Canadian National

Luanne Patterson
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March 1, 2019

Lesley Griffiths
Review Panel Chair
160 Elgin St.
Ottawa, ON K1A 0H3

By email
Dear Ms. Griffiths:

Thank you for your letter of February 21, 2019 (CEAR #718) regarding the partial submission of Information Request (IR) responses 8.2, 8.4, 8.5 and 8.9. We had not understood your previous correspondence to be requesting partial answers to individual IRs but rather to submit complete IRs unrelated to traffic information to facilitate public review. As requested, enclosed with this letter are specific portions of IR responses:

1) IR 8.2 (a) and (c)
2) IR 8.4 (a) to (d)

The responses to IRs 8.5 (b) and 8.9 (b), which were also requested by the Panel, require analysis of the SPFs and traffic data received from Halton Region. This information is currently undergoing review and assessment by our technical team. We will provide these responses the week of March 18, 2019.

Should you have any questions regarding the above, please do not hesitate to contact me.

Sincerely,

<Original signed by>

Luanne Patterson
Senior System Manager – Environmental Assessment

cc:

William G. McMurray, Review Panel Member (by email)
Isobel Heathcote, Review Panel Member (by email)
Joseph Ronzio, Review Panel Manager (by email)
Darren Reynolds, CN Project Director

CN Milton Logistics Hub ("Project")
CEAR File No. 80100

CN Response to the Review Panel's Information Request 8
Received September 25, 2018

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The following information is provided in response to Information Request 8 received from the Review Panel on September 25, 2018 (CEAR #685) to address portions of IRs 8.2 and 8.4 as requested by the Review Panel on February 21, 2019 (CEAR #718). Additional information pertaining to IRs 8.1, 8.6 - 8.8, 8.10 – 8.16, 8.18, and 8.19 was provided under separate cover on December 19, 2018 (CEAR #705), while information pertaining to IRs 8.3, 8.17, and 8.20 was provided under separate cover on February 15, 2019 (CEAR #714).

AIR QUALITY

IR8.2 Project site ambient air quality monitoring results

Rationale: *In its response to the Review Panel's information request #3.1 (CEAR #613), CN provided the results of its ambient air quality monitoring study to establish whether differences between this monitoring data and the data used for the air quality assessment in the EIS might affect the effects CN predicted in its air quality and human health risk assessments. Based on the monitoring data, when combined with the predicted values from the Project, CN predicted that the Project could result in exceedances of ambient air quality criteria for some contaminants, including* $PM_{2.5}$ *and* PM_{10}*. CN provided additional analysis on these exceedances in Attachment IR3.1-2: HHRA Update and some of the updated exposure ratios exceeded 1.0. Despite these exceedances, CN concluded that it did not expect unacceptable health risks to the public from exposure to these air quality contaminants of potential concern associated with the Project because exceedances would be limited in frequency and magnitude and because CN had used conservative modelling assumptions. CN did not discuss potential health effects that might result from substances that would not exceed exposure ratios of 1.0.*

In its comments on CN's response to the Review Panel's Package 3 information requests, Health Canada (CEAR #666) indicated that $PM_{2.5}$ *is a human carcinogen and therefore unacceptable human health risks may arise in the current PM2.5 exposure scenarios. Health Canada stated that health effects, including cardiovascular and respiratory effects, can occur at levels below the Canadian Ambient Air Quality Standards (CAAQS). Health Canada recommended that CN establish mitigation measures to reduce emissions, given that there are no recognized thresholds for the health effects of* PM_{10} *and* $PM_{2.5}$*.*

Health Canada also noted that new CAAQS for NO_2 *were announced in December 2017 and will be effective in 2020. These new standards use a different statistical form of the numerical standard than the one presented by CN and for that reason the values in the EIS cannot be compared against the new standards.*

Additionally, in the cumulative effects assessment summary table (Table IR3.16-3), results for the cumulative effect assessment scenario for NO_2 *and CO are different from the results presented in Tables 1 and 2 of Attachment IR4.29. For instance, the results for 1hr* NO_2 *in 2021 in Tables 1 and 2 are respectively 110* $\mu g/m^3$ *and 114* $\mu g/m^3$*. CN did not provide a clear rationale to explain these differences.*

