

REF.: MAX-2014119.06

February 1, 2019

Mr. Ross Moldoff, AICP
Salem Planning Director
Salem Town Hall
33 Geremonty Drive
Salem, New Hampshire 03079

SUBJECT: Tuscan Village (Phase III) – Trip-Generation Letter
South Village/Central Village Site Plan
79 Rockingham Park Boulevard/11 Central Street
Salem, New Hampshire

Dear Mr. Moldoff:

On behalf of Mr. Joseph Faro, **Greenman-Pedersen, Inc.** (GPI) has prepared this letter to evaluate the expected trips based on an updated Gross Floor Area (GFA) Land Use Plan for the proposed Tuscan Village development located at 79 Rockingham Park Boulevard/11 Central Street in Salem, New Hampshire. The GFA Land Use Plan provides land use and size details for the South & Central Village sections of the 170-acre site. This Trip-Generation Letter provides a comparison of the land uses and trip estimates between the following:

- GFA Land Use Plan dated 12/13/18 as presented in the South & Central Village Site Plan Memorandum¹
- GFA Land Use Plan dated 02/01/19

Both GFA Land Use Plans are provided as attachments to this letter. Traffic to be generated by the proposed Tuscan Village development (inclusive of the North Village, the Hanover apartments, and South & Central Village) was forecast using the trip-generation information provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*² for the most applicable Land Use Codes (LUCs); LUC 820 (Shopping Center), LUC 710 (General Office), LUC 310 (Hotel), LUC 220 (Apartment), and LUC 230 (Residential Condominium/Townhouse) as shown in Table 1. Table 1 also provides a comparison of the current land uses and sizes to those utilized in the South & Central Village Site Plan Memorandum.

¹ Greenman-Pedersen, Inc. (GPI); *Site Plan Memorandum – South Village & Central Village*, Salem, New Hampshire; December 21, 2018.

² *Trip Generation Manual*, 9th Edition; Institute of Transportation Engineers; Washington, DC; 2012.

Table 1
TRIP-GENERATION LAND USES

Land Use	GFA Land Use Plan 12/13/18 ^a	GFA Land Use Plan 02/01/19 ^b	ITE Land Use Code
Retail (includes restaurants, cinema, and bowling alley)	750,200 SF	719,580 SF	LUC 820
General Office	250,000 SF	194,000 SF	LUC 710
Medical Office	--	--	LUC 720
University/College	--	--	LUC 550
Hotel	162 ROOMS	162 ROOMS	LUC 310
Apartments	595 UNITS	595 UNITS	LUC 220
Townhomes	96 UNITS	96 UNITS	LUC 230
Senior Housing	--	--	LUC 251
Assisted Living	--	--	LUC 254

^a GFA Land Use Plan dated 12/13/18 as presented in the South & Central Village Site Plan Memorandum.

^b GFA Land Use Plan dated 02/01/19.

Studies have shown that for developments of mixed-use or multi-use sites, it is realistic to assume that there will be some multi-use trips within the site itself. As this proposed project has various types of uses, it is likely that trips will be shared between the retail, residential, hotel, and office uses. Accordingly, a multi-use rate was used to calculate the external trips generated by the site based on data published in the *ITE Trip Generation Handbook*.³

Not all of the vehicle trips expected to be generated by the proposed development represent *new* trips on the study area roadway system. Studies have shown that for developments such as the one proposed, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. To be consistent with similar projects researched, and agreed upon with the Town of Salem Peer Review Consultant, only 25 percent of the site-generated traffic (for all uses with a *pass-by* rate in the *ITE Trip-Generation Handbook*) was considered *pass-by* traffic. The lower percentage of *pass-by* trips result in more new trips to the study area than expected.

Table 2 provides a summary of the updated trip generation estimates for the currently proposed Tuscan Village development (inclusive of the North Village, the Hanover apartments, and South & Central Village) as presented on the updated GFA Land Use Plan dated 02/01/19 in comparison to the

³ *Trip Generation Handbook*; 3rd Edition; Institute of Transportation Engineers; Washington, DC; August 2014.



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development as presented on the GFA Land Use Plan dated 12/13/18 as presented in the South & Central Village Site Plan Memorandum. The trip generation calculations are attached to this letter.

Table 2
TRIP-GENERATION COMPARISON

Time Period/Direction	GFA Land Use Plan 12/13/18 ^a			GFA Land Use Plan 02/01/19 ^b			Difference
	Total External Trips	Pass-By Trips	New Trips	Total External Trips	Pass-By Trips	New Trips	New Trips
Weekday Daily:	27,920	5,610	22,310	26,970	5,460	21,510	(800)
Weekday AM Peak Hour:							
<i>Enter</i>	757	62	695	692	61	631	(64)
<i>Exit</i>	<u>520</u>	<u>62</u>	<u>458</u>	<u>513</u>	<u>61</u>	<u>452</u>	<u>(6)</u>
<i>Total</i>	1,277	124	1,153	1,205	122	1,083	(70)
Weekday PM Peak Hour:							
<i>Enter</i>	1,194	254	940	1,170	248	922	(18)
<i>Exit</i>	<u>1,414</u>	<u>254</u>	<u>1,160</u>	<u>1,331</u>	<u>248</u>	<u>1,083</u>	<u>(77)</u>
<i>Total</i>	2,608	508	2,100	2,501	496	2,005	(95)
Saturday Daily	34,990	7,650	27,340	34,060	7,450	26,610	(730)
Saturday Midday Peak Hour:							
<i>Enter</i>	1,785	378	1,407	1,736	368	1,368	(39)
<i>Exit</i>	<u>1,641</u>	<u>378</u>	<u>1,263</u>	<u>1,596</u>	<u>368</u>	<u>1,228</u>	<u>(35)</u>
<i>Total</i>	3,426	756	2,670	3,332	736	2,596	(74)

^a GFA Land Use Plan dated 12/13/18 as presented in the South & Central Village Site Plan Memorandum.

^b GFA Land Use Plan dated 02/01/19.

As shown in Table 2, the currently proposed plan for the Tuscan Village development (inclusive of the North Village, the Hanover apartments, and South & Central Village) is anticipated to generate 70 fewer new vehicle trips (64 less entering and 6 more exiting) during the weekday AM peak hour, 95 fewer new vehicle trips (18 less entering and 77 more exiting) during the weekday PM peak hour, and 74 fewer new vehicle trips (39 less entering and 35 less exiting) during the Saturday midday peak hour as compared to the previously submitted plan proposed in the South & Central Village Site Plan Memorandum.



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Also attached to this letter for your use, is the updated Tuscan Village Trip Generation Budget – External Vehicle-Trips (02/01/19) based on the updated South Village/Central Village Site Plan. As shown in the summary, with the construction and occupancy of the 50-acre development (North Village), the 281 apartment units (Hanover) on the 120-acre parcel, and the currently proposed South and Central Villages on the 120-acre parcel, on average, 70 percent of the approved new trips of the entire Tuscan Village development will be permitted on a daily basis and 73 percent of the approved new trips on a peak hour basis.

Should you have any questions, or require additional information, please contact me at (978) 570-2968.

Sincerely,

GREENMAN – PEDERSEN, INC.

A handwritten signature in blue ink that reads 'Heather Monticup'. The signature is fluid and cursive, with the first name 'Heather' and last name 'Monticup' clearly distinguishable.

Heather L. Monticup, P.E.
Assistant Vice President / Director of Land Development

Attachment(s)

cc: (via email except as noted)

Mr. Joseph Faro, Tuscan Brands
Mr. Mark Gross, P.E., MHF Design Consultants, Inc.
Mr. Dave Jordan, P.E., L.L.S., LEED AP, MHF Design Consultants, Inc.
Mr. Gino Baroni, Trident Building and Properties Group
Mr. Anthony Puntin, Town of Salem Tuscan Village Project Coordinator
Mr. André Garron, Town of Salem Community Development Director – Assistant Town Manager
Mr. Daniel Hudson, P.E., Town of Salem Municipal Services – Engineering Division Director (1 hard copy)
Mr. Stephen G. Pernaw, P.E., PTOE, Stephen G. Pernaw & Company, Inc. (1 hard copy)
Mr. C.R. Willeke, P.E., Bureau of Planning and Community Assistance (2 hard copies)
Mr. Richard Radwanski, NHDOT District 5 (1 hard copy)

TRIP-GENERATION LETTER

Tuscan Village (Phase III) – Salem, New Hampshire

ATTACHMENTS

**GFA LAND USE PLAN DATED 12/13/18
TRIP-GENERATION CALCULATIONS
TRIP-GENERATION BUDGET**

**GFA LAND USE PLAN DATED 02/01/19
TRIP-GENERATION CALCULATIONS
TRIP-GENERATION BUDGET**

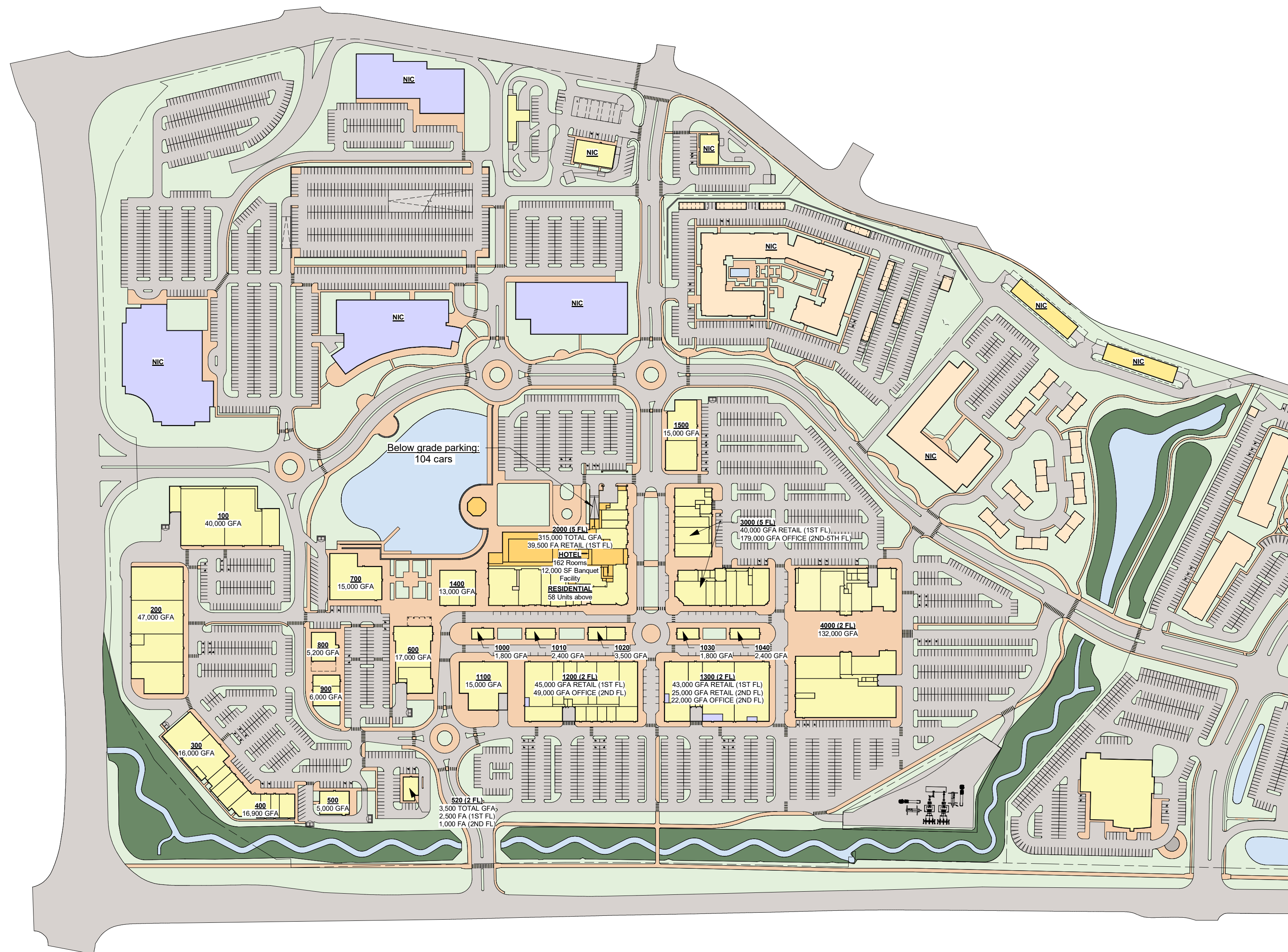
SALEM, NH
PCA PROJECT #:15076.00[illegible]

