

Technical Memorandum

September 24, 2024

Project# 30961

To: Nicole Schroder, BURPI - Planner
Town of East Gwillimbury
19000 Leslie Street
Sharon, Ontario L0G 1V0

From: Chris Tiesler, PTOE

CC: Jamal Massadeh, P.Eng. – Senior Traffic & Transportation Technologist
Darryl, Bird - WSP

RE: Newmarket Costco Business Centre – Response to Town Transportation Comments

RESPONSE TO TOWN COMMENTS

Kittelison & Associates, Inc. (Kittelison) has prepared this memorandum to respond to transportation-related comments raised by Town transportation staff during a recent pre-application conference call to discuss the project on September 12, 2024, regarding the Newmarket Costco Business Centre. Kittelison followed up with Mr. Massadeh via teleconference on September 17, 2024, to discuss and confirm the comments and provide additional information/context. Each concern/question raised is paraphrased below in *italics*; responses and information discussed on the call follows normal text.

1. **Concern:** *Please provide more details regarding truck activity and circulation on the site once the Costco Warehouse site is converted to a Business Centre. Some of the existing drive aisles on the site are narrow and may make circulation more difficult for larger vehicles.*

Response: All truck activity for Costco Business Centres generally occurs in off-peak hours, and predominantly during times when the Business Centre itself is not open (a gas bar is typically open starting around 6:00 a.m. but does not generate much traffic during morning hours before the Business Centre opens to members). Trucks delivering goods to the Business Centre itself generally arrive during off-peak hours when the site is not busy or may not even be open to members. These trucks will follow the same delivery pattern/path as the current Warehouse delivery trucks do – arriving via the western site driveway on Green Lane to access the loading docks, then departing around the perimeter of the site to exit via the traffic signal on Green Lane.

Business Centre box delivery trucks (which will park in the designated and gated parking area in the southwest corner of the site) also operate almost entirely during off-peak periods and/or when the Business Centre itself is not open to members. These trucks are usually loaded in the pre-opening morning hours and depart for deliveries at that time. Contextually, with a high proportion of Business Centre deliveries being to small businesses, delivering the goods to their customers early in the operating day is a key part of the delivery model. Depending on the number of delivery sites and locations, they return to the site throughout the day, but usually by early afternoon. With rare exception, box delivery trucks make only one trip per day, so there is not a regular departure/arrival pattern that occurs during Business Centre operational hours. These trucks will also follow similar routes to/from the site and will circulate on the perimeter of the site.

Given the overall infrequency of truck activity and the times at which they are most active (off-peak hours and/or outside Business Centre hours of business), the narrower drive aisle on the southern edge of the

property (which separates Costco from the other retail uses to the south) does not present any acute circulation concerns. Current Costco Warehouse trucks have been using this same drive aisle with no issue.

See **Attachment A** of this memorandum for graphics illustrating the truck routes for both delivery and box trucks.

2. **Concern:** *Does the truck compound where Costco box delivery trucks will be stored provide enough parking? The Scarborough Costco Business Centre has approximately 27 parking spaces, which is roughly double what is proposed for this location.*

Response: Costco has considered the market area that this Business Centre will serve and has concluded that the number of box delivery trucks/truck spaces will be sufficient. Currently the Scarborough Business Centre is the only Business Centre in the entire Greater Toronto Area (GTA), which puts unique demands on that location today. Part of the rationale for converting the current Newmarket Warehouse to a Business Centre here once the new Warehouse opens in summer/fall 2025 is to better distribute and serve demand for the northern areas of the GTA, and Costco is also currently pursuing a new Business Centre in Mississauga to help serve the western/southern areas more effectively. Based on this, the 13 truck parking spaces planned for this location will be sufficient.

3. **Comment:** *How will the transition from Warehouse to Business Centre impact gas bar queues? If gas queues spill back out of the main queue area they could impact the internal drive aisle(s) or the traffic signal on Green Lane and could require changes to signal timing.*

Response: Overall traffic demand at this location is expected to decrease once the new warehouse and 24-position gas bar open in the new location (404 Davis Drive) in summer/fall 2024. In general, Business Centres generate less traffic than warehouses given the more focused nature of the member services provided and operational parameters.

For more than 20 years, Kittelson has maintained a database of trip data and travel characteristics for Costco Wholesale. The database contains transportation information such as trip rates and trip type percentages for Costco locations throughout the United States, Canada, and Mexico. The database is updated periodically when new Costco traffic counts or information becomes available to Kittelson.

A recent analysis of an entire month of transaction data at Costco Business Centres and Warehouses illustrates this relationship. **Table 1** compares both peak hour and daily transactions recorded at five Business Centre locations where there is also a traditional Warehouse within 10 kilometres of one another.