Information Request:

a) *Discuss the potential health effects associated with non-threshold substances such as* PM_{10} *and* $PM_{2.5}$*.*

b) *Provide an updated assessment, including cumulative effects, using the 2020 Canadian Ambient Air Quality Standards for 1-hour NO_2 and annual NO_2. Identify whether there would be exceedances and discuss the implications of the new standards.*

c) *Clarify the discrepancies between Table 1 and 2 of Attachment IR4.29 and Tables IR3.16-2 and IR3.16-3 for the cumulative effect scenarios.*

CN Response:

a) *Discuss the potential health effects associated with non-threshold substances such as PM_{10} and $PM_{2.5}$.*

In the EIS (Appendix E.7), PM_{10} and $PM_{2.5}$ were identified as compounds associated with construction and operation of the Project. These compounds are not unique to the Project but also ubiquitous in urban and suburban airsheds, largely because they are by-products of combustion from widely used sources like typical road vehicles.

CN recognizes that PM_{10} and $PM_{2.5}$ are non-threshold compounds, meaning that there is no evidence of an exposure level below which there is no risk for potential health effects (Health Canada 2012, 2016a; WHO 2013). Exposure to sufficient concentrations of PM_{10} and $PM_{2.5}$ have been associated with a range of effects, primarily respiratory and cardiovascular (Health Canada 2012, 2016a; WHO 2006, 2013; TPH 2014).

As noted in the Air Effects TDR (EIS Appendix E.1), CN is planning to put in place the following mitigation measures to minimize Project-related PM_{10} and $PM_{2.5}$ concentrations:

- SmartStart® equipped locomotives would be used as much as possible to reduce idling during warm months;
- for other vehicles, a no idling policy would be applied to reduce mobile equipment and other use vehicle emissions where possible and appropriate;
- non-road mobile and stationary equipment will be equipped with low emissions and high fuel combustion efficiency engines;
- streamlining and further improvements to the operations (if applicable) so that on-site travel distances for out-going trucks are minimized and to expedite container handling turnaround times; and
- dust control on the on-site roads when necessary to remove the loose material present on the surface of roads that could be re-suspended by road traffic.

CN will also continue to explore technology, and strive for continuous future improvements, to minimize the contribution of the Project to particulate matter emissions (PM_{10} and $PM_{2.5}$) over the life of the Project.

b) *Provide an updated assessment, including cumulative effects, using the 2020 Canadian Ambient Air Quality Standards for 1-hour NO_2 and annual NO_2. Identify whether there would be exceedances and discuss the implications of the new standards.*

Response pending.

c) *Clarify the discrepancies between Table 1 and 2 of Attachment IR4.29 and Tables IR3.16-2 and IR3.16-3 for the cumulative effect scenarios.*

The values reported in the maximum predicted ground-level concentration tables from the responses to IR3.16 and IR4.29 for the 2021 and 2031 scenarios are based on the same underlying data. However, the values shown in the tables are occasionally inconsistent with respect to the number of significant figures reported.

In general, values in the report tables were reported with two significant figures. However, there were some cases where the number of significant figures (number of decimal places) reported for the same value varied between tables. For example, the air quality modelling produced a maximum ground-level concentration value of 113.88029 µg/m^3 (to eight significant figures) for 1-hour NO_2 for the cumulative scenario in 2021. This value was reported to two significant figures in IR3.16 (110 µg/m^3) and to three significant figures in IR4.29 (114 µg/m^3). These differences in reporting format do not affect the risk calculations, as exposure ratios (ERs) were calculated using the underlying values recorded by the air quality modelling (i.e., with eight significant figures) and subsequently reported to two significant figures. This is consistent with the air quality criteria to which modelled values were compared, which are also reported to no more than two significant figures.