REVISIONS:

ORIGINAL ISSUE:
12/13/18

PERMITTING -
GFA LAND
USE PLAN

A6.01



Use	Block Size												TOTAL
	A	B	C	D	E	F	G-N	G-S	H	I	J	K	
Retail (Includes 15,000 SF of hotel retail, cinema, D&B, bowling, Gas Station/Convenience Store, Restaurant, Auto Dealership, Supermarket)	171,600	379,400	--	--	0	0	--	--	--	38,500	160,700	--	750,200
Office	--	250,000	0	--	--	--	--	--	--	--	--	--	250,000
Corporate Headquarters	--	--	--	--	--	--	--	--	--	--	--	--	0
Medical Office	--	--	0	--	--	--	--	--	--	--	--	--	0
University/College	--	--	0	--	--	--	--	--	--	--	--	--	0
Hotel (rooms) (includes banquet/kitchen)	--	162	--	--	--	--	--	--	--	--	--	--	162
Apartments (units)	--	58	--	--	--	--	--	281	256	--	--	--	595
Condominiums (units)	--	--	--	--	--	--	--	--	--	--	--	96	96
Senior House (units)	--	--	--	--	--	--	0	--	--	--	--	--	0
Assisted Living (units)	--	--	--	--	--	--	0	--	--	--	--	--	0

Rockingham Park Mixed-Use Development				
Size	Units	Land Use	ITE LUC	Utilized LUC
750,200	0 SF	Car Dealership	(LUC 841)	(LUC 820)
	750,200 SF	Retail	(LUC 820)	(LUC 820)
	0 SF	Sporting Goods	(LUC 861)	(LUC 820)
	0 SF	Discount HFSS	(LUC 869)	(LUC 820)
	0 SF	Furniture Store	(LUC 890)	(LUC 820)
	0 SF	Supermarket	(LUC 850)	(LUC 820)
	0 SF	Fast-Food Restaurant	(LUC 933)	(LUC 820)
	0 SF	High Turnover Sit-Down Restaurant	(LUC 932)	(LUC 820)
	0 SF	Quality Restaurant	(LUC 931)	(LUC 820)
	0 SF	Night Club	(LUC 925)	(LUC 820)
250,000	0 Screens	Cinema	(LUC 445)	(LUC 820)
	0 Lanes	Bowling Alley	(LUC 437)	(LUC 820)
	250,000 SF	General Office	(LUC 710)	(LUC 710)
	0 SF	Corporate HQ	(LUC 714)	(LUC 714)
	0 SF	University/College	(LUC 550)	(LUC 550)
	0 SF	Medical Office	(LUC 720)	(LUC 720)
	0 SF	Medical Facility	(LUC 610)	empirical data
	162 Rooms	Hotel	(LUC 310)	(LUC 310)
	595 Units	Apartments	(LUC 220)	(LUC 220)
	96 Units	Condominiums	(LUC 230)	(LUC 230)
595	0 Units	Senior Housing	(LUC 251)	(LUC 251)
	0 Units	Assisted Living	(LUC 254)	(LUC 254)

		Total Trips																						
		Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	Total Trips
Weekday Daily	Entering	0	12,583	0	0	0	0	0	0	0	0	0	0	1,317	0	0	0	0	723	1,978	310	0	0	16,911
	Exiting	0	12,583	0	0	0	0	0	0	0	0	0	0	1,317	0	0	0	0	723	1,978	310	0	0	16,911
	Total	0	25,166	0	0	0	0	0	0	0	0	0	0	2,634	0	0	0	0	1,446	3,956	620	0	0	33,822
Weekday AM Peak Hour	Entering	0	330	0	0	0	0	0	0	0	0	0	0	350	0	0	0	0	63	59	9	0	0	811
	Exiting	0	203	0	0	0	0	0	0	0	0	0	0	48	0	0	0	0	46	236	41	0	0	574
	Total	0	533	0	0	0	0	0	0	0	0	0	0	398	0	0	0	0	109	295	50	0	0	1,385
Weekday PM Peak Hour	Entering	0	1,109	0	0	0	0	0	0	0	0	0	0	63	0	0	0	0	55	224	39	0	0	1,490
	Exiting	0	1,202	0	0	0	0	0	0	0	0	0	0	310	0	0	0	0	58	121	19	0	0	1,710
	Total	0	2,311	0	0	0	0	0	0	0	0	0	0	373	0	0	0	0	113	345	58	0	0	3,200
Saturday Daily	Entering	0	16,443	0	0	0	0	0	0	0	0	0	0	308	0	0	0	0	851	1,901	272	0	0	19,775
	Exiting	0	16,443	0	0	0	0	0	0	0	0	0	0	308	0	0	0	0	851	1,901	272	0	0	19,775
	Total	0	32,886	0	0	0	0	0	0	0	0	0	0	616	0	0	0	0	1,702	3,802	544	0	0	39,550
Saturday Midday Peak Hour	Entering	0	1,685	0	0	0	0	0	0	0	0	0	0	58	0	0	0	0	70	155	38	0	0	2,006
	Exiting	0	1,555	0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	70	155	32	0	0	1,862
	Total	0	3,240	0	0	0	0	0	0	0	0	0	0	108	0	0	0	0	140	310	70	0	0	3,868

		Mixed-Use Groupings					
		1 Retail	2 Residential	3 Restaurant	4 Hotel	5 Entertainment	6 Office
Weekday Daily	Entering	12,583	2,288	0	723	0	1,317
	Exiting	12,583	2,288	0	723	0	1,317
	Total	25,166	4,576	0	1,446	0	2,634
Weekday AM Peak Hour	Entering	330	68	0	63	0	350
	Exiting	203	277	0	46	0	48
	Total	533	345	0	109	0	398
Weekday PM Peak Hour	Entering	1,109	263	0	55	0	63
	Exiting	1,202	140	0	58	0	310
	Total	2,311	403	0	113	0	373
Saturday Daily	Entering	16,443	2,173	0	851	0	308
	Exiting	16,443	2,173	0	851	0	308
	Total	32,886	4,346	0	1,702	0	616
Saturday Midday Peak Hour	Entering	1,685	193	0	70	0	58
	Exiting	1,555	187	0	70	0	50
	Total	3,240	380	0	140	0	108
Total Size		750,200	691	0	162		250,000

External Trips																						
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	External Trips
0	11,216	0	0	0	0	0	0	0	0	0	0	1,001	0	0	0	0	531	1,046	164	0	0	13,958
0	11,210	0	0	0	0	0	0	0	0	0	0	1,001	0	0	0	0	581	1,008	158	0	0	13,958
0	22,426	0	0	0	0	0	0	0	0	0	0	2,002	0	0	0	0	1,112	2,054	322	0	0	27,916
0	308	0	0	0	0	0	0	0	0	0	0	319	0	0	0	0	63	58	9	0	0	757
0	188	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	29	228	40	0	0	520
0	496	0	0	0	0	0	0	0	0	0	0	354	0	0	0	0	92	286	49	0	0	1,277
0	979	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0	42	116	20	0	0	1,194
0	1,052	0	0	0	0	0	0	0	0	0	0	242	0	0	0	0	49	61	10	0	0	1,414
0	2,031	0	0	0	0	0	0	0	0	0	0	279	0	0	0	0	91	177	30	0	0	2,608
0	15,226	0	0	0	0	0	0	0	0	0	0	247	0	0	0	0	570	1,271	182	0	0	17,496
0	15,399	0	0	0	0	0	0	0	0	0	0	237	0	0	0	0	522	1,171	167	0	0	17,496
0	30,625	0	0	0	0	0	0	0	0	0	0	484	0	0	0	0	1,092	2,442	349	0	0	34,992
0	1,587	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	44	97	24	0	0	1,785
0	1,436	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	45	100	21	0	0	1,641
0	3,023	0	0	0	0	0	0	0	0	0	0	72	0	0	0	0	89	197	45	0	0	3,426

Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Weekday Daily
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Weekday AM
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.85	0.15	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.85	0.15	0.00	0.00	Weekday PM
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Saturday Daily
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.80	0.20	0.00	0.00	SAT Midday
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.83	0.17	0.00	0.00	Entering
																						Exiting

Pass-By Percentages																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
ITE Available Pass-by Rates																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
--	--	--	--	--	--	49%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	34%	--	--	53%	36%	50%	43%	44%	--	--	--	--	--	--	--	--	--	--	--	--	--
--	26%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Weekday Daily
AM
PM
Saturday Daily
SAT

Pass-By Trips																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
0	2,803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	2,803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	5,606	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	124	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	508	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	3,828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	3,828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	7,656	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	378	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Pass-By
Trips
2,803
2,803
5,606

62
62
124

254
254
508

3,828
3,828
7,656

378
378
756

		EXTERNAL		
		Retail	Residential	CHECK
Weekday Daily	Entering	12,748	1,210	13,958
	Exiting	12,792	1,166	13,958
	Total	25,540	2,376	27,916
Weekday AM Peak Hour	Entering	690	67	757
	Exiting	252	268	520
	Total	942	335	1,277
Weekday PM Peak Hour	Entering	1,058	136	1,194
	Exiting	1,343	71	1,414
	Total	2,401	207	2,608
Saturday Daily	Entering	16,043	1,453	17,496
	Exiting	16,158	1,338	17,496
	Total	32,201	2,791	34,992
Saturday Midday Peak Hour	Entering	1,664	121	1,785
	Exiting	1,520	121	1,641
	Total	3,184	242	3,426

