

Transportation Impact Study 560 Winston Churchill Blvd

Comments from the Joshua Creek Resident's Association on the Applicant's
Re-submission in response to Town of Oakville requirements for Ultimate
Operating Condition Analysis of both 560 & 772 Winston Churchill Blvd

October 2023

Outline

- Premise and Conclusion
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- Trip Generation Review – Full Utilization requirement (Ultimate Operating Condition)
- Where Does 8550 Boston Church rank in the ITE modelling?
- Where do 560 and 772 rank in the ITE modelling?
- Trip Generation Review 551 Avonhead
- Experts acknowledge that “Best Practice” analysis is to include Peak Day factor.
- JCRA Issues and Concerns – Traffic, Air Quality and Noise
- Summary

Our starting premise

- Requirement from Council was to provide a “Full Capacity Utilization” (*evaluate the ultimate operating condition of the site, based on full build-out*) modelling of the 560 and 772 sites.
- *Does this submission accomplish this objective?*

Our Conclusion

- The 2023 submission for 560 WCB that includes 772 WCB references **does not meet** the condition set by Town Council to *evaluate the ultimate operating condition of the sites, based on full build-out because it does not evaluate full capacity utilization of the sites.*
- *Our presentation focusses on why this condition was not met.*

Summary of Key Points: Why Council's Condition was not met

1. The consultants failed to adequately support their choice of 8550 Boston Church Road and 551 Avonhead as a proxy for 560 and 772 beyond very rudimentary criteria.
2. The consultants did not appear to research the operating status of the 8550 Boston Road warehouse to determine if the sale of Lowe's in late 2022 may have impacted warehouse operations.
3. The 8550 Boston Church Road Proxy is in the bottom quartile of ITE traffic volumes for LUC150 Warehouses. Additionally, the percentage of trucks was only a maximum of 13%, compared to 20% used by 560 and 772, and to 35% based on the ITE database.
4. The study did not apply a peaking factor for peak days. This factor represents the peak operating months of facilities and takes into account seasonality factors. An analysis that omits seasonal peaks is, by definition not full capacity utilization, and will significantly understate noise and air quality impacts which are required to be measured under worst-case conditions according to D6 Guidelines.
5. There was no adjustment to the 2% background traffic growth to reflect 5 new warehouse developments in the immediate vicinity: 759 Winston Churchill Blvd., 2645 Royal Windsor Dr., 2520 and 2510 Royal Windsor Dr. 551 Avonhead Rd. and 880 Avonhead Rd. and the impact on traffic, noise and air quality.
6. The Crozier report fails to provide a combined Ultimate Operating Condition/Full Capacity Utilization analysis for 560 and 772 combined, as requested by Council. As a result, no updated traffic, air quality and noise reports were provided to the Town analyzing the impact of both 560 and 772 on traffic, air quality and noise on the residential neighbourhood.

Proxy Site Selection Criteria

- The applicants for 560 and 772 were asked to evaluate the ultimate operating condition of their sites, based on full build-out, in other words, full capacity utilization of the site(s) through the use of a proxy.
- What was the basis of comparison that determined 8550 Boston Church Road (8550) in Milton represented a proxy site for 560 and 772 WCB?
- It appears that the only commonality is the somewhat comparable size (1.3 million sq.ft.) and 180 loading docks at 8550, but 560+772 combined have 226 loading docks or 25 % more. This is not factored into comparative analysis despite the fact that it would impact truck volumes.
- Based on our research and available information, key differences include:
 - **8550** is a single-tenant warehouse operated by Lowes. **Lowes (now RONA)** operates an estimated 90+ stores in Ontario. A single tenant warehouse is a different operations model than a multi-tenant warehouse; in particular, single tenant facilities are financially motivated to MINIMIZE truck trips and have the data and management controls to achieve that.
 - **Lowes Canada was sold to Sycamore partners in Nov '22.** What was this warehouse being used for at the time of the study? What was the utilization level of the warehouse space and loading docks at the time of the study. No information was provided to indicate that 8550 was operating at full capacity and was a good proxy for full capacity utilization for 560 and 772 Winston Churchill Blvd.

