The result has been severe and hazardous congestion, increased cut-through traffic, and unsafe conditions for pedestrians and vulnerable residents, fueling mounting frustration among residents, businesses, and commuters, and eroding public confidence in the City's planning and leadership.

The City does not need to undertake new studies from scratch to fix the Allen & Eglinton intersection. We are demanding that the City act on **existing data and reports** to finally implement meaningful, functional and expedited change, and appropriately and holistically study this complex transportation hub and its surrounding impacted communities.

The Allen Road Expressway is more than a local thoroughfare. **It is a vital regional transportation corridor that connects directly to Ontario's provincial highway network**. The 'new deal' reached between Ontario and Toronto in November 2023 rightly acknowledged the strategic importance of the Gardiner Expressway and Don Valley Parkway by uploading them to the province, enabling more effective operations management and accelerated state-of-good-repair work on these key transportation assets.

The Allen Road warrants the same level of recognition and investment. **The current situation demands urgent leadership and coordination from all levels of government**. Toronto and our community cannot afford further delays and inaction.

CONTACT

Lora Sloan - Cedarvale & Upper Village Community Group (CUVCG)
Email: cedarvaleuppervillage@gmail.com

Attachments:

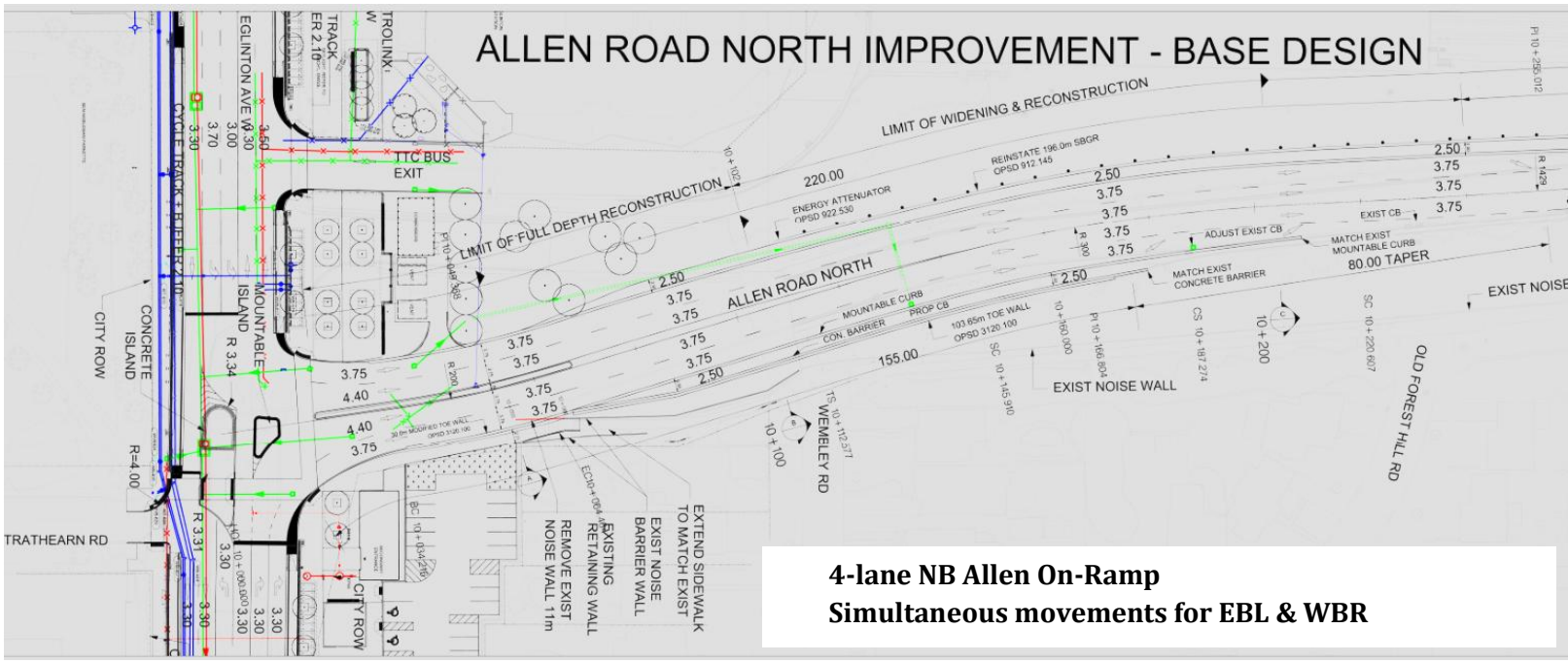
- Schedule A - FOI Plans and Drawings
- Schedule B - FOI Email Correspondence
- Schedule C- 2016 CIMA+ Engineering Report

Glen Cedar & Ava
Tues, Apr 22/25 3:32pm

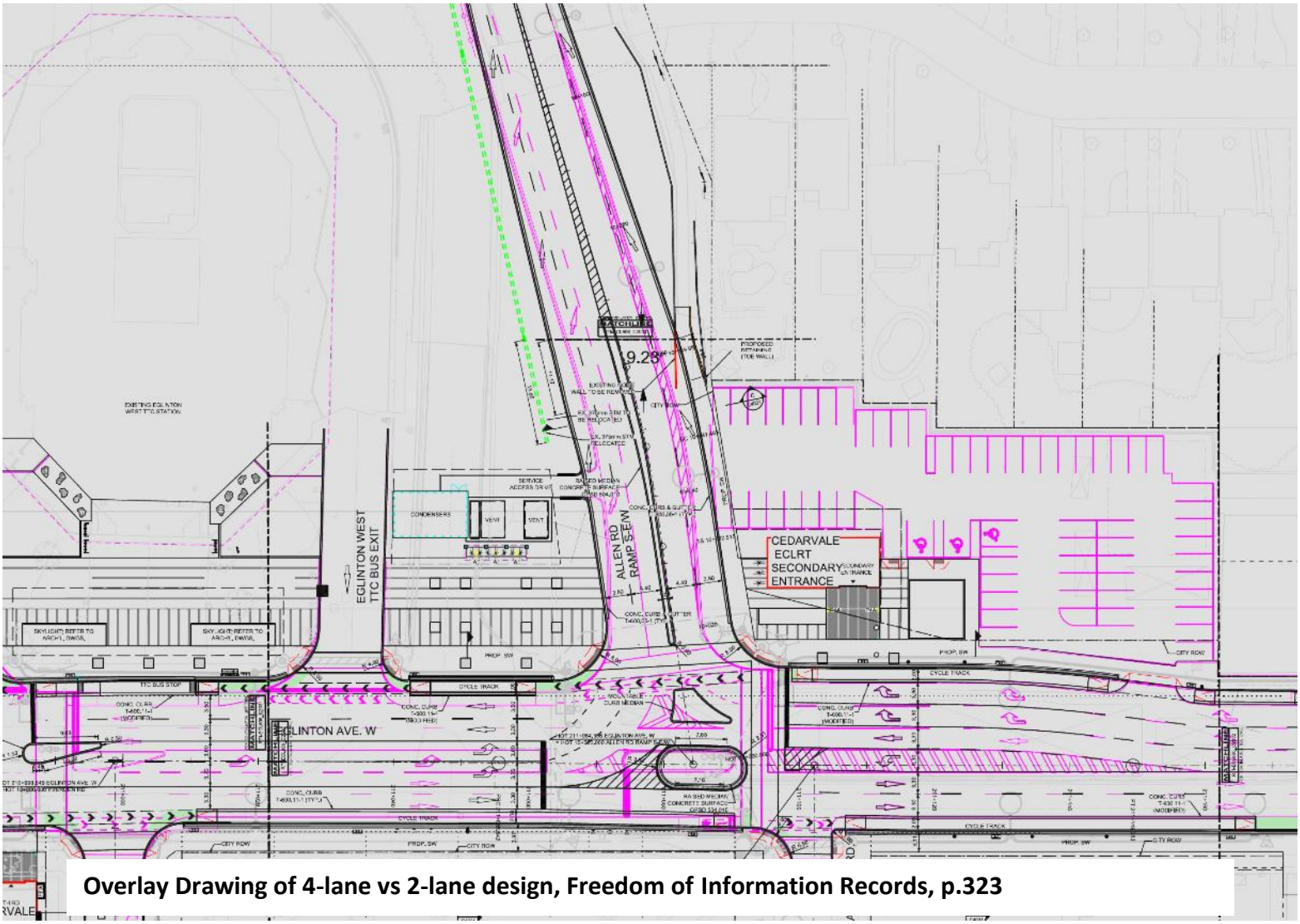
Eglinton & Glenarden
Sun, Apr 27/25 6:30pm