New Trips																						
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	New Trips
0	8,413	0	0	0	0	0	0	0	0	0	0	1,001	0	0	0	0	531	1,046	164	0	0	11,155
0	8,407	0	0	0	0	0	0	0	0	0	0	1,001	0	0	0	0	581	1,008	158	0	0	11,155
0	16,820	0	0	0	0	0	0	0	0	0	0	2,002	0	0	0	0	1,112	2,054	322	0	0	22,310
0	246	0	0	0	0	0	0	0	0	0	0	319	0	0	0	0	63	58	9	0	0	695
0	126	0	0	0	0	0	0	0	0	0	0	35	0	0	0	0	29	228	40	0	0	458
0	372	0	0	0	0	0	0	0	0	0	0	354	0	0	0	0	92	286	49	0	0	1,153
0	725	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0	42	116	20	0	0	940
0	798	0	0	0	0	0	0	0	0	0	0	242	0	0	0	0	49	61	10	0	0	1,160
0	1,523	0	0	0	0	0	0	0	0	0	0	279	0	0	0	0	91	177	30	0	0	2,100
0	11,398	0	0	0	0	0	0	0	0	0	0	247	0	0	0	0	570	1,271	182	0	0	13,668
0	11,571	0	0	0	0	0	0	0	0	0	0	237	0	0	0	0	522	1,171	167	0	0	13,668
0	22,969	0	0	0	0	0	0	0	0	0	0	484	0	0	0	0	1,092	2,442	349	0	0	27,336
0	1,209	0	0	0	0	0	0	0	0	0	0	33	0	0	0	0	44	97	24	0	0	1,407
0	1,058	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	45	100	21	0	0	1,263
0	2,267	0	0	0	0	0	0	0	0	0	0	72	0	0	0	0	89	197	45	0	0	2,670

		Retail	NEW Residential	CHECK
Weekday Daily	Entering	9,945	1,210	11,155
	Exiting	9,989	1,166	11,155
	Total	19,934	2,376	22,310
Weekday AM Peak Hour	Entering	628	67	695
	Exiting	190	268	458
	Total	818	335	1,153
Weekday PM Peak Hour	Entering	804	136	940
	Exiting	1,089	71	1,160
	Total	1,893	207	2,100
Saturday Daily	Entering	12,215	1,453	13,668
	Exiting	12,330	1,338	13,668
	Total	24,545	2,791	27,336
Saturday Middy Peak Hour	Entering	1,286	121	1,407
	Exiting	1,142	121	1,263
	Total	2,428	242	2,670

Analyst: Rebecca L. Brown
Date: June 22, 2016

The diagram illustrates the trip distribution for six land use sections, each with its own ITE LUC, Size, and SF, and a table of Demand, Balanced, and Demand. The sections are interconnected, showing the flow of trips between them and to/from external areas.

Section 1: RETAIL
 ITE LUC 820, 861, 869, 890, 841, 850
 Size 750,200 SF
 Demand: 10% 1258, 42% 961, 26% 3272, 1052, 46% 1052
 Balanced: 961, 1052
 Demand: 1210, 1166, 1166, 1166

Section 2: RESIDENTIAL
 ITE LUC 220, 230, 254
 Size 691 UNITS
 Demand: 21% 480, 14% 0, 2% 252, 116, 16% 366, 18% 0
 Balanced: 0, 116, 0
 Demand: 1210, 1166, 1166, 1166

Section 3: RESTAURANT
 ITE LUC 925, 931, 932, 933
 Size 0 SF
 Demand: 5% 0, 7% 0, 3% 0, 30% 395, 1% 7, 2% 0
 Balanced: 0, 0, 0
 Demand: 1210, 1166, 1166, 1166

Section 4: HOTEL
 ITE LUC 310
 Size 162 ROOMS
 Demand: 0% 0, 0% 0, 2% 0, 4% 53, 1% 7, 2% 0
 Balanced: 0, 0, 0
 Demand: 1210, 1166, 1166, 1166

Section 5: ENTERTAINMENT
 ITE LUC 437, 445
 Size 0 LANES, 0 SCREENS
 Demand: 1% 0, 2% 0, 3% 0, 30% 395, 1% 7, 2% 0
 Balanced: 0, 0, 0
 Demand: 1210, 1166, 1166, 1166

Section 6: OFFICE
 ITE LUC 710, 714, 550
 Size 250,000 SF
 Demand: 0% 0, 0% 0, 2% 0, 4% 53, 1% 7, 2% 0
 Balanced: 0, 0, 0
 Demand: 1210, 1166, 1166, 1166

Net External Trips for Multi-Use

	Enter	Exit
Section 1	11216	11210
Section 2	1210	1166
Section 3	0	0
Section 4	531	58

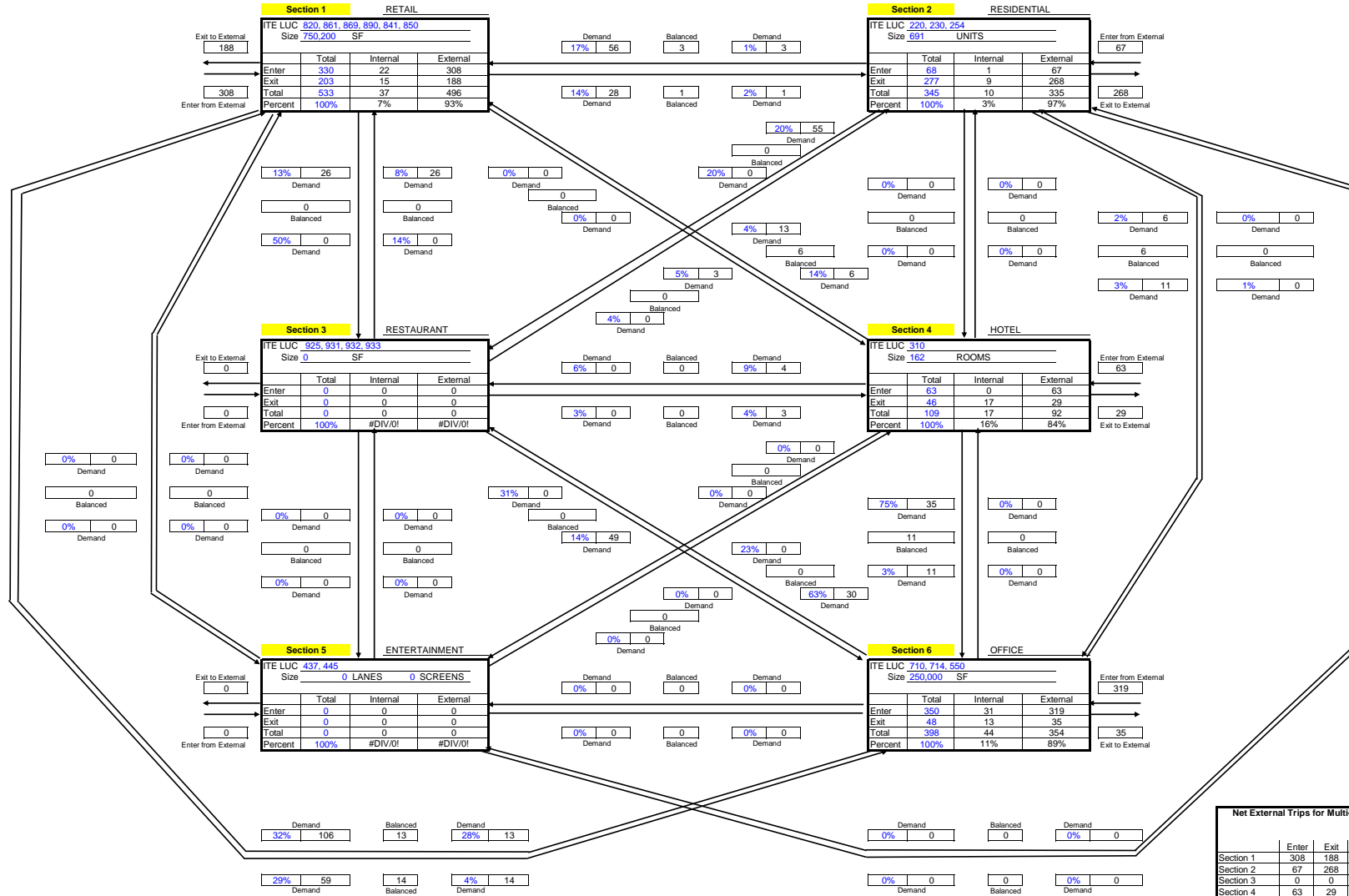
Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est
Section 1	11216	11210	22426	25166
Section 2	1210	1166	2376	4576
Section 3	0	0	0	0
Section 4	531	581	1112	1446
Section 5	0	0	0	0
Section 6	1001	1001	2002	2634
TOTAL	13958	13958	27916	33822
				17%

Greenman-Pedersen Inc.

Analyst: [Rebecca L. Brown](#)
Date: [June 22, 2016](#)

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlpt: [Tuscan Village](#)
Time Period: [Weekday AM](#)



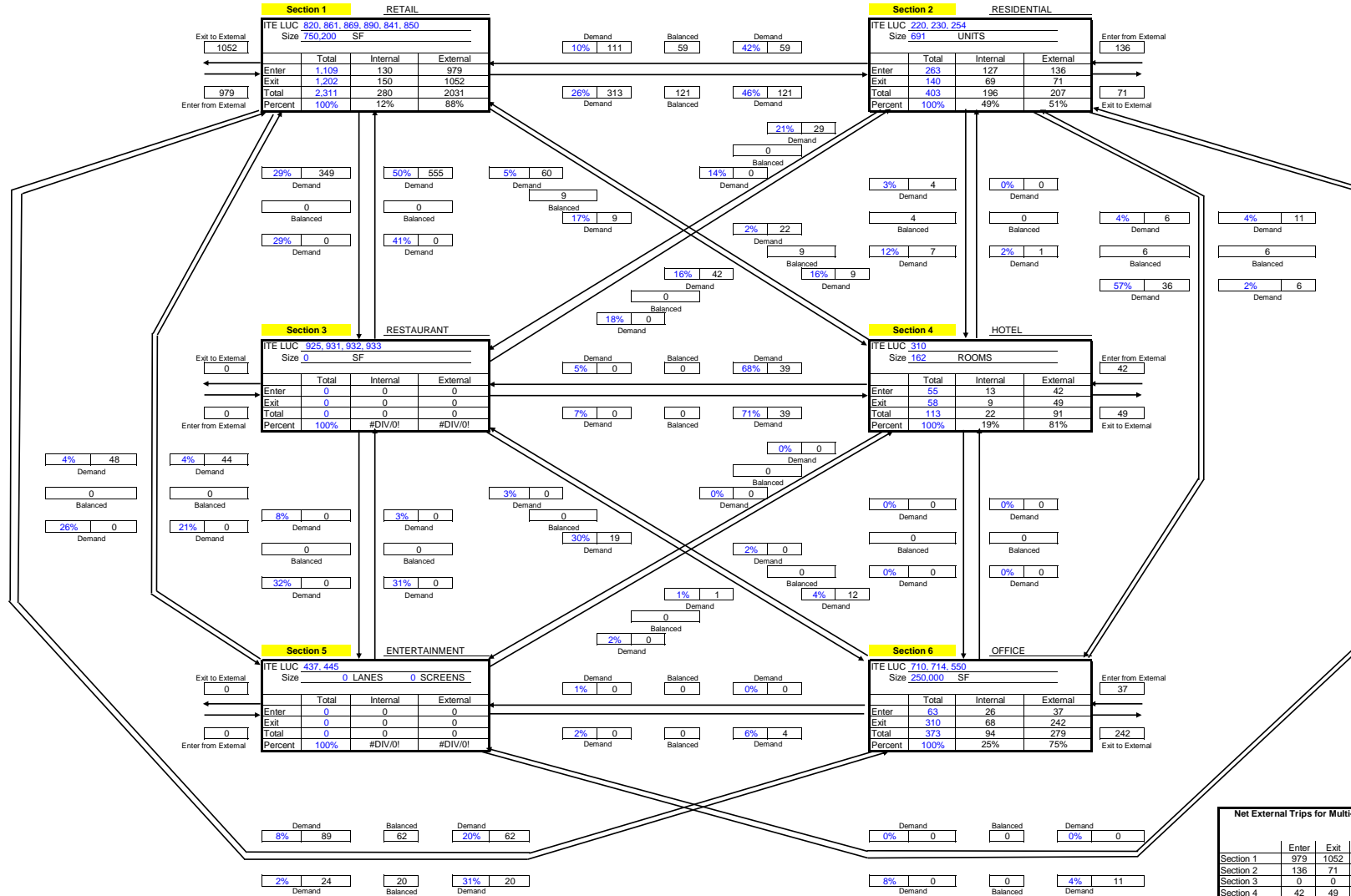
Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est
Section 1	308	188	496	533
Section 2	67	268	335	345
Section 3	0	0	0	0
Section 4	63	29	92	109
Section 5	0	0	0	0
Section 6	319	35	354	398
TOTAL	757	520	1277	1385
				Internal Capture 8%