TRUCK TRAFFIC

IR8.4 Transportation impact studies

Rationale: *In order to address the effects of truck traffic generated by the development of the proposed terminal, CN provided in Appendix E.17 of the EIS a study of terminal-generated truck traffic conducted by the BA Consulting Group. As part of its response to information request #2.33, CN also filed four additional studies: Terminal Road Access Study, Safety Assessment of Site Accesses at the Proposed CN Logistics Hub and Safety Assessment of the Proposed CN Logistics Hub and Draft CN Milton Logistics Hub Transportation Considerations, (CEAR #592). CN noted that these studies were meant to assess the safety of proposed access points to the Milton Logistics Hub and to examine terminal-generated truck traffic beyond the Project.*

In its comments on CN's responses to the Review Panel's information request #2.33 (CEAR #667), Halton Municipalities asserted that the results provided by these reports were insufficient because the analysis and assumptions were inconsistent with typical engineering approaches and therefore produced results that minimized environmental effects. Halton Municipalities claimed that several assumptions, projections, factors, safety performance functions, risk assessment, and approaches differed from industry standards.

As part of its submission, Halton Municipalities filed two reviews prepared on its behalf by CIMA+: CN Milton Logistics Hub Terminal Road Access Study Report and Transportation Considerations Report Peer Review, July 16, 2018 and Milton Logistics Hub Route Study Peer Review of Safety Assessments, July 16, 2018. Based on these, Halton Municipalities suggested that CN's work produced results that minimize environmental effects. It cited the following examples:

- *CN did not double heavy truck volumes for the analysis of the entire roadway system beyond the facility entrance. A doubling of truck volumes would be consistent with typical engineering approaches, and could have a substantial impact at key intersections near the proposed facility an on the predicted environmental effects.*
- *CN did not discuss remediation options for situations when queue lengths for some of the left turns would extend beyond the existing storage lanes (for example, Britannia and Trafalgar Roads 2021 p.m. peak).*
- *Figure 4 of IR2.33-2 did not match Figure 7 of IR2.33-1 in terms of intersection design. It did not show the dedicated right turn eastbound for trucks which crosses a bike lane and CN did not appear to consider this particular vehicle/cyclist interaction and whether additional mitigation would be required given the proposed truck volumes.*

Additionally, in its submission to the Review Panel on CN's responses to information request Package 4 (CEAR #672), Halton Municipalities noted that CN's operational analysis of the Terminal Road Access Study multiplied the truck volumes by two, which with Synchro's internal truck factor of two means that one truck was considered to be equivalent to four passenger cars. However, it was not clear from CN's response that it used a truck equivalency of 4.0 Passenger Car Units for its Region-wide capacity calculations.

Information Request:

a) *Explain why CN did not double heavy truck volumes for the analysis of the entire roadway system beyond the facility entrance, as it had in the Terminal Road Access Study.*

b) *Identify what mitigation measures could be implemented in the event that truck queue lengths for left turns from Britannia Road into the terminal were to extend beyond existing storage lane capacity.*

c) *Explain why the intersection designs shown Figure 4 of Attachment IR2.33-2 of CN's response to information request #2.33 with Figure 7 of Attachment IR2.33-1 are different and indicate which one of the intersection designs is the one being proposed. In the response, indicate how the intersection design will accommodate cyclist traffic.*

d) *Provide the value CN used for truck equivalency of 4.0 Passenger Car Units in its region-wide traffic capacity calculations in EIS Appendix E.17.*

e) *Provide a traffic model to predict how traffic on local and regional roads between the Project site and 400-series highways would be affected by Project-generated truck movement in 2031.*

CN Response:

a) *Explain why CN did not double heavy truck volumes for the analysis of the entire roadway system beyond the facility entrance, as it had in the Terminal Road Access Study.*

In all traffic studies completed, the same passenger car equivalency factor (of 4.0) was used for Terminal generated truck traffic.