Ridge Hill & Hilltop
Wed, Apr 30/25 6:30pm

SCHEDULE A: FOI PLANS AND DRAWINGS



4-lane NB Allen On-Ramp
Simultaneous movements for EBL & WBR



Overlay Drawing of 4-lane vs 2-lane design, Freedom of Information Records, p.323

SCHEDULE B - FOI EMAIL CORRESPONDENCE

Tosin Adeyemi

From: [redacted]
Sent: March 26, 2020 1:19 PM
To: [redacted]
Cc: [redacted]
Subject: Re: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments
Attachments: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments

Here you go, received this earlier this morning

[redacted] P.Eng.
4Transit, a Consultant to Metrolinx
Rapid Transit, Capital Projects Group
40 Eglinton Ave East, 5th Floor | Toronto | ON |
Office: (416) 202-0945

From: [redacted]
Sent: March 26, 2020 1:15 PM
To: [redacted]
Cc: [redacted]
Subject: RE: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments

Thanks [redacted] for the clarification.
Is it possible to send a note to [redacted] and get an confirmation email from them? it is in HMQE's benefit to have a proof of agreement (an email would suffice) from the City in this matter to make sure there is no misunderstanding between the parties.
Regards

[redacted] | Jacobs | Metrolinx Capital Projects Group [redacted] | T: [redacted]
[redacted]@jacobs.com | www.jacobs.com

From: [redacted]@metrolinx.com>
Sent: Thursday, March 26, 2020 12:17 PM
To: [redacted]@jacobs.com>; [redacted]@metrolinx.com>; [redacted]@metrolinx.com>
Cc: [redacted]@jacobs.com>; [redacted]@metrolinx.com>
Subject: [EXTERNAL] Re: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments

Hi [redacted]
Hopefully this is clear as the process on this one is a little confusing, CTS have submitted a 100% design for the Allen Rd ramp as a 4 lane cross-section, after receiving this the City reviewed and revisited the concept as they were concerned about cost and impacts on adjacent noise walls. They requested that CTS revise the design to only provide a 3 lane cross-section. The City did provide comments on the 100% design.
As a result CTS undertook the design modifications required to provide only a 3 lane Allen, of note the 3 lane Allen Rd would have been what was required under the base case design, so they needed to undertake a design to tie the base case Allen to the VC0333 Eglinton design.
So, CTS did submit the 100% design for the Allen (4 lanes), the City provided comments but decided they didn't wish to proceed with the 4 lane Allen, so as per the scope for this new variation, CTS will carry out no further work on the 100% design i.e. they will not be addressing the City's 100% comments as they pertain to

Tel.: +1(416)679-6116 Mobile: +1(416)986-5930

From: [redacted]@toronto.ca>
Sent: March 18, 2020 8:32 AM
To: [redacted]@crosslinxtransit.ca>; [redacted]@toronto.ca>; [redacted]@toronto.ca>; [redacted]@metrolinx.com>
Cc: [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@metrolinx.com>; [redacted]@metrolinx.com>
Subject: RE: 100% Allen/Eglinton Design Variation Package (VC0333)

Thanks [redacted] I will review internally asap, but did you intend to attach the sketch? I do not see it within the email.

[redacted]

From: [redacted]@crosslinxtransit.ca]
Sent: March 17, 2020 5:36 PM
To: [redacted]@toronto.ca>; [redacted]@toronto.ca>; [redacted]@toronto.ca>; [redacted]@metrolinx.com>
Cc: [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@metrolinx.com>; [redacted]@metrolinx.com>
Subject: RE: 100% Allen/Eglinton Design Variation Package (VC0333)

Hi [redacted] all
As discussed, we met with CTSD and internally at CTSC, and here our analysis:

Following City's intention to execute the work at Eglinton, and no executing the Allen Rd, these are the comments from CTSD:

- *Based on the City's comments we have prepared a sketch which shows the work on Eglinton Ave as per the variation and our latest 100 % VC0333 submission. This sketch has replaced the 4 lane Allen NB Rd cross-section from the Variation design with the original IFC 3 lane design section submitted to CTSC on August 23, 2018. We have highlighted this area as **additional work to be developed and finalized** since we now have a different cross-section on Eglinton (including the dual left turn) from the IFC design.*
- *It appears that the 3 lane cross-section will eliminate the need for noise wall and retaining wall revisions **but will need to be confirmed.***
- *The traffic analyses **will have to be revised and a revised report issued to the City for review and acceptance**. The traffic scope is anticipated to include but not necessarily limited to:*
    1. *Revise Synchro/Simtraffic analysis based on red/amber timing*
    2. *Update all figures and tables content*
    3. *Update appendices including Synchro output results and signal timing card*
    4. *Review by and acceptance by the City*
    5. *Back-checking process & internal review/QC to finalize the content*

- *Traffic recommendations with respect to geometrics, pavement marking, island configuration will have to be incorporated into the design.*
- *We anticipate an additional meeting with CTSC and the City including CRR responses will be required as we are already at 100 % with the variation.*
- *Electrical revisions to streetlighting and traffic signals will be required.*
- *Landscaping and streetscaping review and updates will be required.*

From the commercial point of view, and to expedite the execution of the new VC, **CTSC confirms that we can accept to proceed with the work only for Eglinton based on the Lumpsum amount of $1,394,004 plus HST** as it is indicated on the Estimate, assuming that:

- There will not be required any work at the noise wall and retaining wall. If required, that work shall be included in a separate Variation.
- Revision of the traffic memo and overall design (as per the comments above) will be approved in an expedite process with the City. Any delays, or not approval, or major change in the design shall be included in a separate Variation.
- We will not be required to finalize the IFC stage for the Allen Rd. portion and any other requirement for the Allen Rd. portion for VC0333.
- In regards to the additional survey at Allen Rd NB, that survey was completed already and we will provide copy to the City. No more work/analysis from CTSD will be provided for that portion.
- CTSC will build the changes at Everden Road as per the 100% design of VC0333. This means that no change will be required to the design of the Variation for this section.