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: [Rebecca L. Brown](#)
Date: [June 22, 2016](#)

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlpt: [Tuscan Village](#)
Time Period: [Weekday PM](#)



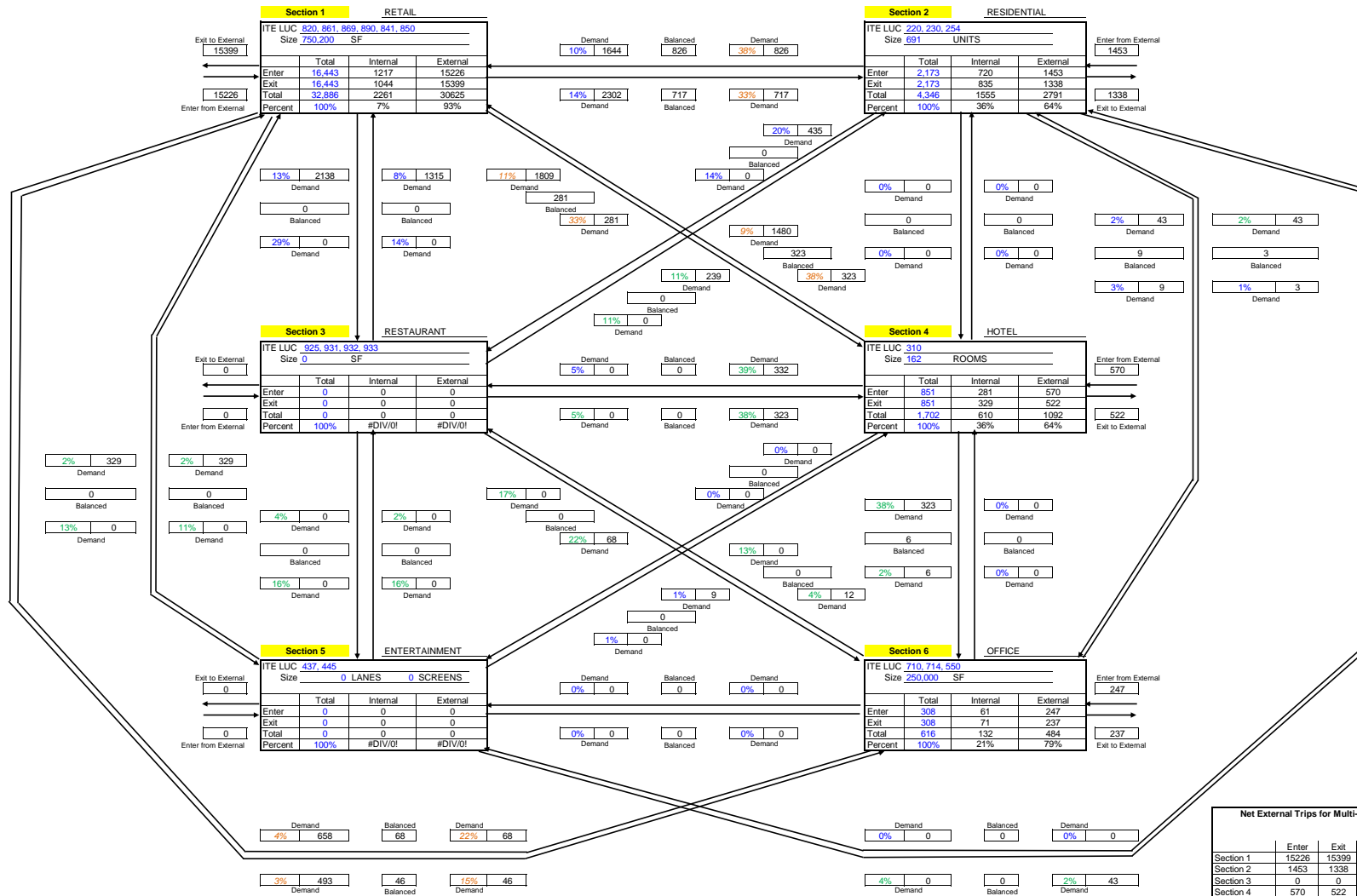
Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	979	1052	2031	2311
Section 2	136	71	207	403
Section 3	0	0	0	0
Section 4	42	49	91	113
Section 5	0	0	0	0
Section 6	37	242	279	373
TOTAL	1194	1414	2608	3200
				Internal Capture 19%

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: [Rebecca L. Brown](#)
Date: [June 22, 2016](#)

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlpt: [Tuscan Village](#)
Time Period: [Saturday Daily](#)



Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	15226	15399	30625	32886
Section 2	1453	1338	2791	4346
Section 3	0	0	0	0
Section 4	570	522	1092	1702
Section 5	0	0	0	0
Section 6	247	237	484	616
TOTAL	17496	17496	34992	39550
				Internal Capture 12%

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Analyst: Rebecca L. Brown
Date: June 22, 2016

Section 1 RETAIL

ITE LUC 820, 861, 869, 890, 841, 850
Size 750,200 SF

	Total	Internal	External
Enter	1,685	98	1,587
Exit	1,555	119	1,436
Total	3,240	217	3,023
Percent	100%	7%	93%

Section 2 RESIDENTIAL

ITE LUC 220, 230, 254
Size 691 UNITS

	Total	Internal	External
Enter	193	72	121
Exit	187	66	121
Total	380	138	242
Percent	100%	36%	64%

Section 3 RESTAURANT

ITE LUC 925, 931, 932, 933
Size 0 SF

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 4 HOTEL

ITE LUC 310
Size 162 ROOMS

	Total	Internal	External
Enter	70	26	44
Exit	70	25	45
Total	140	51	89
Percent	100%	36%	64%

Section 5 ENTERTAINMENT

ITE LUC 437, 445
Size 0 LANES 0 SCREENS

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 6 OFFICE

ITE LUC 710, 714, 550
Size 250,000 SF

	Total	Internal	External
Enter	58	25	33
Exit	50	11	39
Total	108	36	72
Percent	100%	33%	67%

Net External Trips for Multi

	Enter	Exit
Section 1	1587	1436
Section 2	121	121
Section 3	0	0
Section 4	44	45
Section 5	0	0
Section 6	33	39

Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	1587	1436	3023	3240
Section 2	121	121	242	380
Section 3	0	0	0	0
Section 4	44	45	89	140
Section 5	0	0	0	0
Section 6	33	39	72	108
TOTAL	1785	1641	3426	3668
				11%

Greenman-Pedersen Inc.

Institute of Transportation Engineers (ITE)
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Leasable Area
Independent Variable (X): 750.200

AVERAGE WEEKDAY DAILY

$$\ln T = 0.65 \ln (X) + 5.83$$

$$\ln T = 0.65 \ln 750.200 + (5.83)$$

$$\ln T = 10.13$$

$$T = 25165.29$$

$$T = 25,166 \text{ vehicle trips}$$

with 50% (12,583 vpd) entering and 50% (12,583 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.61 \ln (X) + 2.24$$

$$\ln T = 0.61 \ln 750.200 + (2.24)$$

$$\ln T = 6.28$$

$$T = 532.94$$

$$T = 533 \text{ vehicle trips}$$

with 62% (330 vph) entering and 38% (203 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.67 \ln (X) + 3.31$$

$$\ln T = 0.67 \ln 750.200 + (3.31)$$

$$\ln T = 7.75$$

$$T = 2311.44$$

$$T = 2,311 \text{ vehicle trips}$$

with 48% (1,109 vph) entering and 52% (1,202 vph) exiting.

SATURDAY DAILY

$$\ln T = 0.63 \ln (X) + 6.23$$

$$\ln T = 0.63 \ln 750.200 + (6.23)$$

$$\ln T = 10.40$$

$$T = 32886.39$$

$$T = 32,886 \text{ vehicle trips}$$

with 50% (16,443 vpd) entering and 50% (16,443 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$\ln T = 0.65 \ln (X) + 3.78$$

$$\ln T = 0.65 \ln 750.200 + (3.78)$$

$$\ln T = 8.08$$

$$T = 3239.65$$

$$T = 3,240 \text{ vehicle trips}$$

with 52% (1,685 vph) entering and 48% (1,555 vph) exiting.

Institute of Transportation Engineers (ITE)
Land Use Code (LUC) 710 - General Office Building

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Floor Area
Independent Variable (X): 250.000

AVERAGE WEEKDAY DAILY

$$\ln T = 0.76 \ln (X) + 3.68$$

$$\ln T = 0.76 \ln 250.000 + (3.68)$$

$$\ln T = 7.88$$

$$T = 2634.14$$

T = 2,634 vehicle trips

with 50% (1,317 vph) entering and 50% (1,317 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.80 \ln (X) + 1.57$$

$$\ln T = 0.80 \ln 250.000 + (1.57)$$

$$\ln T = 5.99$$

$$T = 398.29$$

T = 398 vehicle trips

with 88% (350 vph) entering and 12% (48 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 1.49 * (X)$$

$$T = 1.49 * 250.000$$

$$T = 372.50$$

T = 373 vehicle trips

with 17% (63 vph) entering and 83% (310 vph) exiting.

SATURDAY DAILY

$$T = 2.46 * (X)$$

$$T = 2.46 * 250.000$$

$$T = 615.00$$

T = 616 vehicle trips

with 50% (308 vpd) entering and 50% (308 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.43 * (X)$$

$$T = 0.43 * 250.000$$

$$T = 107.50$$

T = 108 vehicle trips

with 54% (58 vph) entering and 46% (50 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 310 - Hotel

Average Vehicle Trips Ends vs: Occupied Rooms
Independent Variable (X): 162

AVERAGE WEEKDAY DAILY

$$T = 8.92 * (X)$$

$$T = 8.92 * 162$$

$$T = 1445.04$$

$$T = 1,446 \text{ vehicle trips}$$

with 50% (723 vph) entering and 50% (723 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.67 * (X)$$

$$T = 0.67 * 162$$

$$T = 108.54$$

$$T = 109 \text{ vehicle trips}$$

with 58% (63 vph) entering and 42% (46 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.70 * (X)$$

$$T = 0.70 * 162$$

$$T = 113.40$$

$$T = 113 \text{ vehicle trips}$$

with 49% (55 vph) entering and 51% (58 vph) exiting.