It appears that question (a) relates to comments contained in the CIMA+ peer review report ("*CN Milton Logistics Hub Terminal Road Access Study Report and Transportation Considerations Report Peer Review*", dated July 16, 2018), which stated:

> "On page 22, the report indicates that an equivalency factor of 4.0 passenger car units (PCU) was used for truck traffic associated with the logistics terminal. This was accounted for in the operational analysis completed, in the Terminal Road Access Study, by multiplying truck volumes by 2 in Synchro (which applies another factor of 2 to truck volumes). It appears that this was not done in the Transportation Considerations report."
>
> - *Section 4.2.4. Heavy Truck Volumes (Site Traffic) (page 7)*
>
> and
>
> "Ensure heavy truck volumes associated with an equivalency factor of 4.0 PCU are consistently multiplied by 2 in Synchro for all intersections analysed."
>
> - *Section 5. Summary of Recommendations (page 11)*

Both the above comments refer to the equivalency factor of 4.0 passenger car units (PCU) that was applied to Terminal-generated heavy-trucks, and the belief on the part of CIMA+ that an equivalency factor of 4.0 PCU was not applied to all Terminal-generated heavy trucks at all locations in the analysis undertaken by BA Group.

However, an equivalency factor of 4.0 PCU was, in fact, applied to all Terminal-generated heavy-trucks at all locations in both BA Group studies (i.e., both the Attachment IR2.33-1 "*Terminal Road Access Study*" dated May 4, 2017 (CEAR #592) and the Attachment IR2.33-3 "*CN Milton Logistics Hub Transportation Considerations*" dated August 17, 2017) (CEAR #592), including in the analysis of the entire roadway system beyond the facility entrance. The methods of applying the 4.0 PCU factor within the Synchro model in both BA Group studies are further explained below.

Overview of Methods

In the Synchro analysis software, there are 2 ways to account for the higher operational impact of heavy vehicles, i.e., to multiply the number of heavy vehicles by an equivalent number of passenger car units (PCUs):

- Via the **base traffic volume** – this is the total number of vehicles considered in the analysis. If the heavy vehicle percentage (see below) is set to 0, Synchro assumes the base traffic volume to be comprised entirely of passenger cars. In this case, the base traffic volume can be manually multiplied by the PCU factor to account for heavy vehicles.

  For example, if there are 100 vehicles, of which 2 are heavy vehicles with a PCU-equivalent factor of 2.0, the base traffic volume can be entered as 102 passenger cars (i.e., 98 passenger cars + 2 heavy vehicles x 2.0 PCU-equivalent), while setting the heavy vehicle percentage to 0%.

- Via the **heavy vehicle percentage** – this is the proportion of the base traffic volume that is made up of heavy vehicles. Synchro automatically applies a PCU of 2.0 for heavy vehicles.

  For example, if there are 100 vehicles, of which 2 are heavy vehicles, the base traffic volume is entered as 100 vehicles and the heavy vehicle percentage is entered as 2%. Synchro would then automatically calculate the total passenger car equivalent to be 102 passenger cars (i.e., 98 passenger cars + 2 heavy vehicles x 2.0 PCU-equivalent).

***"CN Milton Logistics Hub Transportation Considerations"* (Attachment IR2.33-3)**

In Attachment IR2.33-3 "*CN Milton Logistics Hub Transportation Considerations*", which analyzed the Regional arterial roadway network beyond the facility entrance, a method was chosen that would provide greater clarity on the actual volume of Terminal-generated heavy-trucks, so that the traffic volumes shown in the detailed Synchro analysis sheets would be consistent with those shown in the report figures in the body of the report, for greater ease of review. Thus, the PCU-equivalent factor was applied to Terminal-generated heavy trucks as follows:

- **Base traffic volume** = actual number of Terminal-generated heavy-trucks; and
- **Heavy vehicle percentage** = 200%.

  Because Synchro automatically applies a PCU-equivalent of 2.0 to heavy vehicles, the resulting PCU factor would be 4.0.

Because site traffic (including heavy-truck traffic with a heavy vehicle percentage of 200% and employee traffic with a heavy vehicle percentage of 0%) was added on top of background traffic volumes on the broader area road system, the resulting heavy vehicle percentage used in the final analysis reflected a proportional blending of background traffic and site traffic heavy vehicles[1].