CTSC is doing this commercial analysis, taking into account that all potential minor changes in the Estimate as per City comments and to finalize the IFC design, will be balanced with the additional work that needs to be done at the intersection of Eglinton and Allen Rd. as described above.

In order to proceed with this:

1. We requested CTSD to hold any further design work on Allen Rd. North, until agreement between the Parties is reached.
2. Get confirmation from the City via email on this approach.
3. CTSD/ CTSC / HMQE / City to agree on the timeline for the execution of this approach (Revised design, VC approval, permits, etc)
4. CTSC / HMQE / City to agree on the best and fastest way to complete paperwork and formalize the new VC. (It could be with an agreed wording on the VC, or a revised Estimate package from CTSC)
5. CTSD to implement changes in the design, and CTSD/ CTSC / HMQE / City to meet to expedite closure of design comments for getting to IFC.

If you have any comment or question, please call me.

Because of the changes that we need to incorporate in the design will require some additional time, please try to provide the final answer no later than the previous communicated date for the new VC (this Friday March 20). We can complete official paperwork early next week.

Regards,

[redacted], *M.Eng., PMP*
Contract Change Manager
Crosslinx Transit Solutions - Constructors

Tel.: +1(416)679-6116 Mobile: +[redacted]

From: [redacted]@toronto.ca>
Sent: Friday, March 20, 2020 6:44 PM
To: [redacted]@snclavalin.com>
Cc: [redacted]@crosslinxtransit.ca>; [redacted]@toronto.ca>; [redacted]@toronto.ca>; [redacted]@metrolinx.com>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@crosslinxtransit.ca>; [redacted]@metrolinx.com>; [redacted]@metrolinx.com>; [redacted]@snclavalin.com>; [redacted]@snclavalin.com>; [redacted]@snclavalin.com>; [redacted]@snclavalin.com>; [redacted]@snclavalin.com>; [redacted]@ibigroup.com>
Subject: Re: 100% Allen/Eglinton Design Variation Package (VC0333)
Thanks [redacted]

I'm not sure if [redacted] also mentioned the other aspect we would like some assurance on which is that given the traffic results in the memo, that the next traffic analysis could test a two stage pedestrian crosswalk scenario for the east leg crosswalk at the east signals. As you know, we've protected for this option in the design by extending the median easterly. If enough benefit to traffic operations is provided through a 2 stage crosswalk, we would be interested in implementing it for opening day. That would include a set of barriers and APS push buttons for the median. The median was not shown as mountable in 90%, so this non-mountable (standard curb) design could remain. In terms of the design you attached, it would also involve pushing the crosswalk markings of the short segment over the eastbound lane west to stagger the crossing line.

Can you please let us know if the 2 stage option can be simulated within scope, and if ultimately preferred, let us know what the approximate additional construction cost would be, if any.

Thanks,
[redacted]

Sent from my iPhone

On Mar 20, 2020, at 6:04 PM, [redacted]@snclavalin.com> wrote:

> Hi [redacted]
> Sorry for the late Friday response but please refer to the attached plan layout and preliminary swept path review. Pending further detail design with respect to grading and traffic protection, we are confident that the existing noise wall, pedestrian sidewalk and retaining walls will not be impacted by reverting to the three (3) lane ramp section for NB Allen Rd.
> This remains work in progress but the attached should give the City an indication of how the design is being revised.
> If you have any questions, please do not hesitate to contact me.
> Regards,
> [redacted]
>
> [redacted] *P. Eng.*

As discussed and agreed between the Parties, this email is to confirm the scope of work for the new VC:

- The new VC will be based on the CTS Estimate from VC0333 which was issued to HMQE under the cover letter CTS-LET-HMQE-2990, dated March 2, 2020, but will be **only for the Eglinton portion with the Lumpsum amount of $1,394,004 plus HST,** and the clarifications on the scope listed below:
- The scope of work for this new VC includes the reconfiguration of an eastbound left turn lane and through lane to a dual left turn lane (from Eglinton Avenue West eastbound to northbound W.R. Allen Road) along with associated changes to crosswalks (including the provision of infrastructure for a potential future two-stage crosswalk at the east leg of the Allen On-Ramp/Eglinton Avenue West intersection), cycle tracks, sidewalks, curb radii, the wheeltrans layby, etc., as well as the addition of a new curb extension at Everden Road and a truck apron at the W.R. Allen Road Off-Ramp and Eglinton Avenue West.
- No additional design work for the 4-lane Allen Rd option is required. CTS will not be required to finalize the IFC design stage for the Allen Rd. and any other requirement for the Allen Rd. portion for VC0333. For clarity, CTS will complete the invoicing of all VC0333 with the proof of the Work Submittal assigned as "Reviewed" or "Reviewed as Noted" by HMQE and the City for the 100% design of the Eglinton portion, and the delivery by CTSC of the corresponding IFC design.
- In regards to the additional survey at Allen Rd NB, that survey was completed already and CTSC will provide copy to the City. No more work/analysis from CTSD will be provided for that portion.
- The design at the Eglinton Ave intersection with Allen Rd NB will be as indicated on the attached drawing. The 4 lane Allen NB Rd cross-section from the VC0333 design was replaced with the original IFC 3 lane design section submitted by CTSD on August 23, 2018.
- As per the current design analysis, the 3 lane cross-section will eliminate the need for noise wall and retaining wall revisions along Allen Road. If any change is required as a result of final design or permits for this Variation, that work shall be included in a separate Variation or additional scope.
- City will resubmit the comments from the 100% design via document control as discussed between CTSD/ CTSC/ HMQE and City yesterday, and CTSD will provide the answer via email to the Parties. When agreement of closure of all the comments is reached between the Parties, CTSD will issue the formal response via document control, and aiming to issue the IFC package by April 9, 2020.
- Revision of the overall design will be approved in an expedited process by the City for permits. CTS will pursue TPUR approval for third party utilities to apply for the cut permit. TS will request TPUR to expedite the review process due to the urgency of the work. Any delays, or not approval, or major changes in the design shall be included in a separate Variation.
- Payment of the new VC will be based on milestone payments as indicated on CTS Estimate dated March 2, 2020.
- All other Estimate qualifications such as for Contamination, Utilities discovered, Properties and Road closure, etc., do not change and are applicable as listed on CTS Estimate dated March 2, 2020.

Copy of this email, with the corresponding approval from the City will be part of the new VC to be issued by HMQE.

Here a revised timeline for the execution of the new VC:

Process of **NEW CONSTRUCTION VC**					
No	**Milestone**	**Responsible**	**Duration**	**By**	**Comments**
A5c	Email from CTSC summarizing agreed changes on scope of work	CTSC	1 day	Mar. 24,2020	
A6b	**Email confirmation from the City to proceed with the work.**	City	1 day	Mar. 25, 2020	Official letter to be sent from the City to HMQE in parallel.

Tosin Adeyemi

From: [redacted]@toronto.ca>
Sent: March 26, 2020 11:18 AM
To: [redacted]
Cc: [redacted]
Subject: RE: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments
Attachments: CRR-CS110-F3-102-01A_March 25 2020 Revision.xlsx

Hi[redacted]

Thank you for the revisions to the scope.