A logistics expert is required to answer these questions.

ITE Trip Generation Analysis

Who is ITE?

- Institute of Transportation Engineers, founded 1930
- 17,000 members in 92 countries; over 2,000 in Canada
- Educational and scientific organization

What is Trip Generation?

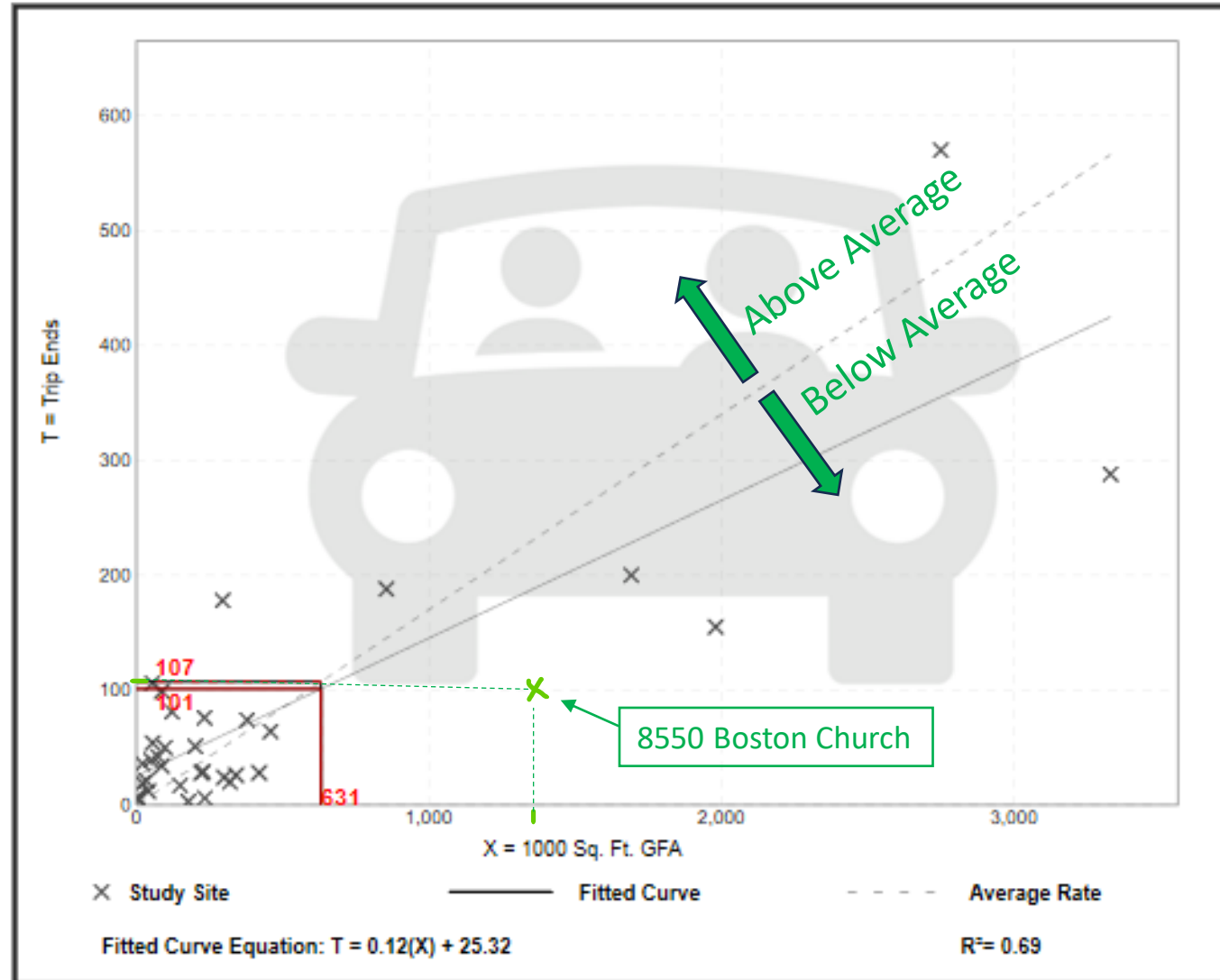
- The estimated average for the peak hour and daily site traffic volumes for a particular land use
- Involves development of relationships between vehicle trips and land use characteristics
- ITE has assembled data from more than 4,800 individual studies in United States and Canada since the 1960s
- Widely used for site impact analysis, zoning and land use planning, impact fee determination, environmental assessment, and traffic impacts on air and noise