- San Marcos, CA
- Phoenix, AZ
- San Diego, CA
- Scarborough, ON
- St. Catherines, ON

Table 1. Transaction Data Comparison – Costco Warehouse vs. Business Centre (February 2024)

Average Total Transaction	Weekday PM Peak Hour	Saturday Midday Peak Hour	Sunday Midday Peak Hour	Weekday Daily	Saturday Daily	Sunday Daily
Warehouse (WH) Average	977	1,404	1,300	3,668	4,060	3,435
Business Centre (BC) Average	565	1,212	926	2,669	3,618	2,414
% Reduction (WH vs. BC)	-42%	-14%%	-29%	-27%	-11%	-46%

As shown in Table 1, Business Centres generate substantially fewer trips than Warehouses when co-located in the same immediate market. This relationship, coupled with a net 200% increase in total gas bar capacity (12 positions at existing location plus 24 new positions at the new gas bar) will result in a net decrease in vehicular activity to the Business Centre site during both peak hours as well overall daily.

Therefore, we do not anticipate any adverse impact to the public street network or traffic signal/signal timing on Green Lane.

- Comment:** *Future planned development to the north may increase traffic activity in the area and along Green Lane, potentially making ingress/egress from the western site driveway (currently unsignalized) more difficult. Should a signal warrant analysis be conducted at this site driveway?*

Response: Future development and its impact to the public street network will be evaluated through studies in support of those applications. As noted in the response to comment #3, conversion of the current Warehouse to a Business Centre will result in a net decrease in traffic volumes in the area. No additional analysis (traffic signal warrant or otherwise) is necessary for this application. Note also that traffic that may choose to exit the site via this western driveway can also choose to use the signalized access to exit onto Green Lane.

We trust this memorandum addresses the Town's traffic concerns. Please contact us at 571.384.2943 or ctiesler@kittelson.com should you have any further questions.

Attachments

Attachment A – Truck Routes

Attachment A
Truck Routes

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NORTH

- LEGEND**
- SOFT LANDSCAPING
 - CONCRETE PAVING
 - ASPHALT PAVING
 - CART CORRAL
 - LIGHT STANDARDS
 - FIRE HYDRANTS



COSTCO Business Centre
NEWMARKET, ONTARIO
BUSINESS CENTRE CONVERSION

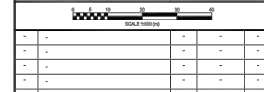
COSTCO WHOLESALE CORPORATION
898 LAKE DRIVE
ISSAQUAH, WA 98027
T: 425.312.8100
Costco.com

KEY PLAN
NTS

PROJECT DATA
PROJECT ADDRESS: 16162 YONGE STREET, EAST OIVILLIMUR, ONTARIO
SITE AREA: 81,787.20sf (8.18 ha) / 12,779 sq
ZONING: COMMERCIAL REGIONAL C8 ZONE
JURISDICTION: TOWN OF EAST OIVILLIMUR
BOUNDARY INFORMATION: THIS DRAWING IS BASED ON A SURVEY FROM MIM GEOMATICS ONTARIO LIMITED, O.L.S., DATED APRIL 17, 2020.

SURVEY INFORMATION: THIS DRAWING IS BASED ON A SURVEY FROM J.D. BARNES LIMITED DATED OCTOBER 14, 2021 UNLESS OTHERWISE STATED.

EXISTING BUILDING DATA		AREA	
BUILDING GROSS FLOOR AREA	12,797.80sf	137,420sf	
BUILDING NET FLOOR AREA	11,402.80sf	122,737sf	
MECHANICAL ENCLOSURE	7.1sf	77sf	
SHAWING HUT	8.8sf	93sf	
EXISTING SITE DATA	AREA		
LOT COVERAGE	24.7%	12,776.1sf	
LANDSCAPE OPEN SPACE	15.0%	8,063.3sf	
LOT COVERAGE	89.8%	30,839.3sf	
EXISTING PARKING DATA		PARKING SPACES	
PARKING REQUIRED (8 STALLS / 100sf OF NFA)		571	
NUMBER OF 3.0m WIDE		448	
PARKING SPACES PROVIDED		181	
NUMBER OF 2.75m WIDE		13	
PARKING SPACES PROVIDED		624	
NUMBER OF BARRIER-FREE		13	
PARKING SPACES PROVIDED		5.00	
TOTAL COSTCO PARKING PROVIDED		624	
NUMBER OF STALLS PROVIDED		5.00	
PER 100sf OF COSTCO BUILDING NFA		13	
PROPOSED BUILDING DATA		AREA	
BUILDING GROSS FLOOR AREA	12,797.80sf	137,420sf	
BUILDING NET FLOOR AREA	11,402.80sf	122,737sf	
MECHANICAL ENCLOSURE	7.1sf	77sf	
SHAWING HUT	8.8sf	93sf	
PROPOSED SHORE POWER BUILDING			
EXISTING SITE DATA	AREA		
LOT COVERAGE	24.7%	12,784.7sf	
LANDSCAPE OPEN SPACE	15.0%	8,043.2sf	
LOT COVERAGE	89.8%	30,829.3sf	
EXISTING PARKING DATA		PARKING SPACES	
PARKING REQUIRED (8 STALLS / 100sf OF NFA)		571	
NUMBER OF 3.0m WIDE		448	
PARKING SPACES PROVIDED		113	
NUMBER OF 2.75m WIDE		13	
PARKING SPACES PROVIDED		624	
NUMBER OF BARRIER-FREE		13	
PARKING SPACES PROVIDED		5.00	
TOTAL COSTCO PARKING PROVIDED		624	
NUMBER OF STALLS PROVIDED		5.00	
PER 100sf OF COSTCO BUILDING NFA		13	
DELIVERY TRUCK SPACES		13	