We have received confirmation from the City's senior management [redacted] both cc'd here) to proceed with VC0379 and the lump sum amount of $1,394,004 plus HST to complete construction of the Eglinton Avenue portion of VC0333.

A formal letter of commitment to follow.

I have attached the latest revised 100% comments for the design team to proceed with changes for the IFC. As noted on the March 24th call and within the attached comments, City staff will work with CTS staff to develop preferred designs for the east signal crosswalk.

Thank you,

[redacted]
416-397-0211

From: [redacted]@crosslinxtransit.ca]
Sent: March 25, 2020 4:52 PM
To: [redacted]@toronto.ca>;[redacted]@toronto.ca>;[redacted]@metrolinx.com>;[redacted]@crosslinxtransit.ca>
Cc: [redacted]@crosslinxtransit.ca>;[redacted]@snclavalin.com>;[redacted]@crosslinxtransit.ca>;[redacted]@crosslinxtransit.ca>;[redacted]@crosslinxtransit.ca>;[redacted]@crosslinxtransit.ca>;[redacted]@crosslinxtransit.ca>;[redacted]@crosslinxtransit.ca>;[redacted]@toronto.ca>;[redacted]@toronto.ca>;[redacted]@metrolinx.com>;[redacted]@jacobs.com>;[redacted]@jacobs.com>
Subject: RE: VC0333 - 100 % Review Package Supplementary Meeting to Discuss Traffic, CoT Comments

Hi all
Here the revised text including the agreement between[redacted]and[redacted]for the permits section, and the comments from[redacted] This is the clean email which will be included in the new Variation Confirmation VC that will be issued by HMQE.

MEMO

TO	:	Anson Yuen, Irem Khan, Dan Clement (City of Toronto)
COPY TO	:	Stephen Keen
FROM	:	Stephan Schmidle
DATE	:	**September 14, 2016**
SUBJECT	:	Traffic Operations at the Intersections of Eglinton Avenue and Allen Road

INTRODUCTION

The City of Toronto has tasked CIMA+ with investigating opportunities for improving traffic operations at the intersection of Eglinton Avenue and Allen Road (on-ramp). The Allen Road intersections experience significant congestion both during the AM and PM peak hours. In particular, the City wants to investigate the feasibility of (a) providing a double eastbound left-turn lane at the on-ramp intersection, and (b) increasing the number of northbound receiving lanes on Allen Road. The objective of this memorandum is to summarize the results of the traffic analysis and geometric considerations for the proposed reconfiguration of the intersection.

The traffic analysis was conducted primarily using the Synchro software package based on the City's Synchro models, particularly to determine optimized traffic signal timing plans. However, due to the close intersection spacing, reliability of Synchro's traffic analysis results is a concern, and typically SimTraffic is then used.

However, as will be discussed further below, an increase in vehicular weaving is expected to occur depending on how the intersection improvements are implemented. Consequently, SimTraffic queue estimates cannot be considered reliable. Therefore, SimTraffic was not used as a primary analysis tool. Microsimulation (e.g., Vissim or Aimsun) would be required to improve the reliability of the traffic analysis results. However, microsimulation is outside the scope of the present assignment.

TRAFFIC ANALYSIS

The study area also includes the adjacent intersection of Eglinton Ave and Allen Road (off-ramp), which is located approximately 120 metres to the west of the subject intersection.

3027 Harvester Road, Suite 400
Burlington ON L7N 3G7
CANADA

Phone: 289-288-0287
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www.cima.ca

Table 1 provides an overview of the design options that were evaluated. The base-case configuration represents existing conditions prior to the currently ongoing construction. Figure 1 summarizes the turning movement counts (TMCs) at the intersection.

Table 1: Analysis Scenarios

Scenarios	Off-ramp intersection		On-ramp intersection		
	Eastbound	Westbound	Eastbound	Westbound	Northbound (receiving)
Base case	2 lanes + 1 bus lane	2 lanes	L-T-T	T-R-R	3 lanes
Option 1	2 lanes + 1 bus lane	2 lanes	L-L-T	T-R-R	3 lanes
Option 2	2 lanes + 1 bus lane	2 lanes	L-L-T	T-R-R	4 lanes
Option 3	2 lanes + 1 bus lane	2 lanes	L-L-T-T	T-R-R	4 lanes
Option 3A	3 lanes	2 lanes	L-L-T-T	T-R-R	4 lanes
Option 4	2 lanes + 1 bus lane	2 lanes	L-LT-T	T-R-R	4 lanes

Note: L = left-turn lane; LT = shared left/through lane; T = through lane; R = right-turn lane

Figure 1: Turning movement counts at the intersections

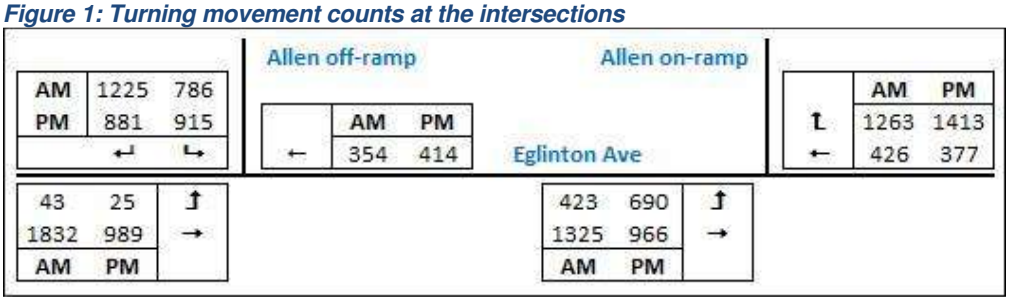


Table 2 indicates that the TMCs for the intersections are unbalanced. While the TMCs do not take into consideration the intersection of Everden Road and Eglinton Avenue, which is located between the two ramp intersections, it is doubtful that this minor intersection accounts for the difference of 861 vehicles during the AM peak hour. Table 3 and Table 4 present origin-destination matrices that balance the TMCs, and Table 5 and Figure 2 summarize the corresponding balanced TMCs.

The rebalancing was most significant for the eastbound direction. It was performed based on earlier TMCs (May 2012), which were almost completely balanced but significantly lower than the October counts. Most importantly, the proportion of EBL to EBT vehicles at the on-ramp of the May counts was maintained. However, it should be noted that, as the rebalancing is very high (almost 50% of the observed eastbound TMCs at the on-ramp) and the May counts were significantly lower than the October counts, the TMCs in Table 5 may not be fully representative of actual traffic conditions.