Where Does 8550 Boston Church Rank vs ITE?

----- PEAK A.M. HOUR -----				
	GFA Sq ft '000	Trips '000	Trips / '000 sq ft	Trips / 1.3M sq ft
1	170	3	0.02	23
2	225	5	0.02	29
3	300	17	0.06	74
4	400	23	0.06	75
5	320	23	0.07	93
6	1950	150	0.08	100
7	285	22	0.08	100
8	3300	280	0.08	110
9	140	15	0.11	139
10	1700	195	0.11	149
11	205	25	0.12	159
12	440	55	0.13	163
13	200	27	0.14	176
14	360	63	0.18	228
15	2700	550	0.20	265
16	835	180	0.22	280
17	185	43	0.23	302
18	40	10	0.25	325
19	220	64	0.29	378
20	80	28	0.35	455
21	90	42	0.47	607
22	10	5	0.50	650
23	28	15	0.54	696
24	65	35	0.54	700
25	30	18	0.60	780
26	110	68	0.62	804
27	245	175	0.71	929
28	8	6	0.75	975
29	44	34	0.77	1005
30	45	45	1.00	1300
31	67	84	1.25	1630
32	20	32	1.60	2080
33	45	90	2.00	2600

- This table is based on real world ITE (150) surveyed data from 33 actual warehouse facilities across North America. It is sorted by trip rate.
- Of the 33 traditional warehouses used to derive ITE's trip rates, 25 have higher observed rates, or 76%. Only 5 have lower rates, or 15% than 8550 Boston Church Road, Milton
- 8550 Boston Church's a a.m. peak hour trip generation rate of .08 is less than half the ITE average of .17, which is calculated as a weighted average.
- A simple statement of fact:
8550 Boston Church lies in the bottom quartile of ITE's traditional warehouse trip generation rates and therefore in no way should be considered a proxy for full capacity utilization.

Data Plot and Equation



Trip Gen Manual, 10th Edition • Institute of Transportation Engineers

WCB772 Derivation of Trip Generation Data

Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 34
Avg. 1000 Sq. Ft. GFA: 451
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

8550 Boston Church peak ITE a.m. peak all vehicle rate .08

- 1.3 million sq ft total warehouse space
- $0.08 \times 1,300$ thousand sq ft = 104 all vehicle trips
- 104 all-vehicle trips \times 13% (max) heavy trucks = 14 truck trip ends, i.e., in or out
- provides a range of 7 to 14 individual trucks trips making a total of 14 truck trips ends, or a maximum of only 8% of the total 180 loading bays used.
- How can this represent anywhere near ultimate operating capacity/ full capacity utilization of the 180 loading bays?

Best Practice Analysis – Peaking Factors

- The Crozier report uses ITE averages for their analysis.
 - *The California South Coast Air Quality Management District says that ITE numbers should be grossed up by a peaking factor for peak days. This factor represents the peak operating months of facilities and takes into account seasonality factors.*
 - *Peaking factor for “Non-Cold Storage” facilities was determined through a survey of 30 ‘High Cube’ warehouse facilities to be **33%** (Warehouse Truck Trip Study – Data Results and Usage, Stakeholder Working Group, 2014)*
 - Therefore, Crozier’s analysis fails to represent Full Capacity Utilization (Ultimate Operating conditions) as required by the Town.

