

9 May 2022  
Project: 220129

Aquisha Khan, P. Eng.  
Transportation Engineer  
Transportation and Engineering Department, Town of Oakville  
1225 Trafalgar Road  
Oakville, ON L6H 0H3

Dear Ms. Khan:

**RE: TECHNICAL REVIEW – 700-750 WINSTON CHURCHILL BOULEVARD  
TRANSPORTATION IMPACT STUDY (SEPTEMBER 21, 2021), TOWN OF OAKVILLE**

---

772 Winston Churchill GP Inc. (the Proponent), a General Partner for 700-750 Winston Churchill Limited Partnership, is proposing to construct two industrial buildings at the subject address. The Proponent retained IBI Group to develop a Transportation Impact Study (TIS) to support the development approval process. IBI Group prepared an initial study for a commercial property at this site in 2015, but it was ultimately not constructed. They have since provided a new study for this warehouse development, with the most recent version submitted in September of 2021. The purpose of this letter is to provide a technical review of the report contents, highlighting critical areas and providing context and support where further information may be required.

Based on the review, an addendum to the report could be provided that addresses the following:

- ▶ Explore opportunities to improve TDM efforts including the installation or protection of right-of-way for sidewalk, MUP and/or bus stop needs as well as strong site connections;
- ▶ Clarify the setback distance for the site access sightlines;
- ▶ Clarify site trip assignment details, including turn and vehicle restrictions at both site accesses; and
- ▶ Provide further site circulation details.

## Development Summary

The Proponent is proposing a warehouse facility consisting of two industrial buildings, with a combined gross floor area (GFA) of 61,463 m<sup>2</sup> and 373 surface parking spaces. Site access is proposed to be through two driveway connections. The north access is proposed to be full moves, while the south is proposed to be right-in/right-out. The proposed development is expected to generate approximately 113 and 116 total two-way passenger car trips during the weekday AM and PM peak hours, respectively.

The following items are key features of the study:

- ▶ **Traffic Operations.** Traffic impacts have been analyzed and modelled using Synchro 9 software. Minor modifications can be applied to the analysis to gain a more accurate representation of existing and projected conditions. However, in total, the analysis fairly depicts existing and proposed traffic conditions.

Analysis results indicates that generally, traffic operations will not be a significant issue under the proposed development conditions. The following movement is critical:

- The eastbound through/right turn movement at the intersection of Winston Churchill Boulevard and Royal Windsor Drive operates with a poor V/C during the AM peak hour for all analyzed scenarios.

The poor conditions for this movement are primarily attributable to background traffic conditions, not site trips. The report includes a signal timing optimization analysis to mitigate the poor conditions.

- ▶ **Signal Timings.** Signal timings were programed in accordance with provided timing cards from the applicable road authorities. Although minor adjustments can be made to the timings, no critical issues have been identified. It is likely that updates to the minor discrepancies identified will not impact study conclusions to a significant extent.
- ▶ **Transportation Demand Management.** The study does not contain any information on transportation demand management (TDM). The study may benefit from the inclusion of a TDM component to examine how single-occupant vehicle trips generated by the site can be reduced. In particular, installation or protection of the right-of-way for future sidewalk, MUP and/or bus stop needs could be considered. Strong connections (i.e. sidewalks) from the right-of-way to the site may be beneficial as well.
- ▶ **Site Access.** The site is planned to front on to Winston Churchill Boulevard with two accesses to the public right-of-way.
  - The north access is located approximately 180 m south of the north property line. The access is proposed to be unsignalized and right-in/right-out only for vehicles.
  - The south access is located approximately 56 m north of the south property line and approximately 180 m south of the north site access. The access is proposed to be full moves and signalized, located opposite of the planned Orr Road extension.



There are no apparent significant issues with the accesses as proposed. An analysis of motorist sightlines at the site accesses has been provided. The distance of the vehicle setback from the Winston Churchill Boulevard is not apparent.

The study and designs contain conflicting information on site access use, including vehicle type and turn restrictions.