Table 2: TMC comparison at intersections

Intersection	Movement	AM peak	PM peak
Off-ramp	EBT	1,832	989
	SBL	786	915
	EBT + SBL	**2,609**	**1,904**
On-ramp	EBL	423	690
	EBT	1325	966
	EBL + EBT	**1,748**	**1,656**
Difference		**861**	**248**

Table 3: Origin-destination matrix for AM peak

	Destination	Eglinton W	Allen off-ramp / bus station entrance	Bus station exit	Allen on-ramp	Eglinton E	Everden	Police station
Origin	**Node**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Eglinton W	**1**		43		1,231	601		3
Allen off-ramp / bus station entrance	**2**	1,225				736	50	1
Bus station exit	**3**	43				11		
Allen on-ramp	**4**							
Eglinton E	**5**	415	11		1,263			
Everden	**6**							
Police station	**7**	0				3		

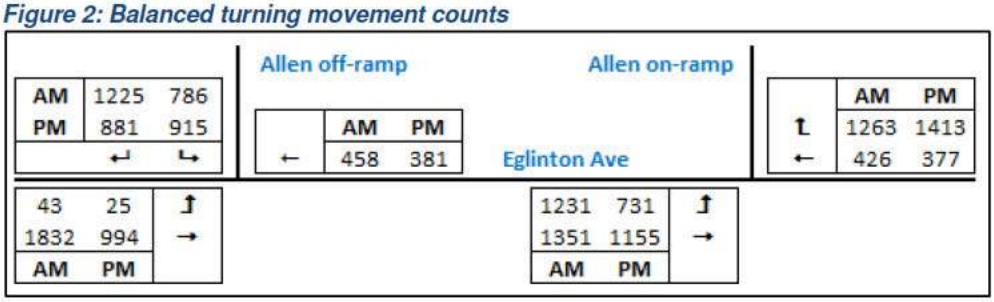
Table 4: Origin-destination matrix for PM peak

	Destination	Eglinton W	Allen off-ramp / bus station entrance	Bus station exit	Allen on-ramp	Eglinton E	Everden	Police station
Origin	**Node**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Eglinton W	**1**		25		731	263		3
Allen off-ramp / bus station entrance	**2**	881				865	50	3
Bus station exit	**3**	25				21		
Allen on-ramp	**4**							
Eglinton E	**5**	356	21		1,413			
Everden	**6**							
Police station	**7**	1				6		

Table 5: Balanced turning-movement counts

Peak period	Intersection	NBL	NBT	NBR	EBL	EBT	EBR	SBL	SBT	SBR	WBL	WBT	WBR
AM peak	Off-ramp	0		3	43	1,832	3	786	1	1,225		458	11
	On-ramp				1,231	1,351						426	1,263
PM peak	Off-ramp	1		6	25	994	3	915	3	881		381	21
	On-ramp				731	1,155						377	1,413

Figure 2: Balanced turning movement counts



ANALYSIS RESULTS

This section reports the results of the Synchro analysis, and Table 6 summarizes key statistics with respect to intersection performance for the design options evaluated. The table indicates that traffic-operations benefits due to provision of the double EBL lane at the on-ramp are dependent on the implementation option. In particular, Option 2 provides significant benefits for the EBL movement at the on-ramp.

However, it should be noted that vehicular delays in the eastbound direction are highest due to queuing at the off-ramp intersection, indicating that the EBL movement (on-ramp) is metred by the EBT phase of the off-ramp, and only Option 3A significantly reduces intersection delays at the off-ramp.

Table 6: Key statistics regarding intersection performance

Peak hour	Inter-section	Performance measures	Base case		Option				
					1	2	3	3A	4
			Unoptimized	Optimized					
AM peak	Off-ramp	v/c ratio	1.56	1.56	1.55	1.59	1.56	1.48	1.56
		Delay (s)	143.8	142.9	142.3	149.8	142.8	111.6	142.9
		LOS	F	F	F	F	F	F	F
		Critical movements	EBT SBL SBR	EBT SBL SBR	EBT SBL SBR	EBT SBL SBR	EBT SBL SBR	EBT SBR	EBT SBL SBR
	On-ramp	v/c ratio	1.09	1.09	1.00	0.69	0.92	0.92	0.76
		Delay (s)	135.1	135.0	47.2	17.9	36.1	36.5	15.5
		LOS	F	F	D	B	D	D	B
		Critical movements	EBL	EBL	WBR				
PM peak	Off-ramp	v/c ratio	1.16	1.22	1.22	1.22	1.22	1.14	1.26
		Delay (s)	99.7	54.5	54.1	54.1	54.1	48.4	62.3
		LOS	F	D	D	D	D	D	E
		Critical movements	SBL SBR	SBR	SBR	SBR	SBR	SBR	SBR
	On-ramp	v/c ratio	0.69	0.68	1.03	0.70	0.72	0.72	0.73
		Delay (s)	14.3	15.0	379.5	16.7	17.3	17.7	12.6
		LOS	B	B	F	B	B	B	B
		Critical movements			WBR				

In the following the details of the Synchro analysis for each design option are reported with critical movements highlighted in red font. It is important to note that the on-ramp intersection does not feature a north/south crosswalk, and therefore the EBT movement at the on-ramp intersection is free-flowing, and hence Synchro does not report v/c ratios, delays or LOS for this movement.

The Synchro results for Options 1 to 4 reported below are based on optimized signal timing plans. Signal splits were optimized while maintaining the existing signal cycle length of 100 seconds. For the base model both the unoptimized and the optimized analysis results are reported to evaluate whether performance improvements can be achieved without geometric improvements.

Table 7 provides an overview of the signal timing plans. The main observations regarding the optimized signal timing plans are as follows:

- At the off-ramp optimization results in only minor changes to the signal splits during the AM peak hour. However, for the PM peak hour Synchro assigns more time to the SB movements at the expense of the EBT/WBT movements.
- At the on-ramp optimization reduces the EBL/WBR phase and increases the duration of the WBTR phase.

Table 7: Comparison of signal splits

Scenario	Analysis period	Signal timing plan	Off-ramp			On-ramp		
			Phase 6 SBLR	Phase 7 EBLT	Phase 8 EBT/WBT	Phase 2 WBT	Phase 8 WBTR	Phase 9 EBL/WBR *)
Base case	AM peak	Unoptimized	52	15	33	27	18	55
	PM peak		50	15	35	27	18	55
Option 1	AM peak	Optimized	51	15	34	26	27	47
	PM peak		64	10	26	26	27	47
Option 2	AM peak		51	11	38	26	19	55
	PM peak		64	10	26	26	27	47
Option 3	AM peak		51	15	34	31	19	50
	PM peak		64	10	26	26	27	47
Option 3A	AM peak		57	10	33	31	19	50
	PM peak		64	10	26	26	27	47
Option 4	AM peak		51	15	34	26	19	55
	PM peak		63	10	27	26	27	47

Note: For Option 1 the WBR movement cannot be called during the EBL phase (Phase 9).

BASE CASE

The base case represents conditions existing prior to the current construction project at the Allen subway/LRT station. The analysis shows that both intersections perform poorly during the AM peak hour. During the PM peak hour the off-ramp intersection continues to perform poorly, while the on-ramp performs well. The critical movements for the off-ramp are SBL, SBR and EBT during the AM peak hour, and SBL and SBR during the PM peak hour. In addition, the EBL movement at the on-ramp is critical during the AM peak hour.

Note that the 95th-percentile EBL queue at the on-ramp is reported at almost 300 metres. This is longer than the available storage distance, indicating that the Synchro software, which is an implementation of the formula-based analysis approach of the Highway Capacity Manual, may not be reliable traffic analysis tool for this study area. Therefore, microsimulation, e.g., with Vissim or Aimsun, should be considered to obtain an improved understanding of the traffic characteristics within the study area.