SATURDAY DAILY

$$T = 10.50 * (X)$$

$$T = 10.50 * 162$$

$$T = 1701.00$$

$$T = 1,702 \text{ vehicle trips}$$

with 50% (851 vph) entering and 50% (851 vph) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.87 * (X)$$

$$T = 0.87 * 162$$

$$T = 140.94$$

$$T = 140 \text{ vehicle trips}$$

with 50% (70 vph) entering and 50% (70 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 220 - Apartment

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 595

AVERAGE WEEKDAY DAILY

$$T = 6.65 * (X)$$

$$T = 6.65 * 595$$

$$T = 3956.75$$

$$T = 3,956 \text{ vehicle trips}$$

with 50% (1,978 vpd) entering and 50% (1,978 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.49 * (X) + 3.73$$

$$T = 0.49 * 595 + (3.73)$$

$$T = 295.28$$

$$T = 295 \text{ vehicle trips}$$

with 20% (59 vph) entering and 80% (236 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.55 * (X) + 17.65$$

$$T = 0.55 * 595 + (17.65)$$

$$T = 344.90$$

$$T = 345 \text{ vehicle trips}$$

with 65% (224 vph) entering and 35% (121 vph) exiting.

SATURDAY DAILY

$$T = 6.39 * (X)$$

$$T = 6.39 * 595$$

$$T = 3802.05$$

$$T = 3,802 \text{ vehicle trips}$$

with 50% (1,901 vpd) entering and 50% (1,901 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.52 * (X)$$

$$T = 0.52 * 595$$

$$T = 309.40$$

$$T = 310 \text{ vehicle trips}$$

with 50% (155 vpd) entering and 50% (155 vpd) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 230 - Residential Condominium/Townhouse

Average Vehicle Trips Ends vs: Dwelling Units

Independent Variable (X): 96

AVERAGE WEEKDAY DAILY

$$\ln T = 0.870 \ln (X) + 2.46$$

$$\ln T = 0.870 \ln 96 + (2.46)$$

$$\ln T = 6.43$$

$$T = 620.78$$

T = 620 vehicle trips

with 50% (310 vpd) entering and 50% (310 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.80 \ln (X) + 0.26$$

$$\ln T = 0.80 \ln 96 + (0.26)$$

$$\ln T = 3.91$$

$$T = 49.97$$

T = 50 vehicle trips

with 17% (9 vpd) entering and 83% (41 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.82 \ln (X) + 0.32$$

$$\ln T = 0.82 \ln 96 + (0.32)$$

$$\ln T = 4.06$$

$$T = 58.13$$

T = 58 vehicle trips

with 67% (39 vph) entering and 33% (19 vph) exiting.

SATURDAY DAILY

$$T = 5.67 * (X)$$

$$T = 5.67 * 96$$

$$T = 544.32$$

T = 544 vehicle trips

with 50% (272 vpd) entering and 50% (272 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.29 * (X) + 42.63$$

$$T = 0.29 * 96 + (42.63)$$

$$T = 70.47$$

T = 70 vehicle trips

with 54% (38 vph) entering and 46% (32 vph) exiting.

TUSCAN VILLAGE TRIP GENERATION BUDGET - EXTERNAL VEHICLE-TRIPS (12/19/18)

	<u>WEEKDAY</u>	<u>AM PEAK HOUR</u>	<u>PM PEAK HOUR</u>	<u>SATURDAY</u>	<u>SAT PEAK HOUR</u>
BUDGET FOR 170-ACRES	39,284	1,510	3,592	47,718	4,864
<u>50-ACRE NORTH VILLAGE</u>					
CUMULATIVE SUBTOTAL	15,610	658	1,300	24,056	1,768
BALANCE REMAINING	23,674	852	2,292	23,662	3,096
PERCENT UTILIZED	40%	44%	36%	50%	36%
<u>HANOVER</u>					
CUMULATIVE SUBTOTAL	452	134	17	522	44
BALANCE REMAINING	16,062	792	1,317	24,578	1,812
BALANCE REMAINING	23,222	718	2,275	23,140	3,052
PERCENT UTILIZED	41%	52%	37%	52%	37%
<u>SOUTH/CENTRAL VILLAGE</u>					
CUMULATIVE SUBTOTAL	11,854	485	1,291	10,414	1,614
BALANCE REMAINING	27,916	1,277	2,608	34,992	3,426
BALANCE REMAINING	11,368	233	984	12,726	1,438
PERCENT UTILIZED	71%	85%	73%	73%	70%

ARCHITECT:
PRELLWITZ CHILINSKI
ASSOCIATES, INC.
221 Hampshire Street
Cambridge, MA 02139
617-547-8120

OWNER:
TUSCAN BRANDS
Salem, New Hampshire

CONTRACTOR:
CONTRACTOR FIRM
Address
City, State ZIP
####

TUSCAN VILLAGE

SALEM, NH
PCA PROJECT #:15076.00

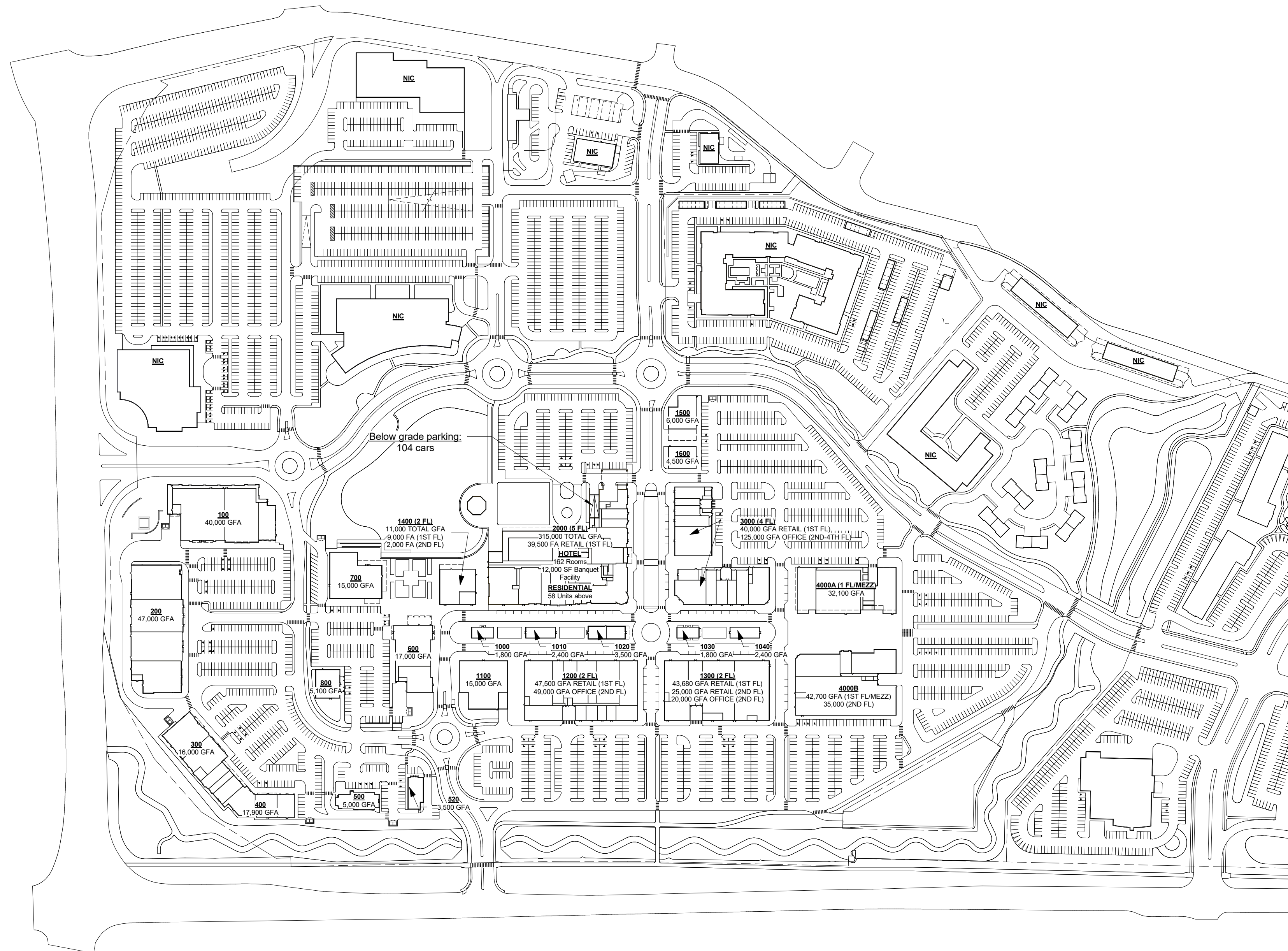
REVISIONS:

ORIGINAL ISSUE:
02/01/19

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GFA LAND
USE PLAN

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Use	Block Size												TOTAL
	A	B	C	D	E	F	G-N	G-S	H	I	J	K	
Retail (Includes 15,000 SF of hotel retail, cinema, D&B, bowling, Gas Station/Convenience Store, Restaurant, Auto Dealership, Supermarket)	166,500	353,880	--	--	0	0	--	--	--	38,500	160,700	--	719,580
Office	--	194,000	0	--	--	--	--	--	--	--	--	--	194,000
Corporate Headquarters	--	--	--	--	--	--	--	--	--	--	--	--	0
Medical Office	--	--	0	--	--	--	--	--	--	--	--	--	0
University/College	--	--	0	--	--	--	--	--	--	--	--	--	0
Hotel (rooms) (includes banquet/kitchen)	--	162	--	--	--	--	--	--	--	--	--	--	162
Apartments (units)	--	58	--	--	--	--	--	281	256	--	--	--	595
Condominiums (units)	--	--	--	--	--	--	--	--	--	--	--	96	96
Senior House (units)	--	--	--	--	--	--	0	--	--	--	--	--	0
Assisted Living (units)	--	--	--	--	--	--	0	--	--	--	--	--	0

Rockingham Park Mixed-Use Development				
Size	Units	Land Use	ITE LUC	Utilized LUC
719,580	0 SF	Car Dealership	(LUC 841)	(LUC 820)
	719,580 SF	Retail	(LUC 820)	(LUC 820)
	0 SF	Sporting Goods	(LUC 861)	(LUC 820)
	0 SF	Discount HFSS	(LUC 869)	(LUC 820)
	0 SF	Furniture Store	(LUC 890)	(LUC 820)
	0 SF	Supermarket	(LUC 850)	(LUC 820)
194,000	0 SF	Fast-Food Restaurant	(LUC 933)	(LUC 820)
	0 SF	High Turnover Sit-Down Restaurant	(LUC 932)	(LUC 820)
	0 SF	Quality Restaurant	(LUC 931)	(LUC 820)
	0 SF	Night Club	(LUC 925)	(LUC 820)
	0 Screens	Cinema	(LUC 445)	(LUC 820)
	0 Lanes	Bowling Alley	(LUC 437)	(LUC 820)
595	194,000 SF	General Office	(LUC 710)	(LUC 710)
	0 SF	Corporate HQ	(LUC 714)	(LUC 714)
	0 SF	University/College	(LUC 550)	(LUC 550)
	0 SF	Medical Office	(LUC 720)	(LUC 720)
	0 SF	Medical Facility	(LUC 610)	empirical data
595	162 Rooms	Hotel	(LUC 310)	(LUC 310)
	595 Units	Apartments	(LUC 220)	(LUC 220)
	96 Units	Condominiums	(LUC 230)	(LUC 230)
	0 Units	Senior Housing	(LUC 251)	(LUC 251)
	0 Units	Assisted Living	(LUC 254)	(LUC 254)