- ▶ **Site Plan.** Review agency comments indicate that a functional design may have been developed. If so, the design should follow all applicable design guidelines, including Region of Peel Roads and Traffic Standard Drawings. There are minor aspects included in the site plan that will need to be considered if detailed design work is pursued as part of this project.
- ▶ **Parking.** The supply of 373 parking spaces exceeds the minimum requirement of 345 spaces for warehouses, as per the Town of Oakville By-law 2014-014. As such, a parking study has not been provided and is not required.
- ▶ **Site Circulation.** Site circulation is analyzed through a swept path analysis of the following design vehicles using AutoTURN:
  - WB-20.

The analysis does not contain information on other vehicle types such as a fire truck and Heavy Single Unit (HSU) as well as the north access. Review agencies may wish to confirm this outstanding information.



## Detailed Commentary

### General

1. Page numbering should be updated as there are three pages numbered “1”.
2. A transportation demand management section is not included in the report. Similar to another TIS in the area, review agencies may wish for the report to include strategies to reduce single-occupant vehicle use. This could be accomplished through strong pedestrian and/or cycling facilities along the frontage or connecting to the site.
3. As per Town of Oakville Terms of Reference for Transportation Impact Studies and Transportation Functional Design Studies (Town of Oakville TIS guidelines) Section 3.1, the description of the development proposal should include the following:
  - a. A summary of each type of floor space. For this site, the GFA of office space should be detailed;
  - b. Approximate hours of operation. For this site, shift work could lead to varying peak hour factors (PHFs) or queuing; and
  - c. Planned phasing of the development. It should be confirmed if both buildings are being constructed at the same time or sequentially.

### Existing Traffic Conditions

4. Pages 2 & 3 – Sections 3.2 and 3.3 contain varying details for the subject roads and transit facilities, some of which do not appear consistent.
5. Pages 2-3 & Site Plan – The report may wish to consider the need for a bus stop at the south access given the planned Orr Road extension, signalization and potential for warehouse employees to use public transit. As per Town of Oakville TIS guidelines, a new transit stop is required if the development is located more than 400 m walking distances away from an existing transit stop.
6. Pages 3 & 4 – Given the planned Winston Churchill Boulevard road works and ten-year planning horizon, explicit reference to municipal cycling plans is recommended. Planned cycling infrastructure may need to be incorporated into the study and/or design.
7. Page 5 – TMCs from January may not provide consistent representation of typical traffic conditions. Furthermore, the TMCs were retrieved in 2017, which is over five years from the review date. Given current Covid-19 conditions, updated data may or may not be desirable. Alternatively, data could be factored to address current conditions. If updating the dataset is not desirable at this time, justification of the use of the January 2017 TMCs could be provided.



8. Page 7 – The review agencies may wish to include the additional intersections of Ford Drive and Beryl Road and/or Ford Drive and Royal Windsor Drive. These intersections were included in a similar TIS in the area.

### **Future Traffic Conditions**

9. Page 9 – A build-out year of 2021 is not possible as it is currently 2022. If further updates are made to the study, it is advised that a realistic build-out year be updated. Subsequent changes to horizon years would be required as well.
10. Page 9 – A 10 year horizon scenario may be desirable as it was included in a similar TIS in the area.
11. Page 9 – Supporting evidence for the 2% growth rate applied to the base conditions could be provided. Confirmation of the rate from 2015 may not entirely justify use of the rate.
12. Page 9 – A background development planned for 2400 Cornwall Road was identified in a similar TIS in the area. This planned development did not have specific information to include in the traffic analysis, so any potential impacts were included in the background growth. The Town of Oakville may want to confirm that status of this study and if potential trip generation should be through specific site trips, background growth or not considered.
13. Page 9 – Region of Peel staff highlighted potential plans to develop the lands located at 805 Winston Churchill Road. The report contains sightline analysis for this location, but may also need to assess trip generation rates as well.
14. Page 9 – Town of Oakville staff identified the planned Moldenhauer development on the east side of Winston Churchill Boulevard as a potential impact to be considered in the traffic analysis. If not done so already, the Town recommends that the site be considered as a background development.
15. Pages 10-11 – Providing the specific land use of the background developments in Exhibit 3-3 would need to be provided to confirm ITE Land Use Codes (LUCs).
16. Page 13 – The timing of the Orr Road extension should be confirmed, as the current report is updated as of only 2015. Confirmation of timing may impact east leg traffic volumes and intersection signalization needs. It should also be noted that updates to the current 2021 build-out year and horizon years may impact coordination as well.
17. Pages 21 & 22 – Trip distribution for the subject study is based on existing traffic conditions. Trip distribution for the background studies is based on TTS data. A preferred method could be confirmed. If there are specific reasons as to why the two different methods are used, it could be provided.