Source: California South Coast Air Quality Management District

Crozier analysis is based on ITE averages vs the best practice of using a Peak Day factor.

Trip Generation Review – 8550 Boston Church

Crozier Consulting Engineers memo dated August 3, 2023

- Crozier identified in their August 3rd report that the ITE trip generation rate of .17 used for 560 & 722 WCB is 113% higher than the .08 rate ~~for~~ measured at Boston Church. Crozier concludes that this confirms a very conservative analysis for 560/772 when compared to a development of a similar size, rather than indicating that 8550 may be an underutilized warehouse and not an appropriate proxy for full capacity utilization at the 560/772 warehouses.
- **8550 “showed significantly lower heavy vehicle percentages... for all peak hours” and** the report concludes that this also “suggests a conservative assessment of truck trips, especially given the higher trip rates used”.
- Crozier’s conclusion is based on the observed highest hourly heavy truck rate of 13% at 8550, as a percent of total vehicle traffic, which is below the rate of 20% used for 560/772 WCB and far below the 35% to 55% rates at 551 Avonhead.
- 759 WCB is similar to 560 WCB in floorspace and number of docks and used a truck rate of 33.4%.
- ITE’s daily average truck rate for LUC 150 Warehouses is 35.1%. (ITE calculation: the daily trip rate for med/heavy trucks of 1.74 /divided by the daily trip rate for all vehicles of 4.96 = a 35.1% med/heavy truck rate).

The measured 8550 truck rates of 7-13% are far below the rates of most facilities, indicating that 8550 is not a representative proxy.

Trip Generation Review – 551 Avonhead - Crozier Consulting Engineers memo dated August 3, 2023

- The Crozier report identified that the analysis of the 551 Avonhead Road, originally completed in June 2021, was done based on another “proxy site” in Bolton. No details on the Bolton proxy have been shared in this report.
- However, it was noted that the truck percentages at 551 Avonhead were 35% to 55%, much higher than both 8550 (7% to 13%) and 560/772 (20%).
- Furthermore, the report merely compared ITE data to the original Avonhead 2021 submission by the developer and no further study was done.
- Note: This site is still under construction and does not appear to be leased.

The Analysis of 551 Avonhead, a second proxy site, used much higher truck volumes, ranging from 35% to 55% compared to rates for 8550 Boston Church Road.

Trip Generation Review - Crozier Consulting Engineers memo dated August 3, 2023

- The report does not include a combined Full Utilization model for 560 and 772 Winston Churchill Blvd, including peak truck traffic so there was no analysis of the full capacity/ultimate operating condition of the warehouses.
- ITE works on daily average trips and peak average hourly average trips not maximums and ITE provides no information about utilization of the facilities. Therefore, no conclusions can be drawn about optimal operating level/full capacity utilization based on trip generation rates.
- The Crozier analysis used two “Proxy Sites” with no clear justification that the proxy sites represented 560/772; nor was there an explanation that the proxy sites represented Full Utilization of 560 and 772 WCB combined.
- Crozier’s report failed to address the unexplained deviations in observed results from proxy site vs ITE expected analysis; concluding instead that since the results were lower than expected, the 560/772 WCB analysis must be reasonable, rather than concluding that 8550 was not an appropriate proxy.

The Crozier report fails to provide Ultimate Operating Condition analysis as required by Council, instead referring to a review of two sites which cannot be considered proxies for the WCB warehouses.