Table 8: Synchro results – Base case without optimization of the signal timing plans

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.56	0.32	**1.27**	0.50		**1.03**	**1.45**	0.00
		Delay (s)	143.8	20.3	**152.6**	18.6		**63.4**	**234.8**	14.6
		LOS	F	C	**F**	B		**E**	**F**	B
		Queues (m)		12.5	**#299.9**	28.2		**#248.5**	**#384.5**	0.0
	On-ramp	v/c ratio	1.09	**1.60**		0.55	0.69			
		Delay (s)	135.1	**303.2**		20.2	10.0			
		LOS	F	**F**		C	A			
		Queues (m)		**m299.9**		92.2	81.9			
PM peak	Off-ramp	v/c ratio	1.16	0.16	0.67	0.38		**1.21**	**1.36**	0.00
		Delay (s)	99.7	17.5	22.1	15.0		**129.6**	**198.2**	15.7
		LOS	F	B	C	B		**F**	**F**	B
		Queues (m)		7.7	103.5	19.6		**#309.2**	**#279.7**	1.1
	On-ramp	v/c ratio	0.69	0.53		0.48	0.74			
		Delay (s)	14.3	23.8		17.2	8.6			
		LOS	B	C		B	A			
		Queues (m)		m55.8		81.8	67.6			

Note: 95th percentile queues are reported in this and subsequent Synchro results tables. The # symbol indicates that a queue exceeds the available storage capacity, and the letter m identifies queues that are metered by an upstream signal.

Table 9: Synchro results – Base case with optimized signal timing plans

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.56	0.31	**1.24**	0.49		**1.05**	**1.48**	0.00
		Delay (s)	142.9	19.5	**140.4**	17.3		**70.2**	**245.9**	15.1
		LOS	F	B	**F**	B		**E**	**F**	B
		Queues (m)		12.2	**#296.2**	26.1		**#251.9**	**#386.3**	26.1
	On-ramp	v/c ratio	1.09	**1.60**		0.55	0.69			
		Delay (s)	135.0	**303.0**		20.2	10.0			
		LOS	F	**F**		C	A			
		Queues (m)		**m413.9**		92.2	81.9			
PM peak	Off-ramp	v/c ratio	1.22	0.27	0.94	0.60		0.94	**1.14**	0.00
		Delay (s)	54.5	28.0	47.7	32.6		33.1	**95.5**	8.9
		LOS	D	C	D	C		C	**F**	A
		Queues (m)		10.0	#147.5	#36.3		#261.4	**#269.5**	0.0
	On-ramp	v/c ratio	0.68	0.56		0.46	0.75			
		Delay (s)	15.0	26.7		15.7	8.7			
		LOS	B	C		B	A			
		Queues (m)		m71.7		73.3	67.6			

OPTION 1

Option 1 involves converting one eastbound through lane to a left-turn lane, i.e. conversion of the inside through lane to a forced left-turn lane, without increasing the number of receiving lanes. Most importantly the EBL and WBR movements at the on-ramp can then no longer be called at the same time, which adversely impacts traffic operations at this intersection.

Essentially, the issue is that this option provides 4 approach lanes (2 each for the EBL and WBR movements), but there are only 3 receiving lanes.

The EBL queue at the on-ramp is metred, indicating that the performance of the EBL movement is determined by the off-ramp intersection, and it is noteworthy in this regard that the performance of the EBT movement at the off-ramp for Option 1 is identical to that for the base case.

Although Synchro does not report traffic performance results for the EBT movement at the on-ramp, as this movement is not controlled by the traffic signal, the reduction of the number of eastbound through lanes from two to one between the two intersections creates the potential for capacity constraints.

The eastbound (EBL/EBT) lane configuration would likely result in increased weaving with vehicles traveling in the inside lane, changing into the curb lane (and vice versa). Weaving is expected to reduce traffic capacity for the EBT movement at the on-ramp. However, as noted above, Synchro and SimTraffic do not model vehicular weaving accurately, particularly in situations with close intersection spacing. Therefore the potential capacity reduction due to weaving is not adequately reflected in the analysis results.

The lane changes due to weaving would occur within a relatively short distance of less than 80 metres and therefore are also of concern with respect to traffic safety.

Table 10: Synchro results – Option 1

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.55	0.30	**1.24**	0.45		**1.05**	**1.47**	0.00
		Delay (s)	142.3	19.4	**140.4**	13.0		**70.2**	**241.9**	15.1
		LOS	F	B	**F**	B		**E**	**F**	B
		Queues (m)		12.2	**#296.2**	20.4		**#251.9**	**#383.4**	0.0
	On-ramp	v/c ratio	1.00	0.99		0.51	1.01			
		Delay (s)	47.2	52.3		17.9	52.1			
		LOS	D	D		B	D			
		Queues (m)		m#150.8		86.4	#203.7			
PM peak	Off-ramp	v/c ratio	1.22	0.27	0.94	0.60		0.94	**1.14**	0.00
		Delay (s)	54.1	28.0	47.7	29.6		33.1	**95.5**	8.8
		LOS	D	C	D	C		C	**F**	A
		Queues (m)	1.22	10.0	#147.5	36.4		#261.4	**#269.5**	0.0
	On-ramp	v/c ratio	1.03	0.59		0.49	2.37			
		Delay (s)	379.5	28.1		17.5	658.0			
		LOS	F	C		B	F			
		Queues (m)		M74.4		68.2	#332.2			

OPTION 2

Option 2 provides the same eastbound lane configuration on Eglinton Avenue as Option 1, but the number of receiving lanes on Allen Road is increased from 3 to 4, and therefore the EBL and WBR movements can be called at the same time. It is noteworthy that the analysis

results at the off-ramp for Option 2 are almost identical to those of the base case, while traffic operations at the on-ramp improve markedly for the EBL movement during the AM peak hour.

The safety concerns due to an increase in eastbound vehicular weaving between the 2 intersections noted for Option 1 also apply to this option.

Table 11: Synchro results – Option 2

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.59	0.33	**1.24**	0.59		**1.05**	**1.52**	0.00
		Delay (s)	149.8	19.7	**140.4**	26.6		**70.2**	**267.4**	15.1
		LOS	F	B	**F**	C		**E**	**F**	B
		Queues (m)		12.2	**#296.2**	72.7		**#251.9**	**#402.1**	0.0
	On-ramp	v/c ratio	0.69	0.84		0.54	0.69			
		Delay (s)	17.9	25.5		19.6	10.0			
		LOS	B	C		B	A			
		Queues (m)		m115.5		92.2	81.9			
PM peak	Off-ramp	v/c ratio	1.22	0.27	0.94	0.60		0.94	**1.14**	0.00
		Delay (s)	54.1	28.0	47.7	29.6		33.1	**95.5**	8.8
		LOS	D	C	D	C		C	**F**	A
		Queues (m)		10.0	#147.5	36.4		#261.4	**#269.5**	0.0
	On-ramp	v/c ratio	0.70	0.59		0.44	0.77			
		Delay (s)	16.7	28.1		14.2	11.4			
		LOS	B	C		B	B			
		Queues (m)		m74.4		68.2	106.6			

OPTION 3

Option 3 involves provision of 2 left-turn and 2 through lanes in the eastbound direction on Eglinton Avenue and widening of Allen Road from 3 to 4 lanes. The analysis results for Option 3 are similar to those of Option 2. However, the performance of the EBL movement at the on-ramp intersection improves significantly during the AM peak period when compared to Option 2.