18. Pages 11, 21 & 22 – The provided trip generation information does not detail heavy vehicle use. There is a heavy vehicle prohibition on Lakeshore Road West, west of Winston Churchill Boulevard. The trip assignment should be clarified or updated to reflect this prohibition.
19. Pages 21, 22 & Appendix J – The swept path analysis only considers truck movements at the south site access. The trip assignment should be updated to reflect this condition.
20. Page 22 – Southbound right turn trips are assigned to the north and south access equally. It is unlikely that these trips will pass by the north access to the use the south access. However, truck trips are only permitted to use the south access. Assignment of southbound trips to the site should be clarified. Assignment of truck trips should be confirmed as well.

### **Access Location Analysis**

21. Page 32 – The Region of Peel may wish to confirm operating speeds on Winston Churchill Boulevard. Some municipalities apply design speeds 20 km/h over the posted speed limit for 60 km/h posted speed limits or higher, which would be 80 km/h.
22. Pages 32-35 – The north access is right-in/right-out only. Sightlines are provided for the northbound approach and departure, which are not required.
23. Pages 32-92 – The analysis does not provide aerial schematics to confirm dimensions. Sightline analysis should occur from 5.4 m upstream of the perpendicular travel lane as per TAC Geometric Design Guide, Section 9.9.2.2. The sightline analysis should confirm dimensions.

### **Winston Churchill Boulevard Corridor Review**

24. Pages 42-92 – The exhibits could include the maximum observable distance, similar to the exhibits in the Access Location Analysis Section.

### **Study Conclusions and Recommendations**

25. Pages 42-92 – As per Region of Peel staff comments, southbound right turn lanes are requested at both site accesses. Turn lane warrants could be provided to justify lane inclusion. Including a southbound right turn lane at the north access may mitigate any potential vehicle queuing across the railway corridor. If the southbound right turn lanes are installed, the traffic analysis should be updated to include these lanes.

### **Synchro**

26. The minimum initial split for the eastbound left turn movement at the intersection of Winston Churchill Boulevard and Royal Windsor Drive could be updated from 8 s to 5 s to better reflect actual site operations. The amber and all-red times for this movement could be updated as well.



27. The recall mode for the southbound left turn movement at the intersection of Winston Churchill Boulevard and Royal Windsor Drive could be updated from None to Min if site conditions show consistent actuation of the movement that does not extend for the entire split.
28. The recall mode for the southbound movements at the intersection of Winston Churchill Boulevard and Lakeshore Road could be updated from Max to Min if site conditions show consistent actuation of the movement that does not extend for the entire split.
29. The heavy vehicle percentages contained in the Synchro analysis could be reviewed for accuracy. Most are accurate, but there may be some inconsistencies. For example, the Synchro values for the southbound movement in the AM Peak Period at the intersection of Winston Churchill Boulevard and Royal Windsor Drive does not match the values provided in the TMCs found in Appendix D. This may be due to volume balancing.
30. The Region of Peel may wish to have all PHFs set to 1.00. Confirmation of the appropriate PHFs could be provided.
31. Some of the vehicle volumes contained in the Appendix D vary from the ones used in the Synchro analyses. If the report is being revised, context could be included to support what is likely volume balancing.