For example, at the intersection of Britannia Road / Trafalgar Road for the eastbound left turn movement, which was specifically referenced in the CIMA+ peer review report dated July 16, 2018 (in Section 4.2.4 Heavy Truck Volumes (Site Traffic), page 7), the traffic volumes used in the Synchro analysis are summarized in **Table IR8.4-1**.

[1] Note that Synchro does not permit an entry of more than 100% in its *Heavy Vehicle %* field; however, because all site traffic is added to an existing background traffic volume, the resulting blended *Heavy Vehicle %* is always less than 100%.

Table IR8.4-1 Analysis Example – Britannia Road / Trafalgar Road Eastbound Left Turn – Traffic Volume and Heavy Vehicle Percentage Used in Synchro Analysis

Britannia Road / Trafalgar Road Eastbound Left Turn	Base Traffic Volume	Heavy Vehicle %
Future Background Traffic Used in Synchro Analysis	145 (95)	5% (15%)
Site Traffic	3 (3)	200% (200%)
Future Total Traffic Used in Synchro Analysis	AM: 145 + 3 PM: (95 + 3) = **148 (98)**	AM: (145 x 5% + 3 x 200%) / (145 + 3) PM: (95 x 15% + 3 x 200%) / (95 + 3) = **9% (20%)**

Notes:

1. 00 (00) – AM (PM) peak hour volumes.

Thus, in the Synchro analysis of the 2021 future total scenario, the base traffic volume for the eastbound left turn movement was entered as 148 (98) for the AM (PM) peak hours, while the heavy vehicle percentage was entered as 9% (20%) for the AM (PM) peak hours. This results in Terminal-generated truck traffic (i.e., 3 trucks in each of the AM and PM peak hours) being analyzed as 6 heavy vehicles, or 12 passenger car units, and thus having a PCU of 4.0.

<u>"*Terminal Road Access Study*" (Attachment IR2.33-1)</u>

In Attachment IR2.33-1 "*Terminal Road Access Study*", which analyzed the operation of the Terminal access roads at Britannia Road (truck entrance) and Tremaine Road (employee entrance), the PCU-equivalent factor was applied to Terminal-generated heavy trucks as follows:

- **Base traffic volume** = 2 x actual number of Terminal-generated heavy-trucks; and
- **Heavy vehicle percentage** = 100%.

  Because Synchro automatically applies a PCU-equivalent of 2.0 to heavy vehicles, the resulting PCU factor would be 4.0.

In this study, because site traffic at the intersection of the Terminal driveway on Britannia Road would not be added to background traffic volumes on the broader area road system (as inbound and outbound movements at the Terminal driveway would serve only site traffic), this method was selected because Synchro does not permit an entry of more than 100% in its *Heavy Vehicle %* field.

Based on the foregoing, both methods discussed above resulted in a PCU factor of 4.0 being applied to all Terminal-generated heavy-trucks at all locations.

b) *Identify what mitigation measures could be implemented in the event that truck queue lengths for left turns from Britannia Road into the terminal were to extend beyond existing storage lane capacity.*

In Attachment IR2.33-1 "*Terminal Road Access Study*" dated May 4, 2017 (CEAR #592), the analysis of the signalized Britannia Road / Terminal Access Road intersection adopted a recommended signal phasing plan to best accommodate all movements while maintaining pedestrian minimum crossing times, amber and all-red times. A total signal cycle length of 120 seconds was adopted, consistent with other signalized intersections at comparable locations in the Town of Milton today. A dedicated westbound left phase was provided, with a 10-second phase time, to accommodate trucks turning into the Terminal Access Road from Britannia Road.

With this adopted signal timing, the study assessed queueing potential for the 'base case' plus 3 sensitivity scenarios for the 2021 and 2031 horizons, using 3 different analysis methodologies. The analysis showed that truck queue lengths would not exceed beyond the proposed storage lane capacity of 90 metres (with a 70 metre taper) under any of the scenarios.