Trip Generation Review - Crozier Consulting Engineers memo dated August 3, 2023

- There is no information provided in the Crozier memo about full capacity utilization that can be used to assess the **combined effects of 560 and 772 WCB** on traffic at the impacted intersections as well as updated noise and air quality studies of the combined impact of the warehouses on the health of residents in the adjacent neighbourhood.
- In addition, the background growth estimate of 2% recommended by the Region in 2021 requires an update to reflect 5 new warehouses in close proximity, and the truck traffic they will add to the road network. This will lead to increased congestion, deterioration in air quality, and increased noise impacts on residents in Oakville and South-West Mississauga. (759 Winston Churchill Blvd., 2645 Royal Windsor Dr., 551 Avonhead, 2520 & 2510 Royal Windsor Dr. and the Amazon Delivery Station at 880 Avonhead Rd.).
- The impacts from these 5 new warehouses need to be factored into the traffic growth forecasts for 2025, 2027, and 2032.

Crozier's conclusions fail to address the fundamental question of the traffic impact of both 560 & 772 sites combined at full utilization (ultimate operating conditions) and the 2% traffic growth factor needs to be updated to include additional traffic from 5 new large warehouses nearby.

Our Conclusion Statement

For the reasons noted in our presentation, JCRA has concluded that the 2023 submission for 560 WCB **fails to meet** the condition set by Town Council to *evaluate the ultimate operating condition of the sites, based on full build-out because it does not evaluate full capacity utilization of the sites.*

JCRA Outstanding Issues and Concerns

- The Crozier study did not provide a combined (560 & 772) full capacity utilization traffic analysis of heavy transport trucks entering and leaving both sites during peak hours.
- Accordingly, the information needed to undertake a noise, air quality and traffic analysis at full capacity utilization has not been provided.
- **The Town's request for this information was ignored**

JCRA Outstanding Issues and Concerns – Air Quality

- The proposed 560 and 772 warehouses cannot be found to be compatible with surrounding residential neighbourhood given:
 - This study does not take into account the impact on air quality from combined emissions from 560 and 772 Winston Churchill Blvd. as no combined optimal operating condition traffic studies have been provided by the consultants.
 - This study does not take into account the addition of truck traffic from 5 additional new warehouses completed or under construction just inside the Mississauga border that will add to truck emissions in the Clarkson Airshed's existing poor air quality.
 - The earlier report assessed air quality from the Glenashton & Eighth Line, Oakville monitoring station that is about 5 km north/west of the site. The monitor at the end of Deer Run, or Clarkson should be used to measure air quality for nearby residents. If these monitors are unavailable a testing monitor should be placed on the properties.
 - The earlier reports ignores the emissions from trucks queuing and idling on the site and on WCB while agreeing the trucks on the property have the potential to emit, PM2.5, VOCs, NO2 and SO2.

JCRA Outstanding Issues and Concerns – Noise

- HGC, the noise consultant, conclusion states that because Crozier found the original trip generation study adequate, no further updates are required to the noise feasibility study. This conclusion does not address the finding that the recent submission failed to provide a full capacity analysis of the combined warehouses, 560 & 750, as required by Council.
- Furthermore, the sources of noise that have not been addressed include:
 - Noise and vibrations from trucks coupling and uncoupling at 226 loading docks 24/7
 - Backup beepers 24/7 which are included as stationary sources under the Oakville Noise Bylaw.
 - Noise from trucks accelerating and decelerating on Winston Churchill Blvd.
 - Noise measured in backyards 24/7 – this was not done in the original studies
- Nor has the integrity of the noise mitigation, if all buildings are not completed during one construction phase, been addressed to date.

Next Steps

Accordingly, the JCRA requests that the applicants:

- Provide a combined (560 & 772) full capacity utilization traffic analysis of heavy transport trucks entering and leaving both sites during peak hours based on a suitable proxy.
- Revise the analysis to include increase to the 2% background growth factor to account for the increased truck volumes from five new warehouses in close proximity to 560 & 772 WCB.
- Provide new **combined** traffic, noise and air quality studies based on truck volumes at full capacity utilization.
- Provide a **new Land Compatibility report** based on Ontario D-6 Guidelines to ensure residents are protected from the worst-case scenarios these enormous warehouse operations represent under full capacity utilization.