



Canadian National

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July 22, 2019

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

By email

Dear Ms. Griffiths:

RE: Response to new evidence provided in Appendix A and B of Halton Municipalities closing statement

I am writing in reference to the Review Panel's decision on July 19, 2019 to allow CN to provide a written response to Appendix A and B of the Halton Municipalities closing submission by July 22, 2019.

Enclosed with this letter you will find the following documents:

- 1) Memo from BA Group pertaining to Appendix A of the Halton Municipalities closing submissions which provides a response to the new evidence submitted on the subject of traffic and traffic modelling.
- 2) Memo from Mr. Bissett and Mr. Johnston pertaining to Appendix B of the Halton Municipalities closing submission which provides a response to the new planning opinion provided by Curt Benson.

Thanks you for your consideration of these two responses.

Sincerely,
<Original signed by>

Darren Reynolds
Project Director

Cc:
William G. McMurray, Review Panel Member (by email)
Isobel Heathcote, Review Panel Member (by email)
Joseph Ronzio, Review Panel Manager (by email)
Mark Lerner, CN Vice President
Luanne Patterson, CN Senior Systems Manager – Environmental Assessment

Memorandum

TO:
Darren Reynolds
CN - Canadian National Railway Company

FROM:
Amy Z. Jiang, M.Eng., P.Eng.

PROJECT:
6071-11
CN Milton Logistics Hub

DATE:
July 21, 2019

SUBJECT: RESPONSE TO APPENDIX A OF THE CLOSING SUBMISSION FROM HALTON MUNICIPALITIES

This memorandum provides BA Group's response to Appendix A of the closing remarks submitted to the Joint Review Panel on July 17, 2019 by Halton Municipalities ("Halton").

1.0 BACKGROUND DATA/DATE OF DATA USED

a) Halton states, in its closing submission, that traffic volumes adopted by BA Group for the Britannia Road corridor were, in fact, the most up-to-date:

The July 17, 2019 Halton closing submission states, in paragraph 170 (a), that:

"CN acknowledges that it did not use the up to date forecasts for all arterial road corridors, with the exception of the Britannia Road corridor".

Thus, it appears that Halton is in agreement that the volumes adopted by BA Group for the Britannia Road corridor, which were adopted from the Britannia Road Environmental Assessment Study, are the most up to date forecasts that are suitable for the purpose of detailed intersection-level capacity analysis.

b) Halton's own traffic analysis submitted to the Joint Review Panel only considered the Britannia Road corridor:

The Halton submission containing the findings of its own traffic analyses (CEAR 800, Halton Municipalities – Submissions Package 3, Memorandum to Lisa De Angelis dated Monday May 27, 2019, titled "*B000609 CN Milton Logistics Hub Intersection Operations Technical Memo*") only discusses analysis findings for the Britannia Road corridor, notably in Section 3 ("Results") and Appendix A ("Detailed Summary Tables"). The Halton submission did not contain analyses for other arterial road corridors beyond Britannia Road.

Thus, Halton recognizes that Britannia Road, between Tremaine Road and Highway 407, will be the key corridor requiring consideration of Project related traffic impact, and that Halton considers this corridor to be the only one requiring detailed analysis by its own experts.

c) For Regional arterial corridors other than Britannia Road, BA Group adopted supportable, appropriate intersection-level traffic volume forecasts using information provided by Halton Region specifically for the purpose of assessing future traffic volume growth. These forecasts remain suitable for the purpose of the intersection-level capacity analyses required to assess the Project.

BA Group's assessment of the different sources of traffic volume forecasts is discussed in more detail in the July 11, 2019 BA Group memo (Section 1 "Background Data/Date of Data Used", page 3), as well as in IR 8.4 (e) (CEAR 732), Attachment IR2.33-1 and Attachment IR2.33-3.

In short, for Regional arterial road corridors other than Britannia Road, BA Group applied link-level growth rates that were provided to CN by Halton Region in the fall of 2015 (at the request of CN) for the purpose of assessing future traffic volume growth. The findings of the BA Group analyses were published in 2017 in Attachment IR2.33-1 and Attachment IR2.33-3.