In the unlikely event that left turning demand from truck traffic were to exceed the assessed capacity (under the recommended signal phasing plan), the signal phasing plan can be adjusted to accommodate higher westbound left turning flows. There is residual capacity in the other phases (i.e., the eastbound and westbound through phases) to permit the reassignment of some green time to the westbound left turning phase. For example, as summarized in Table 10 and Table 11 of the "*Terminal Road Access Study*", the eastbound through movement will operate with volume-to-capacity (V/C) ratios of 0.32 and 0.29 in the 2021 morning and afternoon peak hours, respectively, and 0.69 and 0.58 in the 2031 morning and afternoon peak hours, respectively. The westbound through movement will operate with V/C ratios of 0.26 and 0.48 in the 2021 morning and afternoon peak hours, respectively, and 0.61 and 0.84 in the 2031 morning and afternoon peak hours, respectively. This indicates that there is in the order of 16% to 74% of residual capacity in these movements that could potentially be reallocated to better accommodate other movements, including the dedicated westbound left turn movement.

c) *Explain why the intersection designs shown Figure 4 of Attachment IR2.33-2 of CN's response to information request #2.33 with Figure 7 of Attachment IR2.33-1 are different and indicate which one of the intersection designs is the one being proposed. In the response, indicate how the intersection design will accommodate cyclist traffic.*

The proposed design for the Britannia Road / Terminal Access Road intersection is contained in Figure 7[2] of Attachment IR2.33-1 "*Terminal Road Access Study*" dated May 4, 2017 (CEAR #592). This functional plan, prepared by BA Group, illustrates the provision of dedicated left and right turn lanes eastbound at the Terminal Access Road, a dedicated left turn lane westbound, and on-street bicycle lanes and off-road multi-use paths on both sides of Britannia Road.

In comparison, Attachment IR2.33-2 "*Safety Assessment of Site Accesses at the Proposed CN Logistics* Hub" dated April 5, 2017 (CEAR #592) discusses, in general terms, potential standards that could apply to the design of bicycle facilities at signalized intersections (including in Figure 4[3] of that document), but does not propose a specific intersection design for the Britannia Road / Terminal Access Road intersection.

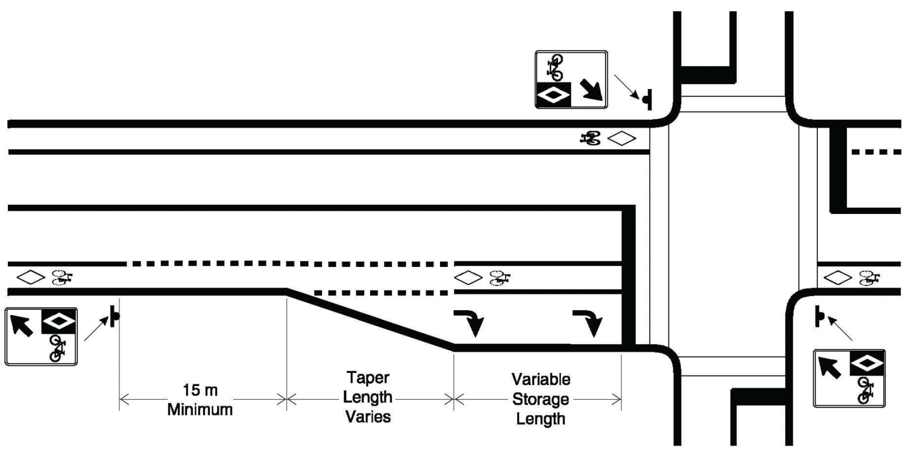
The primary difference between the bicycle lane treatment in Figure 7 of Attachment IR2.33-1 (CEAR #592) and that in Figure 4 of Attachment IR2.33-2 (CEAR #592) is the provision of a dedicated right turn lane in the eastbound direction as part of the proposed intersection design; this is being proposed to accommodate truck deceleration and queueing on Britannia Road while