ISSUED FOR APPROVAL NOT FOR CONSTRUCTION

ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

SHEET TITLE SITE PLAN

CONSULTANT

DESIGNED	DRAWN	CHECKED
CJM/DSB	CJM	DSB

SCALE 1:500 DATE SEPTEMBER 23, 2024

PROJECT NUMBER 211-07806-00 DWG. NUMBER SP-13

DRAWN BY: M. J. BARNES, DATE: 09/23/2024, PROJECT: NEWMARKET BUSINESS CENTRE CONVERSION, SHEET: SP-13

Delivery Truck Route
Newmarket, ON
Figure
1

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NORTH

- LEGEND**
- SOFT LANDSCAPING
 - CONCRETE PAVING
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COSTCO Business Centre
NEWMARKET, ONTARIO
BUSINESS CENTRE CONVERSION

COSTCO WHOLESALE CORPORATION
888 LAKE DRIVE
ISSAQUAH, WA 98027
T: 425.312.8100
Costco.com

KEY PLAN
NTS

PROJECT DATA

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EXISTING BUILDING DATA		AREA	
BUILDING GROSS FLOOR AREA	12,787.80m ²	137,420m ²	
BUILDING NET FLOOR AREA	11,402.80m ²	122,737m ²	
MECHANICAL ENCLOSURE	7.1m ²	77m ²	
SHAWING HUT	8.8m ²	88m ²	
EXISTING SITE DATA	AREA		
LOT COVERAGE	24.7%	12,776.1m ²	
LANDSCAPE OPEN SPACE	15.0%	8,063.2m ²	
LOT COVERAGE	89.8%	30,899.3m ²	
EXISTING PARKING DATA		PARKING SPACES	
PARKING REQUIRED (5 STALLS / 100m ² OF NFA)			571
NUMBER OF 3.0m WIDE PARKING SPACES PROVIDED	448		
NUMBER OF 2.75m WIDE PARKING SPACES PROVIDED	181		
NUMBER OF BARBERS-FREE PARKING SPACES PROVIDED	13		
TOTAL COSTCO PARKING PROVIDED	643		
NUMBER OF STALLS PROVIDED PER 100m ² OF COSTCO BUILDING NFA	5.03		
PROPOSED BUILDING DATA		AREA	
BUILDING GROSS FLOOR AREA	12,787.80m ²	137,420m ²	
BUILDING NET FLOOR AREA	11,402.80m ²	122,737m ²	
MECHANICAL ENCLOSURE	7.1m ²	77m ²	
SHAWING HUT	8.8m ²	88m ²	
PROPOSED SHORE POWER BUILDING			88m ²
EXISTING SITE DATA	AREA		
LOT COVERAGE	24.7%	12,776.1m ²	
LANDSCAPE OPEN SPACE	15.0%	8,063.2m ²	
LOT COVERAGE	89.8%	30,899.3m ²	
EXISTING PARKING DATA		PARKING SPACES	
PARKING REQUIRED (5 STALLS / 100m ² OF NFA)			571
NUMBER OF 3.0m WIDE PARKING SPACES PROVIDED	448		
NUMBER OF 2.75m WIDE PARKING SPACES PROVIDED	113		
NUMBER OF BARBERS-FREE PARKING SPACES PROVIDED	13		
TOTAL COSTCO PARKING PROVIDED	674		
NUMBER OF STALLS PROVIDED PER 100m ² OF COSTCO BUILDING NFA	5.03		
DELIVERY TRUCK SPACES			13

SCALE 1:500			
REVISIONS	NO.	DATE	APPR.

ISSUED FOR APPROVAL NOT FOR CONSTRUCTION
 ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED

SHEET TITLE
SITE PLAN

CONSULTANT

DESIGNED CJM/DSB	DRAWN CJM	CHECKED DSB
SCALE 1:500	DATE SEPTEMBER 23, 2024	PROJECT NUMBER 211-07806-00
	DWG. NUMBER SP-13	

DRAWN BY: M. J. W. (M. J. W. / C. J. M.) DATE: 2024-09-23 12:28:00 PM

Box Truck Route
Newmarket, ON
Figure
2