Subsequently, in January 2019 (only 5 months before the start of the Panel hearing), Halton Region provided CN with its reportedly more "up to date" traffic volume forecasts, for the *corridor level* (i.e. not for the intersection level, which is required for intersection capacity analyses), in response to a request made by CN in November 2018. Halton Region did not provide CN with any information or indication on whether, and how, its model was updated. However, the 2011 Transportation Tomorrow Survey (TTS) that Halton states it has updated the model with only provides origin-destination data, but does not include new population or employment forecasts that might fundamentally change the number of trips generated within the Region.

Furthermore, as noted in the July 11, 2019 BA Group memo and IR 8.4 (e), BA Group has carefully reviewed the traffic volume forecasts provided by Halton Region in January 2019, and determined that while the Regional model output is valid at a *screenline*¹ level, it is not applicable to forecasts of traffic on *individual corridor segments* or at *specific intersections*. BA Group has concluded that the forecasts prepared by BA Group in 2017 are supportable and remain well suited to their intended purpose and that there is no reason to apply a different set of forecasts to this analysis.

2.0 HORIZON YEAR FOR ANALYSES

As noted in the July 11, 2019 BA Group memo, BA Group's analysis published in Attachment IR2.33-1 and Attachment IR2.33-3 represented a 5-year analysis horizon (2021), with the exception of Britannia Road / Terminal Access Road, where the 2031 horizon was also assessed. Subsequently, BA Group also undertook

¹ A "screenline" is an imaginary line that crosses a set of parallel roads on a road network. The total traffic volume crossing this imaginary line on the set of parallel roads represents the total traffic flow across the screenline. This screenline traffic volume is one of the outputs from a Regional transportation planning model. The balancing of traffic volumes across the screenline, i.e. the more even distribution of traffic volumes across the parallel roads in order to better accommodate overall travel demand, is a common practice that reflects the actual capacity of the parallel roads.

an analysis for the 2031 horizon for the entire study area Regional arterial road network, in response to IR8.4 (e), to assess the impact of Project traffic on each segment of the road network.

The detailed 2021 analysis was particularly important because the Region's 2021 traffic model did not account for traffic being generated by the Project lands in 2021², so it was necessary to test the addition of Project related traffic to the Region's traffic forecasts.

By contrast, for the 2031 horizon, the Region's 2031 traffic model did already account for traffic being generated by the Project lands through its assumption of 1,500 jobs being present on these lands, as noted throughout Halton's presentations, e.g.:

"As Mr. Benson mentioned to you last week is that in the absence of the CN lands here as they're currently planned, is there would be an expectation within the best planning estimates of 2031 of about 1,500 jobs on the site rather than the 130 being suggested by CN" – Mr. Mathew

– Halton presentation, CEAR 879, Hearing Transcript Vol. 5, June 26, 2019, pg 1274, 9-14.

Although employee traffic generates primarily passenger cars, not heavy-trucks, BA Group has already accounted for the higher impact of Project-generated trucks on road capacity through the use of a Passenger Car Unit (PCU) equivalency factor of 4.0, i.e. assuming that 1 heavy-truck has the equivalent impact on road capacity as 4 passenger cars. Even after applying this factor, the peak hour traffic volumes that would be generated by 1,500 jobs (i.e. approximately 600 PCU trips in the afternoon peak hour) is still greater than the PCU trips that would be generated by the Project (i.e. 380 PCU trips in the afternoon peak hour):

"the 1,500 jobs assumed for the PDA itself, would generate approximately 600 p.m. peak hour PCU trips in 2031. So the 600 PCU trips which were included in the transportation planning model for 2031 is greater than the 380 p.m. peak hour PCU which the terminal would generate" – Mr. McBride

– CN presentation, CEAR 879, Hearing Transcript Vol. 5, June 26, 2019, pg 1361, 11-17.

Furthermore, although the Region's transportation model does not explicitly account for trucks, any employment use would also generate truck traffic in addition to employee traffic, particularly industrial uses. Halton has previously stated that it relied on a CN proposal for rail-served industrial uses in 2008 as input to its planning process. The first phase of that proposal would have generated a comparable number of heavy-trucks to the Project, as discussed in Exhibit 10 (CEAR 937). The anticipated full rail-served industrial park would have generated many more heavy-trucks, perhaps up to three times more.