## Site Plan

32. A functional design detailing recommended access configuration and intersection geometrics may be required as per discussions with Town of Oakville and Region of Peel staff. As per the Region of Peel's comments, aspects such as road alignment, lane dimensions and centre median islands would need to be included in the design. Based on information provided by the Region of Halton, a functional design may have already been circulated to some
33. Town of Oakville TIS guidelines recommend 15 m curb radii. The current site plan does not show curb radii at the south access.
34. The clear throat distances for both the north and south site accesses do not adhere to TAC Geometric Design Guide specifications (see Table 8.9.3).
35. Potential site impacts and design requirements of the 560 Winston Churchill Boulevard development should be considered with the subject design works.
36. A vehicle barrier is provided along the south access driveway. It should be clarified if this guide rail is provided on the west side of Winston Churchill Boulevard along the site stormwater pond as it may be required. Guide rail specifications (OPSDs) may need to be required.
37. The TAC Geometric Design Guide, Figure 8.5.1, recommends a minimum driveway width of 9.0 m. The north access driveway is currently proposed to be 7.5 m.



38. As there are plans to signalize the south site access, signal spacing may need to be considered. Traffic progression (time-space diagrams), pedestrian crossings, bus stop locations and vehicle queuing are some factors that may impact the exact location.
39. The site plan may wish to consider protecting the site frontage for the potential need for a sidewalk, MUP, extended paved shoulder, bus stop or other active transportation and transit facilities required to allow non-auto modes access to the site.
40. As per Region of Peel and Halton comments, 15x15 m sight triangles are required at both accesses. This should be shown on the site plan and/or functional design.





## Conclusions and Recommendations

The reviewed traffic impact study follows a typical technical approach and does well to address the key concern of traffic operations on the road network surrounding the subject site. The following conclusions have been identified:

- ▶ **Traffic Operations.** The eastbound through/right turn movement at the intersection of Winston Churchill Boulevard and Royal Windsor Drive has been identified to have poor measures of effectiveness (MOEs) during the AM peak hour over various study scenarios. The cause of the critical conditions is largely attributable to background conditions, not site trips. The report contains traffic signal timing optimization analysis that mitigates the poor conditions.
- ▶ **Signal Timings.** Some signal timings could be adjusted to reflect study conditions. It is not anticipated that updates to the signal timings will impact results to a significant extent.
- ▶ **Transportation Demand Management (TDM).** A TDM section is not included in the study. A TDM section may wish to be included to reduce single-occupant vehicle trips generated by the site. Efforts could include the installation or protection of right-of-way along the site frontage for future sidewalk, MUP and/or bus stop needs. Strong connections (i.e. sidewalks) from the right-of-way to the site may be beneficial as well.
- ▶ **Site Access.** There are no significant issues with the site accesses as proposed.
- ▶ **Site Plan.** The site plan contains minor discrepancies related to transportation operations. It is likely that these minor issues will not impact future detailed design efforts to a significant extent.
- ▶ **Parking.** The proposed parking supply is adequate to serve site operations.
- ▶ **Site Circulation.** The site circulation analysis indicates that there are no vehicle conflicts for the observed vehicle types and turns. The analysis does not include all vehicle types and potential turning conflict locations on site.

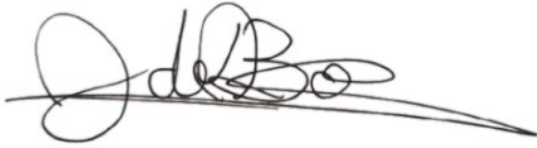
Updates to the identified issues can be made to better reflect existing and projected conditions. However, such updates would likely not impact the conclusions of the report to a significant extent. The following recommendations are suggested to ensure that project stakeholders can accommodate development plans:

- ▶ Monitor traffic signals for future signal timing optimization needs;
- ▶ Explore opportunities to improve TDM efforts;
- ▶ Clarify the setback distance for the site access sightlines;
- ▶ Clarify site trip assignment details;
- ▶ Provide further site circulation details;
- ▶ Consider design aspects in future detailed design; and
- ▶ Update other study details as needed.



Yours very truly,

**Paradigm Transportation Solutions Limited**

A handwritten signature in black ink, appearing to read 'J de Boer', with a long horizontal flourish extending to the right.

**Josh de Boer**  
M. Eng., P. Eng., PTOE  
Project Manager, Associate