Table 12: Synchro results – Option 3

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.55	0.31	**1.27**	0.59		**1.03**	**1.44**	0.00
		Delay (s)	145.3	20.1	**152.6**	2.9		**38.9**	**206.5**	0.0
		LOS	F	C	**F**	C		**E**	**F**	B
		Queues (m)		12.5	**#299.9**	67.6		**#248.5**	**#381.6**	0.0
	On-ramp	v/c ratio	0.67	0.33		0.47	0.70			
		Delay (s)	11.3	11.9		14.9	9.8			
		LOS	B	B		B	A			
		Queues (m)		m0.0		79.6	75.3			
PM peak	Off-ramp	v/c ratio	1.22	0.27	0.94	0.60		0.94	**1.14**	0.01
		Delay (s)	54.1	28.0	47.7	29.6		33.1	**95.5**	8.9
		LOS	D	C	D	C		C	**F**	A
		Queues (m)		10.0	#147.5	36.4		#261.4	**#269.5**	0.0
	On-ramp	v/c ratio	0.72	0.59		0.44	0.80			
		Delay (s)	17.3	28.1		14.2	12.6			
		LOS	B	C		B	B			
		Queues (m)		m74.4		68.2	106.6			

OPTION 3A

Option 3A has the same lane configuration at the on-ramp as Option 3, but the eastbound bus lane at the off-ramp is converted to a general purpose lane. Consequently 3 eastbound general purpose lanes are provided at the off-ramp, resulting in significant traffic-operations improvements at the off-ramp intersection (EBT movement).

However, performance at the on-ramp (EBL movement) deteriorates when compared with Option 3. The 95th-percentile queue in the eastbound direction at the on-ramp reported by Synchro is 142 metres, which is longer than the available storage distance. Table 14 reports SimTraffic's maximum queues for the EBL movement at the on-ramp. The maximum queue is estimated at 46 metres, which is short enough not to interfere with the SBL movement at the off-ramp. But, as noted above, SimTraffic results should not be considered reliable, and microsimulation would be required to obtain improved queue estimates.

Table 13: Synchro results – Option 3A

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.48		**1.15**	0.43		0.94	**1.40**	0.00
		Delay (s)	111.6		**102.1**	17.6		38.4	**209.2**	0.0
		LOS	F		**F**	B		D	**F**	B
		Queues (m)			**#200.0**	27.5		#232.0	**#396.7**	0.0
	On-ramp	v/c ratio	0.92	0.93		0.49	0.96			
		Delay (s)	36.5	42.0		16.1	38.0			
		LOS	D	D		B	D			
		Queues (m)		m142.3		82.6	#197.3			
PM peak	Off-ramp	v/c ratio	1.14		0.75	0.44		0.94	**1.14**	0.01
		Delay (s)	48.4		31.5	23.5		33.1	**95.5**	8.9
		LOS	D		C	C		C	**F**	A
		Queues (m)			85.6	30.3		#261.4	**#269.5**	0.0
	On-ramp	v/c ratio	0.72	0.59		0.44	0.80			
		Delay (s)	17.7	29.4		14.2	12.6			
		LOS	B	C		B	B			
		Queues (m)		m80.9		68.2	106.6			

Table 14: SimTraffic queues for EBL movement at on-ramp – Option 3A

Condition	AM peak	PM peak
Unoptimized	40.7	39.7
Optimized	39.6	45.8

Note: Maximum queues are reported.

OPTION 4

Option 4 involves converting the inside EBT lane at the on-ramp to a shared eastbound left/through (EBLT) lane. The analysis results are similar to those of the base case. The shared EBLT configuration is problematic from a safety perspective as the eastbound through traffic is free-flowing, potentially resulting in aggressive lane changes from the EBL lane to the EBT lane (and vice versa).

To mitigate these safety concerns at least partially, the EBT movement at the on-ramp should be signalized, and the EBT green indication should coincide with the EBL green. However, this would likely interfere with the SBL movement at the off-ramp, as this movement would receive a green indication when the EBT movement at the on-ramp is stopped.

Table 15: Synchro results – Option 4

Peak hour	Inter-section	Performance measures	Inter-section	EBL	EBT	WBT	WBR	SBL	SBR	NBLR
AM peak	Off-ramp	v/c ratio	1.56	0.31	**1.24**	0.49		**1.05**	**1.48**	0.00
		Delay (s)	142.9	19.5	**140.4**	17.3		**70.2**	**245.9**	15.1
		LOS	F	B	**F**	B		**E**	**F**	B
		Queues (m)		12.2	**#296.2**	26.1		**#251.9**	**#386.3**	0.0
	On-ramp	v/c ratio	0.76	0.91	0.36	0.53	0.72			
		Delay (s)	15.5	34.4	0.9	18.9	12.3			
		LOS	B	C	A	B	B			
		Queues (m)		m113.7	m0.0	92.2	81.9			
PM peak	Off-ramp	v/c ratio	1.26	0.21	0.91	0.57		0.95	**1.21**	0.00
		Delay (s)	62.3	28.2	43.3	30.9		36.3	**126.6**	9.3
		LOS	E	C	D	C		D	**F**	A
		Queues (m)		9.8	#143.8	59.9		#264.8	**#290.2**	0.0
	On-ramp	v/c ratio	0.73	0.63	0.21	0.41	0.79			
		Delay (s)	12.6	20.5	0.4	13.9	13.4			
		LOS	B	C	A	B	B			
		Queues (m)		m57.4	m21.0	66.3	104.5			

INTERSECTION DESIGN

Concept designs were developed for all design options under consideration, which are attached to this memorandum. Based on City recommendations the intersection layouts include raised bicycle tracks. The City provided the design inputs shown in Table 16.

Table 16: City's boulevard design

Design element	Cross-section width
Raised bicycle track	2.3 metres (measured from face of curb)
Buffer between bicycle track and sidewalk	0.8 metres
Sidewalk	2.1 metres

EGLINTON AVENUE

Options 1, 2 and 4

The concept design for Options 1, 2 and 4 show that the provision of the bicycle track impacts Ben Nobleman Park, as the widened boulevard extends 0.5 metres beyond the property line. In addition, the provision of the raised cycling track will encroach 0.2 metres into the property of the apartment building at 1071 Eglinton Ave W (just east of Strathearn Road).

Options 3 and 3A

Options 3 and 3A include widening of Eglinton Avenue to accommodate the additional EBL turn lane and widening of Allen Road from 3 to 4 lanes. The concept designs show that it is feasible to limit the widening of Eglinton Avenue to between Everden Road and Strathearn Road. The property impact at Ben Nobleman Park is estimated at 3.4 metres.

ALLEN ROAD

Option 1

The pre-construction layout dropped the third (northbound) receiving lane with a taper of approximately 45 metres; the parallel-lane length was 90 metres. Since drivers tend to accelerate sharply upon entering Allen Road we consider that the lane drop should be based on a design speed of at least 80 km/h. Therefore the taper and parallel-lane lengths are increased to 130 metres and 140 metres, respectively.