		Total Trips																						
		Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	Total Trips
Weekday Daily	Entering	0	12,247	0	0	0	0	0	0	0	0	0	0	1,086	0	0	0	0	723	1,978	310	0	0	16,344
	Exiting	0	12,247	0	0	0	0	0	0	0	0	0	0	1,086	0	0	0	0	723	1,978	310	0	0	16,344
	Total	0	24,494	0	0	0	0	0	0	0	0	0	0	2,172	0	0	0	0	1,446	3,956	620	0	0	32,688
Weekday AM Peak Hour	Entering	0	322	0	0	0	0	0	0	0	0	0	0	286	0	0	0	0	63	59	9	0	0	739
	Exiting	0	198	0	0	0	0	0	0	0	0	0	0	39	0	0	0	0	46	236	41	0	0	560
	Total	0	520	0	0	0	0	0	0	0	0	0	0	325	0	0	0	0	109	295	50	0	0	1,299
Weekday PM Peak Hour	Entering	0	1,079	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0	55	224	39	0	0	1,446
	Exiting	0	1,169	0	0	0	0	0	0	0	0	0	0	240	0	0	0	0	58	121	19	0	0	1,607
	Total	0	2,248	0	0	0	0	0	0	0	0	0	0	289	0	0	0	0	113	345	58	0	0	3,053
Saturday Daily	Entering	0	16,017	0	0	0	0	0	0	0	0	0	0	239	0	0	0	0	851	1,901	272	0	0	19,280
	Exiting	0	16,017	0	0	0	0	0	0	0	0	0	0	239	0	0	0	0	851	1,901	272	0	0	19,280
	Total	0	32,034	0	0	0	0	0	0	0	0	0	0	478	0	0	0	0	1,702	3,802	544	0	0	38,560
Saturday Midday Peak Hour	Entering	0	1,640	0	0	0	0	0	0	0	0	0	0	45	0	0	0	0	70	155	38	0	0	1,948
	Exiting	0	1,513	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0	70	155	32	0	0	1,808
	Total	0	3,153	0	0	0	0	0	0	0	0	0	0	83	0	0	0	0	140	310	70	0	0	3,756

		Mixed-Use Groupings					
		1 Retail	2 Residential	3 Restaurant	4 Hotel	5 Entertainment	6 Office
Weekday Daily	Entering	12,247	2,288	0	723	0	1,086
	Exiting	12,247	2,288	0	723	0	1,086
	Total	24,494	4,576	0	1,446	0	2,172
Weekday AM Peak Hour	Entering	322	68	0	63	0	286
	Exiting	198	277	0	46	0	39
	Total	520	345	0	109	0	325
Weekday PM Peak Hour	Entering	1,079	263	0	55	0	49
	Exiting	1,169	140	0	58	0	240
	Total	2,248	403	0	113	0	289
Saturday Daily	Entering	16,017	2,173	0	851	0	239
	Exiting	16,017	2,173	0	851	0	239
	Total	32,034	4,346	0	1,702	0	478
Saturday Midday Peak Hour	Entering	1,640	193	0	70	0	45
	Exiting	1,513	187	0	70	0	38
	Total	3,153	380	0	140	0	83
Total Size		719,580	691	0	162		194,000

External Trips																						
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	External Trips
0	10,931	0	0	0	0	0	0	0	0	0	0	809	0	0	0	0	531	1,050	164	0	0	13,485
0	10,909	0	0	0	0	0	0	0	0	0	0	825	0	0	0	0	585	1,008	158	0	0	13,485
0	21,840	0	0	0	0	0	0	0	0	0	0	1,634	0	0	0	0	1,116	2,058	322	0	0	26,970
0	302	0	0	0	0	0	0	0	0	0	0	260	0	0	0	0	63	58	9	0	0	692
0	186	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	31	228	40	0	0	513
0	488	0	0	0	0	0	0	0	0	0	0	288	0	0	0	0	94	286	49	0	0	1,205
0	963	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	42	117	20	0	0	1,170
0	1,024	0	0	0	0	0	0	0	0	0	0	187	0	0	0	0	49	61	10	0	0	1,331
0	1,987	0	0	0	0	0	0	0	0	0	0	215	0	0	0	0	91	178	30	0	0	2,501
0	14,815	0	0	0	0	0	0	0	0	0	0	191	0	0	0	0	570	1,272	182	0	0	17,030
0	14,983	0	0	0	0	0	0	0	0	0	0	184	0	0	0	0	523	1,172	168	0	0	17,030
0	29,798	0	0	0	0	0	0	0	0	0	0	375	0	0	0	0	1,093	2,444	350	0	0	34,060
0	1,544	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	44	98	24	0	0	1,736
0	1,399	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	45	101	21	0	0	1,596
0	2,943	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0	89	199	45	0	0	3,332

Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Weekday Daily
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Weekday AM
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.85	0.15	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.85	0.15	0.00	0.00	Weekday PM
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.86	0.14	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Saturday Daily
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.87	0.13	0.00	0.00	Entering
																						Exiting
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.80	0.20	0.00	0.00	SAT Midday
0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.83	0.17	0.00	0.00	Entering
																						Exiting

Pass-By Percentages																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
0%	25%	25%	25%	25%	25%	25%	25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
ITE Available Pass-by Rates																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
--	--	--	--	--	--	49%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	34%	--	--	53%	36%	50%	43%	44%	--	--	--	--	--	--	--	--	--	--	--	--	--
--	26%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Pass-By Trips																					
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)
0	2,730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	2,730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	5,460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	122	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	496	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	3,725	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	3,725	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	7,450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	368	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	736	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

		Retail	EXTERNAL Residential	CHECK
Weekday Daily	Entering	12,271	1,214	13,485
	Exiting	12,319	1,166	13,485
	Total	24,590	2,380	26,970
Weekday AM Peak Hour	Entering	625	67	692
	Exiting	245	268	513
	Total	870	335	1,205
Weekday PM Peak Hour	Entering	1,033	137	1,170
	Exiting	1,260	71	1,331
	Total	2,293	208	2,501
Saturday Daily	Entering	15,576	1,454	17,030
	Exiting	15,690	1,340	17,030
	Total	31,266	2,794	34,060
Saturday Midday Peak Hour	Entering	1,614	122	1,736
	Exiting	1,474	122	1,596
	Total	3,088	244	3,332

New Trips																						
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Discount Home Furnishing Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	High Turnover Sit-Down Restaurant (LUC 932)	Quality Restaurant (LUC 931)	Night Club (LUC 925)	Cinema (LUC 445)	Bowling Alley (LUC 437)	General Office (LUC 710)	Corporate Headquarters (LUC 714)	College / University (LUC 550)	Medical Office (LUC 720)	Medical Facility (empirical)	Hotel (LUC 310)	Apartments (LUC 220)	Condos (LUC 230)	Senior Adult Housing (LUC 251)	Assisted Living (LUC 254)	New Trips
0	8,201	0	0	0	0	0	0	0	0	0	0	809	0	0	0	0	531	1,050	164	0	0	10,755
0	8,179	0	0	0	0	0	0	0	0	0	0	825	0	0	0	0	585	1,008	158	0	0	10,755
0	16,380	0	0	0	0	0	0	0	0	0	0	1,634	0	0	0	0	1,116	2,058	322	0	0	21,510
0	241	0	0	0	0	0	0	0	0	0	0	260	0	0	0	0	63	58	9	0	0	631
0	125	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	31	228	40	0	0	452
0	366	0	0	0	0	0	0	0	0	0	0	288	0	0	0	0	94	286	49	0	0	1,083
0	715	0	0	0	0	0	0	0	0	0	0	28	0	0	0	0	42	117	20	0	0	922
0	776	0	0	0	0	0	0	0	0	0	0	187	0	0	0	0	49	61	10	0	0	1,083
0	1,491	0	0	0	0	0	0	0	0	0	0	215	0	0	0	0	91	178	30	0	0	2,005
0	11,090	0	0	0	0	0	0	0	0	0	0	191	0	0	0	0	570	1,272	182	0	0	13,305
0	11,258	0	0	0	0	0	0	0	0	0	0	184	0	0	0	0	523	1,172	168	0	0	13,305
0	22,348	0	0	0	0	0	0	0	0	0	0	375	0	0	0	0	1,093	2,444	350	0	0	26,610
0	1,176	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	44	98	24	0	0	1,368
0	1,031	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	45	101	21	0	0	1,228
0	2,207	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0	89	199	45	0	0	2,596

		NEW		
		Retail	Residential	CHECK
Weekday Daily	Entering	9,541	1,214	10,755
	Exiting	9,589	1,166	10,755
	Total	19,130	2,380	21,510
Weekday AM Peak Hour	Entering	564	67	631
	Exiting	184	268	452
	Total	748	335	1,083
Weekday PM Peak Hour	Entering	785	137	922
	Exiting	1,012	71	1,083
	Total	1,797	208	2,005
Saturday Daily	Entering	11,851	1,454	13,305
	Exiting	11,965	1,340	13,305
	Total	23,816	2,794	26,610
Saturday Middy Peak Hour	Entering	1,246	122	1,368
	Exiting	1,106	122	1,228
	Total	2,352	244	2,596

Analyst: Rebecca L. Brown
Date: June 22, 2016

Section 1: RETAIL

ITE LUC 820, 861, 869, 890, 841, 850
Size 719,580 SF

	Total	Internal	External
Enter	12,247	1316	10931
Exit	12,247	1338	10909
Total	24,494	2654	21840
Percent	100%	11%	89%

Section 2: RESIDENTIAL

ITE LUC 220, 230, 254
Size 691 UNITS

	Total	Internal	External
Enter	2,288	1074	1214
Exit	2,288	1122	1166
Total	4,576	2196	2380
Percent	100%	48%	52%

Section 3: RESTAURANT

ITE LUC 925, 931, 932, 933
Size 0 SF

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 4: HOTEL

ITE LUC 310
Size 162 ROOMS

	Total	Internal	External
Enter	723	192	531
Exit	723	138	585
Total	1,446	330	1116
Percent	100%	23%	77%

Section 5: ENTERTAINMENT

ITE LUC 437, 445
Size 0 LANES, 0 SCREENS

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 6: OFFICE

ITE LUC 710, 714, 550
Size 194,000 SF

	Total	Internal	External
Enter	1,086	277	809
Exit	1,086	261	825
Total	2,172	538	1634
Percent	100%	25%	75%

Net External Trips for Multi-Use Development

	Enter	Exit
Section 1	10931	10909
Section 2	1214	1166
Section 3	0	0
Section 4	531	585