3.0 ROAD NETWORK IMPROVEMENTS

As discussed in a CN submission to the Panel on July 12, 2019, titled "*Review Of New Slides Introduced During Halton Municipalities' Traffic & Safety Presentations On June 26, 2019*" (CEAR 964, Section 2 "Timing of Near-Term Road Improvements"), it is likely that the Britannia Road widening from 2 to 6 lanes will be complete by 2022, at the same time as the planned Project opening.

² As the *2011 Best Planning Estimates*, which formed the basis of the Region's traffic modelling, does not assume any new employment on these lands by 2021. Source: "*Best Planning Estimates Of Population, Occupied Dwelling Units and Employment, 2011-2031*". June 2011. Regional Municipality of Halton.



As also discussed in that memo, BA Group undertook a sensitivity analysis for the 2021 planning horizon to account for the possibility that the Tremaine Road interchange at Highway 401 may not be complete at the time of Project opening. Thus, this improvement is not being relied upon.

The roundabout at Britannia Road / Tremaine Road was identified in the approved Tremaine Road Environmental Study Report³, and an accompanying “Tremaine Road – 4-Lane Interim Plan”, to have 3 circulating lanes instead of the 2 that currently exist. It would be logical to expect that this intersection would be upgraded as the time that it is required.

4.0 MODEL PARAMETERS

Since the Halton TIS Guidelines do not provide guidance on what peak hour factors to adopt, BA Group referred to other Regional TIS Guidelines as well as engineering judgement to determine appropriate peak hour factors to use. As discussed in the July 11, 2019 BA Group memo (Section 4 “Model Parameters”), many intersections in the Town of Milton are already operating with peak hour factors that exceed the 0.90-0.95 numbers referenced by Halton, and are as high as 0.99 today. Thus, applying a lower peak hour factor for analysis would not be logical in this case. It is industry practice to use relevant TIS Guidelines as well as engineering judgement to select appropriate peak hour factors for analysis.

BA Group did not refer to other Regional TIS Guidelines regarding saturation flow rates, because the Halton TIS Guidelines already provide guidance on this matter, as discussed in the July 11, 2019 BA Group memo: “*Supplementary surveys or analyses may be needed to assess saturation flows, gap availability, projected queue lengths and possible blocking queues.*” (Halton TIS Guidelines, Section 3.6.1 “Capacity Analysis at Intersections”). BA Group undertook saturation flow rate studies at the locations where a non-default saturation flow rate was adopted, using industry-standard methodology.

5.0 OVERALL CONGESTION ASSESSMENT

Intersection capacity (V/C) and level of service (LOS) are two somewhat-related terms, and we agree that both can be useful indicators of intersection performance, but they measure different aspects of the intersection.

The July 11, 2019 BA Group memo discusses why V/C ratios are, in our view, a more useful indicator of intersection capacity. Notably, that memo discusses why, for a number of intersections in the Town of Milton, existing signal cycles are so long (between 120 seconds to 180 seconds, i.e. 2 to 3 minutes), that by default, the “delay” (and by extension the Level of Service, which is solely defined by delay) is considered long and could easily exceed 80 seconds resulting in a LOS F even when traffic volumes are very low, because the red phase for each movement is naturally long. For example, this is the case at Britannia Road / Trafalgar Road, Britannia Road / Regional Road 25 and Steeles Avenue / Martin Street. Thus, delay does not provide a full indication of these intersections’ ability to accommodate traffic.

³ “Tremaine Road (Reg. Rd. 22) From Derry Road (Reg. Rd. 1) to Britannia Road (Reg. Rd. 6) – Transportation Corridor Improvements Class Environmental Assessment Study”. June 2012. McCormick Rankin.



Response to Appendix B – Opinion of Mr. Bissett and Mr. Johnston

Introduction

This opinion responds to the supplementary Planning Opinion of Mr Benson filed by the Halton Municipalities as Appendix B to its written closing submissions. In order to concisely address all the subjects Mr. Benson has covered, we have drawn on some of the other evidence and submissions filed at the hearing. For convenience, our opinion is organized to follow the eight section headings of Mr. Benson's opinion.