[2] "Terminal Access Road / Britannia Road Functional Plan"
[3] "Bicycle Lane Adjacent to Combined Through/Right Turn Lane (Solid Line With Optional Staggered Stop Bars; OTM Book 18, 2013)"

reducing the potential impact on through lane operations. In the proposed design (contained in Figure 7 of Attachment IR2.33-1 (CEAR #592)), eastbound right-turning vehicles cross the bicycle lane upstream of the intersection, removing the conflict zone from the intersection and creating a longer transition area for vehicles to cross the bicycle lane into the right turn lane further upstream. This configuration is the recommended practice in current design standards used in Ontario and elsewhere including the Transportation Association of Canada (TAC) "*Geometric Design Guide for Canadian Roads Chapter 5 – Bicycle Integrated Design*" (June 2017), the Ontario Traffic Manual (OTM) "*Book 18 – Cycling Facilities*" (December 2013), and the National Association of City Transportation Officials (NACTO) "*Urban Bikeway Design Guide*" (March 2014). The recommended practice contained in the Ontario Traffic Manual (OTM), which is also the source of the diagram shown in Figure 4 of Attachment IR2.33-2 (CEAR #592), is illustrated in **Figure IR8.4-1** below.

True North Safety Group concurs, and has confirmed, that the proposed design for the Britannia Road / Terminal Access Road intersection (contained in Figure 7 of Attachment IR2.33-1 (CEAR #592)) appropriately accommodates bicycles on Britannia Road, is in line with current design standards, and does not change the conclusions of the safety assessment contained in Attachment IR2.33-2 "*Safety Assessment of Site Accesses at the Proposed CN Logistics* Hub" dated April 5, 2017 (CEAR #592).

Figure IR8.4-1 Recommended Practice for Bicycle Lane Adjacent to Introduced Right-Turn Lane



(Source: OTM "Book 18 – Cycling Facilities", 2013. Figure 4.37)

In comparison to the above diagram, Figure 4 of Attachment IR2.33-2 (CEAR #592) ("Bicycle Lane Adjacent to Combined Through/Right Turn Lane (Solid Line With Optional Staggered Stop Bars; OTM Book 18, 2013)") is a conceptual diagram illustrating a road configuration *without* a dedicated right turn lane, but rather with a shared through-right turn lane and curbside bicycle lanes. That diagram was reproduced from Figure 4.41 of the Ontario Traffic Manual (OTM) Book 18 and was provided as a recommendation in the event that a shared through-right lane is provided in the eastbound direction.

Note that in the proposed intersection design, both on-street bicycle lanes and off-street multi-use paths are provided on Britannia Road, consistent with the preferred cross-section contained in the Halton Region "*Environmental Study Report – Britannia Road (Regional Road 6) Transportation*

Corridor Improvements", dated April 2014 (revised September 2014), and the Halton Region "*Addendum to the Britannia Road (Regional Road 6) Transportation Corridor Improvements – Environmental Study Report, 2014 (Regional Road 25 to Highway 407)*", dated January 2017. It is also consistent with the design of the (recently reconstructed) section of Tremaine Road between Britannia Road and Steeles Avenue, which has a 4-to-6 lane cross-section and on-street bicycle lanes as well as off-street multi-use paths. Thus, bicycle traffic travelling on Britannia Road may utilize either the on-street bicycle lanes or off-street multi-use paths, depending on rider preference.

The final design implemented at the intersection of Britannia Road / Terminal Access Road will be determined during the detailed design phase of the project, in consultation with the Region.

d) Provide the value CN used for truck equivalency of 4.0 Passenger Car Units in its region-wide traffic capacity calculations in EIS Appendix E.17.

Please see response to question (a) above.

As noted in that response, an equivalency factor of 4.0 PCU was applied to all Terminal-generated heavy-trucks at all locations, including in the analysis of the Regional arterial roadway network beyond the facility entrance.

e) Provide a traffic model to predict how traffic on local and regional roads between the Project site and 400-series highways would be affected by Project-generated truck movement in 2031.

Response pending.

REFERENCES

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