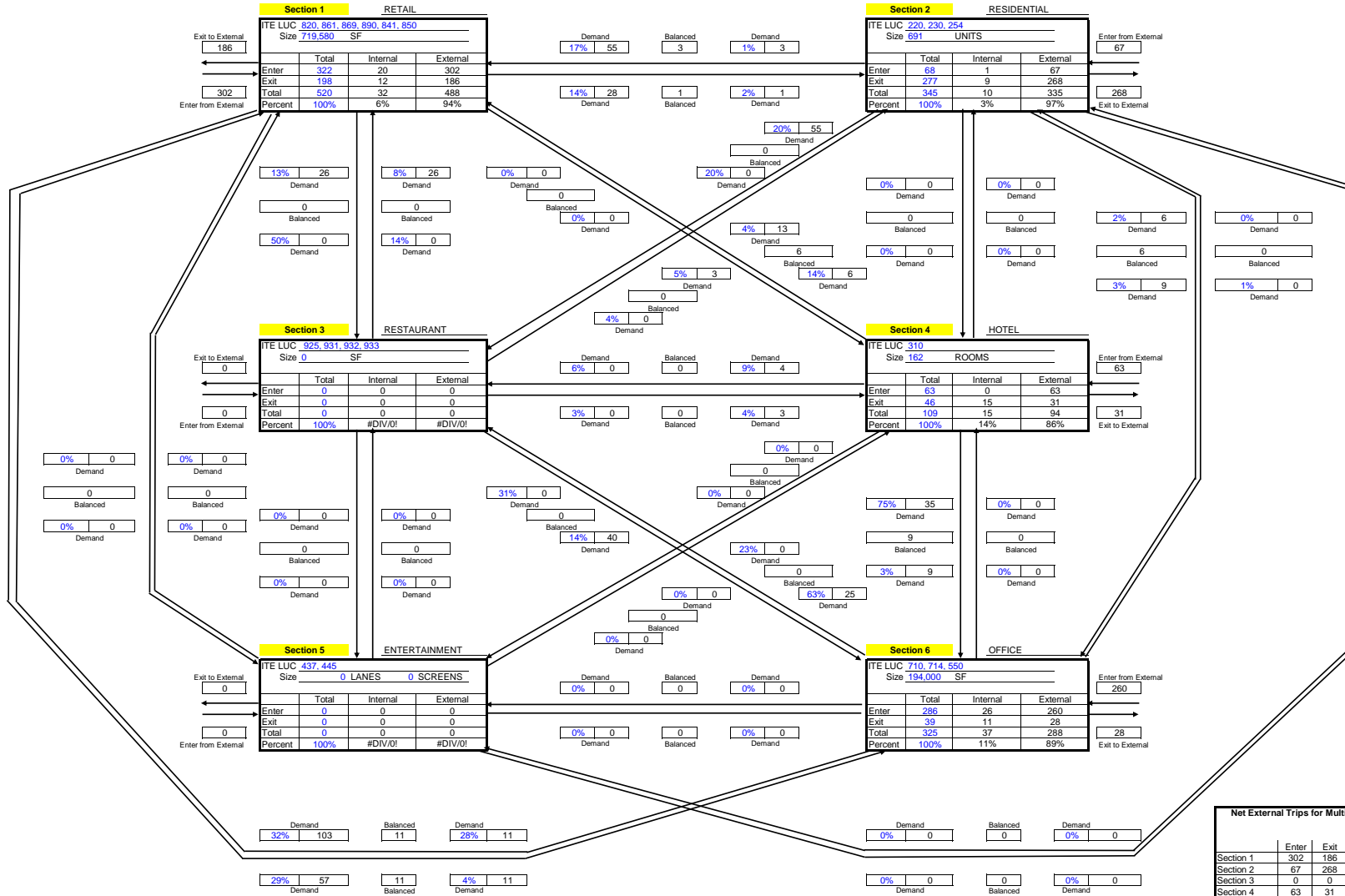
Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est
Section 1	10931	10909	21840	24494
Section 2	1214	1166	2380	4576
Section 3	0	0	0	0
Section 4	531	585	1116	1446
Section 5	0	0	0	0
Section 6	809	825	1634	2172
TOTAL	13485	13465	26970	32688
				17%

Greenman-Pedersen Inc.

Analyst: [Rebecca L. Brown](#)
Date: [June 22, 2016](#)

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlpt: [Tuscan Village](#)
Time Period: [Weekday AM](#)



Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est
Section 1	302	186	488	520
Section 2	67	268	335	345
Section 3	0	0	0	0
Section 4	63	31	94	109
Section 5	0	0	0	0
Section 6	260	28	288	325
TOTAL	692	513	1205	1299
				Internal Capture 7%

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Rebecca L. Brown
Date: June 22, 2016

The diagram illustrates a transportation planning model with six sections, each representing a different land use type. Each section contains a table of internal and external trips, and is connected to other sections by a network of demand and balanced flow lines with associated percentages and trip counts.

Section 1: RETAIL
 ITE LUC 820, 861, 869, 890, 841, 850
 Size 719,580 SF
 Table: Enter 1,079, Exit 1,169, Total 2,248, Percent 100%. Internal: 116, 145, 261. External: 963, 1024, 1987.

Section 2: RESIDENTIAL
 ITE LUC 220, 230, 254
 Size 691 UNITS
 Table: Enter 263, Exit 140, Total 403, Percent 100%. Internal: 126, 69, 195. External: 137, 71, 208.

Section 3: RESTAURANT
 ITE LUC 925, 931, 932, 933
 Size 0 SF
 Table: Enter 0, Exit 0, Total 0, Percent 100%. Internal: 0, 0, 0. External: 0, 0, 0.

Section 4: HOTEL
 ITE LUC 310
 Size 162 ROOMS
 Table: Enter 55, Exit 58, Total 113, Percent 100%. Internal: 13, 9, 22. External: 42, 49, 91.

Section 5: ENTERTAINMENT
 ITE LUC 437, 445
 Size 0 LANES, 0 SCREENS
 Table: Enter 0, Exit 0, Total 0, Percent 100%. Internal: 0, 0, 0. External: 0, 0, 0.

Section 6: OFFICE
 ITE LUC 710, 714, 550
 Size 194,000 SF
 Table: Enter 49, Exit 240, Total 289, Percent 100%. Internal: 21, 53, 74. External: 28, 187, 215.

The diagram shows a complex network of demand and balanced flow lines between these sections, with associated percentages and trip counts. For example, Section 1 has a demand of 10% (108) to Section 2, and a balanced flow of 59 from Section 2 to Section 1. Section 2 has a demand of 42% (59) to Section 1, and a balanced flow of 121 from Section 1 to Section 2. Section 1 has a demand of 26% (304) to Section 3, and a balanced flow of 121 from Section 3 to Section 1. Section 3 has a demand of 5% (58) to Section 1, and a balanced flow of 9 from Section 1 to Section 3. Section 1 has a demand of 29% (339) to Section 4, and a balanced flow of 0 from Section 4 to Section 1. Section 4 has a demand of 71% (39) to Section 1, and a balanced flow of 0 from Section 1 to Section 4. Section 1 has a demand of 29% (339) to Section 5, and a balanced flow of 0 from Section 5 to Section 1. Section 5 has a demand of 8% (86) to Section 1, and a balanced flow of 48 from Section 1 to Section 5. Section 1 has a demand of 29% (339) to Section 6, and a balanced flow of 0 from Section 6 to Section 1. Section 6 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 6. Section 2 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 2. Section 3 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 3. Section 4 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 4. Section 5 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 5. Section 6 has a demand of 0% (0) to Section 1, and a balanced flow of 0 from Section 1 to Section 6.

	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	963	1024	1987	2248
Section 2	137	71	208	403
Section 3	0	0	0	0
Section 4	42	49	91	113
Section 5	0	0	0	0
Section 6	28	187	215	289
TOTAL	1170	1381	2551	3053
				18%

Projections - Internal Capture (save-as from Masterplan 7-31-18) 020119

Analyst: Rebecca L. Brown
Date: June 22, 2016

Section 1: RETAIL
ITE LUC 820, 861, 889, 890, 841, 850
Size 719,580 SF

	Total	Internal	External
Enter	16,017	1202	14815
Exit	16,017	1034	14983
Total	32,034	2236	29798
Percent	100%	7%	93%

Section 2: RESIDENTIAL
ITE LUC 220, 230, 254
Size 691 UNITS

	Total	Internal	External
Enter	2,173	719	1454
Exit	2,173	833	1340
Total	4,346	1552	2794
Percent	100%	36%	64%

Section 3: RESTAURANT
ITE LUC 925, 931, 932, 933
Size 0 SF

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 4: HOTEL
ITE LUC 310
Size 162 ROOMS

	Total	Internal	External
Enter	851	281	570
Exit	851	328	523
Total	1,702	609	1,093
Percent	100%	36%	64%

Section 5: ENTERTAINMENT
ITE LUC 437, 445
Size 0 LANES 0 SCREENS

	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	#DIV/0!	#DIV/0!

Section 6: OFFICE
ITE LUC 710, 714, 550
Size 194,000 SF

	Total	Internal	External
Enter	239	48	191
Exit	239	55	184
Total	478	103	375
Percent	100%	22%	78%

Net External Trips for Multi-Use

	Enter	Exit
Section 1	14815	14983
Section 2	1454	1340
Section 3	0	0
Section 4	570	523

Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	14815	14983	29798	32034
Section 2	1454	1340	2794	4346
Section 3	0	0	0	0
Section 4	570	523	1093	1702
Section 5	0	0	0	0
Section 6	191	184	375	478
TOTAL	17030	17030	34060	38560
				12%

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.