1. *Background*

In this section, Mr. Benson asserts that “non-adherence to standards” will result in many residual effects and cumulative effects on a range of components of the natural and human environment. This argument is furthered by the Halton Municipalities express disregard for the majority of mitigation measures proposed by CN.

As noted in CN's written closing submission, a wide range of environmental standards were consulted to support the identification and assessment of potential effects. CN assessed cumulative effects in any case in which residual environmental effects were predicted for any Valued Component (VC), taking mitigation into account. Specifically, CN assessed potential cumulative effects for all VCs identified in the EIS Guidelines.

2. *Purpose of Opinion*

In the closing paragraph of Section 1 of his opinion, Mr. Benson indicates his objective during the hearing, “as with other participants of the Halton Municipalities – staff and expert – was to assist the Panel in fulfilling its mandate”. He continues in Section 2 by indicating that “to date I have not provided the Review Panel with an opinion relative to the merits of the Project” because in essence it was important to understand all the evidence before reaching any conclusions. He goes on in the balance of the Opinion to provide his conclusion that the Project should not be approved at its proposed location. In Section 7, for example, he provides the opinion that “the interests of the Halton Municipalities demonstrate a broad range of concerns that cannot be addressed by approving this Project at this location”.

In a letter filed in April of 2015 (seven months before CN filed its EIS), legal counsel for the Halton Municipalities wrote to the CEA Agency indicating that the Halton Municipalities had already reached the conclusion that they “do not support the establishment of this project in this location”. That letter can be found at CEAR 26, pages 991 - 998.

3. *Cumulative Effects on Planned Land Use*

In this section, Mr. Benson asserts that a change to the planned function of land that “triggers the requirement to change other uses of land or otherwise changes the situation of other users of land (e.g., ratepayers)” constitutes a cumulative effect. He goes on to describe the anticipated cumulative effects that he anticipates will arise due to the Project, including an impact on employment objectives and development charge revenues. He indicates these “cumulative” effects will result because the Halton Municipalities assumed that the CN lands would generate more jobs.

Not an environmental effect pursuant to CEEA 2012

The Panel already has full evidence on the number of jobs and the approximate quantum of development charge revenues that can be expected from the Project. But, contrary to Mr. Benson's assertions, none of these projected implications constitute an "environmental effect" pursuant to either section 5(1) or 5(2) of CEAA 2012. The number of jobs created by the Project (or by other induced development) does not itself constitute a change to the environment, nor does the number of jobs constitute an effect of the changes to the environment that the Project does cause. Similarly, as the Project will not connect with municipal water or wastewater services intended to support the employment and residential areas, there will be no change to the environment related to such a connection, and no effect of any such change on socio-economic conditions. Finally, whether a project generates development charge revenue or not does not constitute an "environmental effect."

Properly considered in the assessment

Notwithstanding that these asserted potential effects are not "environmental effects", they were appropriately considered within the scope of the assessment.

- *Employment growth forecasts and densities:* The evidence before the Panel is that a change in Provincial Policy has resulted in the Project Development Area no longer being included within the area to which the employment density targets will apply. Moreover, the employment density targets are intended to be achieved through a mix of high and low density employment uses across the entirety of the designated greenfield area, and the presence of a lower density use, such as the Project, does not preclude other higher density employment uses from locating on adjacent or other lands in the area. In fact, in addition to the 130 direct jobs expected to be created by the Project, the Project is expected to create between 1,000 and 2,500 jobs due to intermodal-oriented development (IOD) induced by the Project, as described in the response to IR 4.7. This range of potential job creation is consistent with the Halton Municipalities planning estimates. The Halton Municipalities have provided no evidence that higher density employment uses could not be realized on available employment lands in the area. Even warehousing operations – which the Halton Municipalities agree will be attracted because of the Project – can make a major contribution to employment. The 1.1 million square foot DSV logistics warehouse recently approved by the Town of Milton is expected to provide around 1,000 jobs and will be the largest employer in Milton. Both the Town and Region Official plans have identified sufficient employment land and/or future strategic employment land that is expected to be sufficient to support the expected growth.
- *Types of jobs:* The Project itself will create 130 direct jobs. Those jobs include a range of job types, including management, environmental management, business development, engineering, all of which are suitable for and attractive to an educated workforce. IOD is also expected to provide a diverse range of employment suitable for the local workforce. As highlighted in CN's oral closing remarks, the evidence before the Panel was that IOD can include high tech and higher density manufacturing developments, likely to be attractive to a young, educated workforce.
- *Infrastructure:* The Project is not currently proposed to connect to municipal water or wastewater services. The potential effects of Project-associated traffic on the municipal road network have been fully assessed in the various traffic and road safety reports provided to the Panel. As described during the hearing, IOD that may be developed on the other employment lands in the area is expected to place demands on municipal services and infrastructure in line with the level of demand that would have been reasonable to expect from the alternative rail-served industrial park employment use considered by the Halton Municipalities in their planning.

