

MEMORANDUM

Date: March 22, 2018

Re: **Windermere Traffic Impact Study – Update (BHS-Shakopee)**
File #0014257.00

To: John Bender, PE

From: Stephen J. Manhart, P.E. PTOE, PTP

Last year, Westwood completed the Traffic Impact Study for the Windermere development in Shakopee, Minnesota. Included in that analysis was a portion of the site that was projected to comprise 131 attached condominium/townhouse units. Of these, 38 units were projected to be built to the north of Windermere Avenue (formerly called 17th Avenue) and the remaining 93 units were proposed to be built to the south of Windermere Avenue. For these 131 condominium/townhouse units, the Traffic Impact Study had projected a trip generation total of 650 daily trips, which included 57 a.m. peak hour trips and 50 p.m. peak hour trips.

Recently, Benedictine Health System - Shakopee (BHS-Shakopee) has proposed to develop its Benedictine Living Community on the site originally identified in the Windermere Traffic Impact Study as 93 units of condominium/townhouse use. The Benedictine Living Community is projected to comprise the following:

	Phase 1	Phase 2	Total
Independent Living quarters	115 units	30 units	145 units
“Brownstones”	0 units	40 units	40 units
Assisted Living quarters	40 units	28 units	68 units
Memory Care quarters	24 units	0 units	24 units
TOTAL	179 units	98 units	277 units

Westwood has been asked to revise the trip generation calculations of the Windermere Traffic Impact Study and to compare the difference between the previous assumptions and the new land use assumptions, as well as to define any changes in findings or recommendations.

The Windermere project utilized the Institute of Transportation Engineers Trip Generation Manual, Ninth Edition (2012), to calculate trip generation totals for the entire Windermere project. The Traffic Impact Study report had combined both

parcels of condominium/townhouse development into one line item, as shown in Table 1 below.

Table 1 – Trip Generation (from Table 4-2 of the Windermere Traffic Impact Study)

Land Use	ITE	Size	Weekday		AM peak		PM Peak	
			Enter	Exit	Enter	Exit	Enter	Exit
Single Family Housing	210	53 units	215	215	10	30	25	15
Condominium/Townhouse	230	131 units	325	325	10	47	34	16
Apartment	220	120 units	341	341	12	48	36	19
Specialty Retail Center	826	78 k.s.f.	1,476	1,476	253	273	69	88
Gas/Service w/ Conv & Wash	946	16 fuel pos.	1,045	1,045	96	92	84	81
Pharmacy - No Drive Thru	880	10 k.s.f.	384	384	19	10	31	32
TOTAL			3,786	3,786	400	500	279	251
			7,572		900		530	

(Source: ITE Trip Generation Manual, Ninth Edition, 2012; Westwood Professional Services, 2017)

Since the publication of the Windermere Traffic Impact Study, it has been learned that The Willows CommonBond Development has reduced the number of apartment units from 12 to 60 units. This change has been included in this update.

Westwood then broke out the trip generation of the 93 units of condominium/townhouse use from the 131 units assumed previously. The new land uses assumed for Phases 1 & 2 of the BHS-Shakopee site were inserted. (It is noted that the “Brownstones” are a form of attached elderly care units that are proposed. For the purpose of trip generation, the “Brownstones” have been assumed to have the same rate as “Elderly Housing – Attached”.) The new totals are shown in Table 2.¹

Table 2 – Trip Generation with BHS-Shakopee Site – Phases 1&2¹

Land Use	ITE Code	Size	Weekday		AM peak		PM Peak	
			Enter	Exit	Enter	Exit	Enter	Exit
Condominium/Townhouse	230	38 units	94	94	3	14	10	5
Condominium/Townhouse	230	0 units	-	-	-	-	-	-
Single Family Housing	210	53 units	215	215	10	30	25	15
Apartment	220	60 units	171	171	6	24	18	10
Specialty Retail Center	826	78 k.s.f.	1,476	1,476	253	273	69	88
Gas/Service w/ Conv & Wash	946	16 fuel pos.	1,045	1,045	96	92	84	81
Pharmacy - No Drive Thru	880	10 k.s.f.	384	384	19	10	31	32
Elderly Housing - Attached	252	185 units	271	271	13	24	19	16
Assisted Living	254	68 beds	77	77	6	3	5	6
Nursing Home	620	24 employee	33	33	4	2	4	4
TOTAL			3,766	3,766	410	472	265	257
			7,532		882		522	

(Source: ITE Trip Generation Manual, Ninth Edition, 2012)

¹ (NOTE: In order to preserve the integrity of the original trip generation calculations, rates and equations from the ITE Trip Generation Manual, Ninth Edition were used in this comparison.)

In comparison to the original trip generation values presented in the Windermere Traffic Impact Study, the reduction of then number of apartment units and the replacement of 93 condominium/townhouse units with Phases 1 and 2 of the BHS-Shakopee development presents a similar trip generation potential. The daily trip generation potential of the BHS-Shakopee development is projected to decrease only slightly (i.e., 40 fewer trips per day, or approximately 0.5% decrease), the number of a.m. peak hour trips decreases by 8, while the number of p.m. peak hour trips increases by 8 (i.e., a reduction of 1.0% and 1.5%, respectively).

Therefore, it is my professional traffic engineering opinion that these reduced numbers of trips per hour are within the potentials of daily fluctuations in traffic. The BHS-Shakopee development will result a minimal change in the trip generation potential from what was originally projected for the site south of Windermere Avenue. Further, any changes in traffic operation and performance from those listed in the original Windermere Traffic Impact Study will be minor. The findings and recommendations listed in the original study do not change as a result of the change in land use.