It should be noted that the pre-construction design did not include a median between the WBR receiving lanes and the EBL receiving lane. This is an unusual treatment and is potentially unsafe. Despite this concern the concept design for Option 1 maintains this configuration.

Options 2, 3, 3A and 4

Options 2, 3, 3A and 4 require 2 lane reductions on Allen Road to return to the basic 2-lane cross-section, as there are 4 receiving lanes at the intersection. This double lane reduction would likely be unsafe without a raised median between the EBL and WBR receiving lanes due to the potential for aggressive lane-change manoeuvres. Therefore Option 3 includes a raised median on Allen Road with width of 1.5 metres. However, the parallel-lane length is reduced to 80 metres to reduce property impacts at the subway station.

Paved shoulders with mountable curb should be provided in the lane-reduction area to mitigate the risk that a broken-down vehicle could block the northbound receiving lanes.

ADDITIONAL CONSIDERATIONS

Property impacts of the road widening at Ben Nobleman Park can potentially be reduced by reducing the width of the WBT curb lane between the two ramp intersections. The curb lane is 4.4 metres wide, presumably to accommodate TTC buses exiting Allen Station (SBR movement). However, as there are two WBT lanes, it might be acceptable to reduce the width of the WBT curb lane.

Elimination of a WBT lane at the TTC station would create the opportunity to provide a channelized SBR lane at the off-ramp with an exclusive receiving lane on Eglinton Avenue. Note that the SBR movement performs very poorly, particularly during the AM peak hour. However, impacts on downstream intersections, most importantly the intersection of Eglinton Avenue and Oakwood Avenue, would have to be considered.

CONCLUSIONS AND RECOMMENDATIONS

This memorandum investigated potential intersection improvements at the intersections of Eglinton Avenue and Allen Road from traffic-operations and road-design perspectives, particularly the following.

- Provision of a double eastbound left-turn lane at the on-ramp intersection;

- Increasing the number of receiving lanes on Allen Road (northbound) at the on-ramp from three to four; and
- Conversion of the eastbound bus lane at the off-ramp intersection to a general-purpose lane.

The traffic analysis results can be summarized as follows.

Option 1 – Provision of a double EBL turn lane on Eglinton Avenue without increasing the number of receiving lanes on Allen Road reduces intersection capacity as the WBR and EBL movements can no longer be called at the same time. Consequently, traffic operations at the on-ramp intersection are adversely impacted. Further there are traffic operations concerns, as only one eastbound through lane is provided at the on-ramp intersection. Traffic safety is also of concern in the eastbound direction due to an increase in weaving between the two ramp intersections.

Option 2 – The addition of a northbound receiving lane on Allen Road at the on-ramp intersection will improve traffic operations at the off-ramp, particularly for the EBL movement. However, traffic operations in the eastbound direction at the off-ramp are not significantly improved compared to the base case. The traffic operations and safety concerns for eastbound traffic noted for Option 1 also apply to Option 2.

Option 3 – This option will require widening of Eglinton Avenue at Ben Nobleman Park to accommodate an additional eastbound traffic lane. This option mitigates the traffic operations and safety concerns in the eastbound direction between the two intersections.

Option 3A – This option improves eastbound traffic operations at the off-ramp intersection due to conversion of the bus lane to a general purpose lane. While TTC operations will be impacted due to the elimination of bus lane at the off-ramp, this impact is mitigated by the anticipated reduction of bus traffic at that station following service commencement of the Eglinton Crosstown LRT. Vehicular queuing at the on-ramp (EBL movement) is a potential concern for this option.

Option 4 – This option, which converts one eastbound through lane at the on-ramp to a shared left-through lane, would create very significant safety concerns as the eastbound through movement is not signal controlled. Note that signalization of the EBT movement at the on-ramp would be undesirable as this would adversely impact the SBL movement at the off-ramp.

The Synchro/SimTraffic software package is not well suited for modeling vehicular weaving in roadway segments with close intersection spacing as is the case at the Eglinton Avenue/Allen Road interchange. Therefore the Synchro/SimTraffic results cannot be considered wholly reliable, and it would be advisable to confirm the traffic-analysis results obtained with Synchro/SimTraffic using microsimulation, e.g., with Vissim or Aimsun.

ENDNOTES

[i] Item - 2016.PW14.8
[ii] TYLin – Mobility Master Plan (August 2022)
[iii]https://static1.squarespace.com/static/5420dd38e4b0968055cfdb19/t/5a73886324a69434713fd2cd/1517521000310/FINALOpportunitiesReport.170129.pdf)
[iv] https://cdn.prod.website-files.com/62ae908c35e2c83339bc1cb3/63e6bc4cf8ef0571456342e5_2023-02-10%20Allen%20Road%20and%20Eglinton%2C%20the%20Case%20for%20an%20Urgent%20Study%20WITH%20LOGO%20FINAL.pdf
[v] https://www.ipetitions.com/petition/urgent-call-for-a-complete-allen-and-eglinton
[vi] https://secure.toronto.ca/council/agenda-item.do?item=2024.IE13.2
[vii] Upper Village BIA Project Charter (summer 2024)
[viii] https://secure.toronto.ca/council/agenda-item.do?item=2025.MM26.12
[ix] CIMA+ Report Memo, Traffic Operations at the Intersections of Eglinton Avenue and Allen Road, Sept 14, 2016, p.2
[x] CIMA+ Report Memo, Traffic Operations at the Intersections of Eglinton Avenue and Allen Road, Sept 14, 2016, p.14
[xi] CIMA+ Report Memo, Traffic Operations at the Intersections of Eglinton Avenue and Allen Road, Sept 14, 2016, p.1
[xii] Freedom of Information Records, p.288, 296
[xiii] EglintonConnects City of Toronto Planning Study Volume 2 (pages 47 & 49) - https://www.cip-icu.ca/Files/Awards/Planning-Excellence/Eglinton-Connects-Final-Report-Volume-2.aspx
Staff Report – EglintonConnects Environmental Assessment Study (pages 6 & 20) - https://www.toronto.ca/legdocs/mmis/2014/pw/bgrd/backgroundfile-67919.pdf
[xiv] Summer 2020 The Allen Greenway: Project Background and Design Opportunities - https://ecologicaldesignlab.ca/site/uploads/2020/11/Allen-Greenway-Guidebook_C.-Bucksbaum_Summer-2020_pages-compressed.pdf
[xv] Lawrence Allen Secondary Plan (S. 4.3 page 30 & 31) - https://www.toronto.ca/wp-content/uploads/2017/11/907d-cp-official-plan-SP-32-LawrenceAllen.pdf
Lawrence Allen Transportation Master Plan (pages 14, 53) - https://www.toronto.ca/legdocs/mmis/2011/ny/bgrd/backgroundfile-41806.pdf
[xvi] Feb 2, 2022 Council Adopted Motion IE27.14: Urgent Need to Support Comprehensive Transportation Study to Address the Hyper Gridlock and the Related Traffic Safety Issues at Lawrence Avenue West, Marlee Avenue, and the Allen Road - https://secure.toronto.ca/council/agenda-item.do?item=2022.IE27.14
[xvii] December 15, 2021 Council Adopted Motion IE26.24: Reviewing a Pedestrian-Cycling Bridge Over Allen Road - https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.24