- *Development charges:* As explained by Ms. Jacob during the hearing, if the Project were to proceed, it is anticipated that development charges would be generated by IOD in a range similar to what would be expected from a rail-served industrial park, on which the Halton Municipalities have indicated they based their planning.

Conclusion

Based on this information, the Project and the IOD it is reasonably expected to generate is not expected to require any substantive alteration to land use planning in the area. A similar or greater number of jobs are expected to be created, a similar range of development charges are expected to accrue, and a broader set of positive economic benefits would be reasonable to expect. Even if the Project is considered to require a change in the overall municipal land use planning framework, the provincial and municipal planning process contemplates and expressly provides for change, as noted during the hearing. The municipal Official Plans are, in fact, required to be updated in any event by 2022 to conform with recent changes to provincial policies and plans, including changes to the way in which employment density targets are determined. The kinds of adjustments that could be necessary are within the normal range of changes that are commonly addressed in land use plan updates, and that they would not, therefore, be considered “significant” in our view.

In summary, the implications on the integrated plan for the employment area that Mr. Benson asserts will result from the Project are not, in fact, “environmental effects” or “cumulative environmental effects” within the meaning of CEAA 2012. Even if they were considered to be “environmental effects” or “cumulative environmental effects,” the evidence does not support a determination that the “effects” would be adverse or significant.

4. Mitigation of cumulative effects on employment lands

As noted above, the effects asserted by Mr. Benson are not “environmental effects” pursuant to CEAA 2012. As importantly, no adverse effects on employment land uses are predicted to result from the Project – and in fact there is a reasonable basis to speculate that there will be an even greater net economic benefit (more jobs and more development charge revenues) than the Region and the Town anticipated with a rail-served industrial park. While CN has proposed no mitigation specifically in relation to employment land use – the Project itself (and the revenues it can reasonably be expected to generate) will achieve the same end.

5. Alternatives - Project Location and Access

5.1 Location

Mr. Benson asserts that the proposed location of the Project is not suitable because existing and approved residential communities are located “within 300 m of the project development area”. As CN pointed out during the hearing, it is not appropriate to use what is essentially the Project Development Area (PDA) which includes, for example the entire temporary construction area, as a reference point for separation distance. What is important from a future land-use compatibility stand-point is a consideration of the operating footprint of the terminal – the geographic locus from which the effects of the “yard” uses (like loading and unloading containers) would occur. That area is approximately 150 acres and it is clear (as shown in the response to Undertaking 13) that it will be more than 300 metres from the nearest or existing residential community.¹ The train movements that will occur on the tracks north of Britannia are not (as Mr Benson suggests)

¹ CN Response to Undertaking 13, July 3, 2019 (CEAR #922).

fundamentally different than the train movements that already occur on the existing mainline in that area today. Given that the municipalities approved residential land use in these areas within 300 metres of the existing mainline tracks, which have been there for more than 100 years, and on which a greater variety and higher volume of dangerous goods already move every day, any suggestion that a 300 metre separation distance between the rail tracks and the subdivision is now required is unjustified. In fact, the municipalities' approval of residential development much closer to the mainline than 300 metres signals their understanding of the effectiveness of standard setback mitigation measures, such as noise barriers, and the acceptably low risk profile associated with rail traffic and this kind of rail facility.