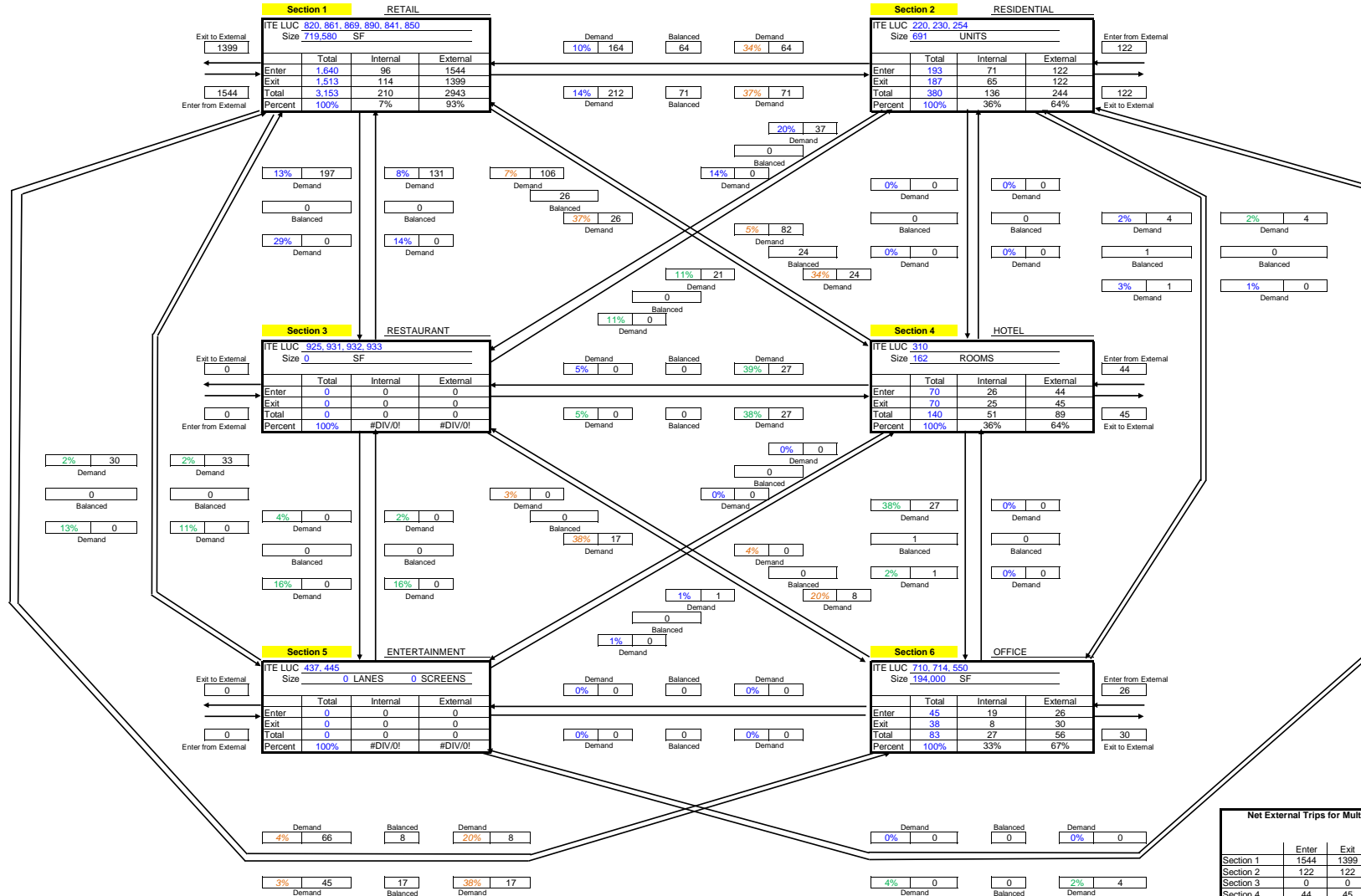
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.

Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Analyst: [Rebecca L. Brown](#)
Date: [June 22, 2016](#)

**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlpt: [Tuscan Village](#)
Time Period: [Saturday Middy](#)



Net External Trips for Multi-Use Development				
	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	1544	1399	2943	3153
Section 2	122	122	244	380
Section 3	0	0	0	0
Section 4	44	45	89	140
Section 5	0	0	0	0
Section 6	26	30	56	83
TOTAL	1736	1596	3332	3756
				Internal Capture 11%

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Institute of Transportation Engineers (ITE)
Land Use Code (LUC) 820 - Shopping Center

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Leasable Area
Independent Variable (X): 719.580

AVERAGE WEEKDAY DAILY

$$\ln T = 0.65 \ln (X) + 5.83$$

$$\ln T = 0.65 \ln 719.580 + (5.83)$$

$$\ln T = 10.11$$

$$T = 24492.79$$

$$T = 24,494 \text{ vehicle trips}$$

with 50% (12,247 vpd) entering and 50% (12,247 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.61 \ln (X) + 2.24$$

$$\ln T = 0.61 \ln 719.580 + (2.24)$$

$$\ln T = 6.25$$

$$T = 519.56$$

$$T = 520 \text{ vehicle trips}$$

with 62% (322 vph) entering and 38% (198 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.67 \ln (X) + 3.31$$

$$\ln T = 0.67 \ln 719.580 + (3.31)$$

$$\ln T = 7.72$$

$$T = 2247.80$$

$$T = 2,248 \text{ vehicle trips}$$

with 48% (1,079 vph) entering and 52% (1,169 vph) exiting.

SATURDAY DAILY

$$\ln T = 0.63 \ln (X) + 6.23$$

$$\ln T = 0.63 \ln 719.580 + (6.23)$$

$$\ln T = 10.37$$

$$T = 32034.24$$

$$T = 32,034 \text{ vehicle trips}$$

with 50% (16,017 vpd) entering and 50% (16,017 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$\ln T = 0.65 \ln (X) + 3.78$$

$$\ln T = 0.65 \ln 719.580 + (3.78)$$

$$\ln T = 8.06$$

$$T = 3153.08$$

$$T = 3,153 \text{ vehicle trips}$$

with 52% (1,640 vph) entering and 48% (1,513 vph) exiting.

Institute of Transportation Engineers (ITE)
Land Use Code (LUC) 710 - General Office Building

Average Vehicle Trips Ends vs: 1,000 Sq. Feet Gross Floor Area
Independent Variable (X): 194.000

AVERAGE WEEKDAY DAILY

$$\ln T = 0.76 \ln (X) + 3.68$$

$$\ln T = 0.76 \ln 194.000 + (3.68)$$

$$\ln T = 7.68$$

$$T = 2172.37$$

$$T = 2,172 \text{ vehicle trips}$$

with 50% (1,086 vph) entering and 50% (1,086 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.80 \ln (X) + 1.57$$

$$\ln T = 0.80 \ln 194.000 + (1.57)$$

$$\ln T = 5.78$$

$$T = 325.15$$

$$T = 325 \text{ vehicle trips}$$

with 88% (286 vph) entering and 12% (39 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 1.49 * (X)$$

$$T = 1.49 * 194.000$$

$$T = 289.06$$

$$T = 289 \text{ vehicle trips}$$

with 17% (49 vph) entering and 83% (240 vph) exiting.

SATURDAY DAILY

$$T = 2.46 * (X)$$

$$T = 2.46 * 194.000$$

$$T = 477.24$$

$$T = 478 \text{ vehicle trips}$$

with 50% (239 vpd) entering and 50% (239 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.43 * (X)$$

$$T = 0.43 * 194.000$$

$$T = 83.42$$

$$T = 83 \text{ vehicle trips}$$

with 54% (45 vph) entering and 46% (38 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 310 - Hotel

Average Vehicle Trips Ends vs: Occupied Rooms
Independent Variable (X): 162

AVERAGE WEEKDAY DAILY

$$T = 8.92 * (X)$$

$$T = 8.92 * 162$$

$$T = 1445.04$$

$$T = 1,446 \text{ vehicle trips}$$

with 50% (723 vph) entering and 50% (723 vph) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.67 * (X)$$

$$T = 0.67 * 162$$

$$T = 108.54$$

$$T = 109 \text{ vehicle trips}$$

with 58% (63 vph) entering and 42% (46 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.70 * (X)$$

$$T = 0.70 * 162$$

$$T = 113.40$$

$$T = 113 \text{ vehicle trips}$$

with 49% (55 vph) entering and 51% (58 vph) exiting.

SATURDAY DAILY

$$T = 10.50 * (X)$$

$$T = 10.50 * 162$$

$$T = 1701.00$$

$$T = 1,702 \text{ vehicle trips}$$

with 50% (851 vph) entering and 50% (851 vph) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.87 * (X)$$

$$T = 0.87 * 162$$

$$T = 140.94$$

$$T = 140 \text{ vehicle trips}$$

with 50% (70 vph) entering and 50% (70 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 220 - Apartment

Average Vehicle Trips Ends vs: Dwelling Units
Independent Variable (X): 595

AVERAGE WEEKDAY DAILY

$$T = 6.65 * (X)$$

$$T = 6.65 * 595$$

$$T = 3956.75$$

$$T = 3,956 \text{ vehicle trips}$$

with 50% (1,978 vpd) entering and 50% (1,978 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.49 * (X) + 3.73$$

$$T = 0.49 * 595 + (3.73)$$

$$T = 295.28$$

$$T = 295 \text{ vehicle trips}$$

with 20% (59 vph) entering and 80% (236 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$T = 0.55 * (X) + 17.65$$

$$T = 0.55 * 595 + (17.65)$$

$$T = 344.90$$

$$T = 345 \text{ vehicle trips}$$

with 65% (224 vph) entering and 35% (121 vph) exiting.

SATURDAY DAILY

$$T = 6.39 * (X)$$

$$T = 6.39 * 595$$

$$T = 3802.05$$

$$T = 3,802 \text{ vehicle trips}$$

with 50% (1,901 vpd) entering and 50% (1,901 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.52 * (X)$$

$$T = 0.52 * 595$$

$$T = 309.40$$

$$T = 310 \text{ vehicle trips}$$

with 50% (155 vpd) entering and 50% (155 vpd) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 230 - Residential Condominium/Townhouse

Average Vehicle Trips Ends vs: Dwelling Units

Independent Variable (X): 96

AVERAGE WEEKDAY DAILY

$$\ln T = 0.870 \ln (X) + 2.46$$

$$\ln T = 0.870 \ln 96 + (2.46)$$

$$\ln T = 6.43$$

$$T = 620.78$$

T = 620 vehicle trips

with 50% (310 vpd) entering and 50% (310 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.80 \ln (X) + 0.26$$

$$\ln T = 0.80 \ln 96 + (0.26)$$

$$\ln T = 3.91$$

$$T = 49.97$$

T = 50 vehicle trips

with 17% (9 vpd) entering and 83% (41 vpd) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

$$\ln T = 0.82 \ln (X) + 0.32$$

$$\ln T = 0.82 \ln 96 + (0.32)$$

$$\ln T = 4.06$$

$$T = 58.13$$

T = 58 vehicle trips

with 67% (39 vph) entering and 33% (19 vph) exiting.

SATURDAY DAILY

$$T = 5.67 * (X)$$

$$T = 5.67 * 96$$

$$T = 544.32$$

T = 544 vehicle trips

with 50% (272 vpd) entering and 50% (272 vpd) exiting.

SATURDAY MIDDAY PEAK HOUR OF GENERATOR

$$T = 0.29 * (X) + 42.63$$

$$T = 0.29 * 96 + (42.63)$$

$$T = 70.47$$

T = 70 vehicle trips

with 54% (38 vph) entering and 46% (32 vph) exiting.

TUSCAN VILLAGE TRIP GENERATION BUDGET - EXTERNAL VEHICLE-TRIPS (02/01/19)

	<u>WEEKDAY</u>	<u>AM PEAK HOUR</u>	<u>PM PEAK HOUR</u>	<u>SATURDAY</u>	<u>SAT PEAK HOUR</u>
BUDGET FOR 170-ACRES	39,284	1,510	3,592	47,718	4,864
<u>50-ACRE NORTH VILLAGE</u>					
CUMULATIVE SUBTOTAL	15,610	658	1,300	24,056	1,768
BALANCE REMAINING	23,674	852	2,292	23,662	3,096
PERCENT UTILIZED	40%	44%	36%	50%	36%
<u>HANOVER</u>					
CUMULATIVE SUBTOTAL	16,062	792	1,317	24,578	1,812
BALANCE REMAINING	23,222	718	2,275	23,140	3,052
PERCENT UTILIZED	41%	52%	37%	52%	37%
<u>SOUTH/CENTRAL VILLAGE</u>					
CUMULATIVE SUBTOTAL	10,908	413	1,184	9,482	1,520
BALANCE REMAINING	26,970	1,205	2,501	34,060	3,332
BALANCE REMAINING	12,314	305	1,091	13,658	1,532
PERCENT UTILIZED	69%	80%	70%	71%	69%