5.2 Access

Mr. Benson asserts that the proposed location of Project access on Britannia Road is not suitable for a number of reasons. In fact, all of these matters were addressed in response to IR2.19 and attachment IR2.33-1 of response to IR2.33.

In particular, it is a fundamental requirement of the Project that it be accessible to trucks. All parties to this proceeding agree that trucks are permitted on regional arterial roads but not all local roads. CN confirmed its understanding that First Line is a local road on which heavy trucks are not permitted; this is reflected in CN's consideration of alternative truck entrance locations, documented in EIS section 2.2.3.1 and CN's response to IR 2.19 which concluded that, for this reason, road access to the terminal via First Line would not be feasible.

CN also confirmed its understanding that construction to upgrade Tremaine Road between Britannia Road and Lower Base Line is not planned to start until 2025 and described how the Halton Municipalities, in a meeting in January 2015, expressed to CN their concern about locating the truck entrance on Tremaine Road in advance of planned road upgrades. In response to that concern, CN changed the location of the proposed truck entrance to Britannia Road.

The proposed intersection would be located within an already planned intersection between Britannia Road and a collector road serving the Boyne Survey area on the north side. The proposed location would add a fourth leg to that planned intersection, which is a normal and conventional approach. BA Group developed a proposed preliminary design for that intersection based on the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (1999 version and 2017 version), Ontario Traffic Manual Books 12 (Traffic Signals), 15 (Pedestrian Crossing Treatments), and 18 (Cycling Facilities), which featured all the required mitigation measures, including turn lanes and suitable traffic signal control. BA Group's assessment of the truck entrance intersection demonstrated that the design as proposed, taking into consideration the volume and expected distribution of traffic, including truck traffic, throughout the day, would maintain traffic fluidity and safe operation through this intersection. That assessment considered important operational and design factors, such as sight lines, stopping distances, turning requirements, queuing, and signal timing, as well as the configuration of the intersection with the road access into the residential development north of Britannia. This assessment also accounted for the 30 metre section of 5% grade on Britannia Road approximately 120 metres west of the intersection resulting from the proposed overpass over the existing mainline to the west. This grade is comparable to other grades on Halton Region arterial roads with similar intersection spacing and that serve trucks.

True North Safety's assessment of the truck entrance intersection demonstrated that the design as proposed would also accommodate safe movement of trucks, passenger vehicles, pedestrians, and cyclists at the volumes and distribution patterns expected at this intersection.

Both BA Group and TNS recommended design and other traffic flow and safety mitigation measures, which CN has committed to implement. CN has also committed to pay for the

necessary intersection upgrades and to work with the municipal road authority to ensure their interests are addressed during detailed design. CN therefore submits that it has demonstrated that the proposed truck entrance intersection is both needed and can be designed and operated to accommodate background and Project-associated traffic, including truck traffic, safely and efficiently.

CN has also noted that all alternative access points would interact with one or more of the watercourses and associated natural heritage features on site as noted in IR 2.19.

Finally, CN has assessed the potential effects of the Project on agricultural lands. All of the lands associated with the proposed road accesses are located on lands that are planned by the Halton Municipalities for employment use in the future, and are located within a Provincially Significant Employment Zone. It is clear those lands are not intended for future agricultural uses.

6. *Need for the Project*

Mr. Benson's novel assertion that the Project is not needed for another decade is contrary to the overwhelming evidence before the Panel, including CN's demand forecast and capacity analysis, the independent evaluation of demand forecast prepared by Martin Associates, and the evidence provided by the many supply-chain witnesses that new capacity is needed urgently.

7. *Reasonableness of the location under Section 98 of the CTA*

If the Project does come before the CTA, it will be assisted by all the information that was collected in this proceeding. In our view, particular consideration should be given to the fact that the Project is very well located to serve the growing demand occurring in Milton, Halton and the GTHA. We expect that the CTA would have regard to the long time awareness of the Town and Region that these CN lands would one day be utilized for an industrial rail facility, and that awareness has guided its planning. There is no fundamental land use compatibility issues emerging from the very detailed – years long - environmental effects assessment of the Project. The Project has been well planned, and taken the extra steps necessary to ensure that any potential effects would be well mitigated. In our view, the Project should be expected to fit in well at the proposed location.