

**SITE PLAN MEMORANDUM –
SOUTH VILLAGE & CENTRAL VILLAGE**

**TUSCAN VILLAGE (PHASE III)
SALEM, NEW HAMPSHIRE**

GPI

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PREPARED FOR:

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DECEMBER 2018

*South & Central Village Site Plan Memorandum
Tuscan Village (Phase III)
Salem, New Hampshire
December 2018*

TECHNICAL MEMORANDUM

REF: MAX-2014119.06

DATE: December 21, 2018

TO: Mr. Joseph Faro
67 Main Street
Salem, New Hampshire 03079

FROM: Ms. Heather L. Monticup, P.E., Senior Project Manager
Ms. Susannah E. Theriault, P.E., Project Engineer

RE: South & Central Village Site Plan Memorandum
Tuscan Village (Phase III)
79 Rockingham Park Boulevard/11 Central Street – Salem, New Hampshire

INTRODUCTION

Greenman-Pedersen, Inc. (GPI) has prepared this *South & Central Village Site Plan Memorandum* (Memo) for the mixed-use development located on the eastern side of the 120-acre parcel of the proposed Tuscan Village development at 79 Rockingham Park Boulevard/ 11 Central Street in Salem, New Hampshire. The Tuscan Village project consists of the redevelopment of a 50-acre parcel and a 120-acre parcel, for a total of 170 acres. The project is being permitted in three phases; Phase I includes an auto dealership on the 50-acre parcel, Phase II includes retail space (including general retail, restaurants, and a grocery store) and residential uses on the 50-acre parcel, and Phase III includes retail space (including general retail, restaurants, clubs, bowling alley, cinema, etc.), residential uses, office space, and a hotel on the 120-acre parcel.

At this point, Phases I and II are fully permitted through the Site Plan approval process. The 281 Hanover apartment units on the 120-acre parcel is currently in the Site Plan approval process. This Memo is intended to address the incremental impacts of the South and Central Villages on the 170-acre development in order to evaluate whether or not the internal and external roadway network at the time of occupancy is sufficient to accommodate the traffic based on the on-site construction and off-site improvement schedule. The GFA Land Use Plan (dated 12/13/18) that corresponds to this portion of the site is provided in the Appendix.

GPI Greenman-Pedersen, Inc.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Accordingly, the site access points during this condition are as follows:

- Node 5 – unsignalized right-in/access-only driveway (Central Street) on Main Street
- Node 9 – signalized driveway (Central Street) on NH Route 28 (South Broadway), opposite the US Post Office/Citizens Bank/Rite Aid Pharmacy driveway
- Node 12 – signalized driveway (Tuscan Boulevard) on Rockingham Park Boulevard
- Node 115 – signalized driveway (Artisan Drive) on Mall Road (NH Route 38), opposite the Mall driveway (near Dick's Sporting Goods)
- Node 18 – unsignalized driveway (Village Way) on Pleasant Street
- Node 19 – signalized driveway (Market Place) on NH Route 28 (South Broadway), between the Post Office driveway and Rockingham Park Boulevard

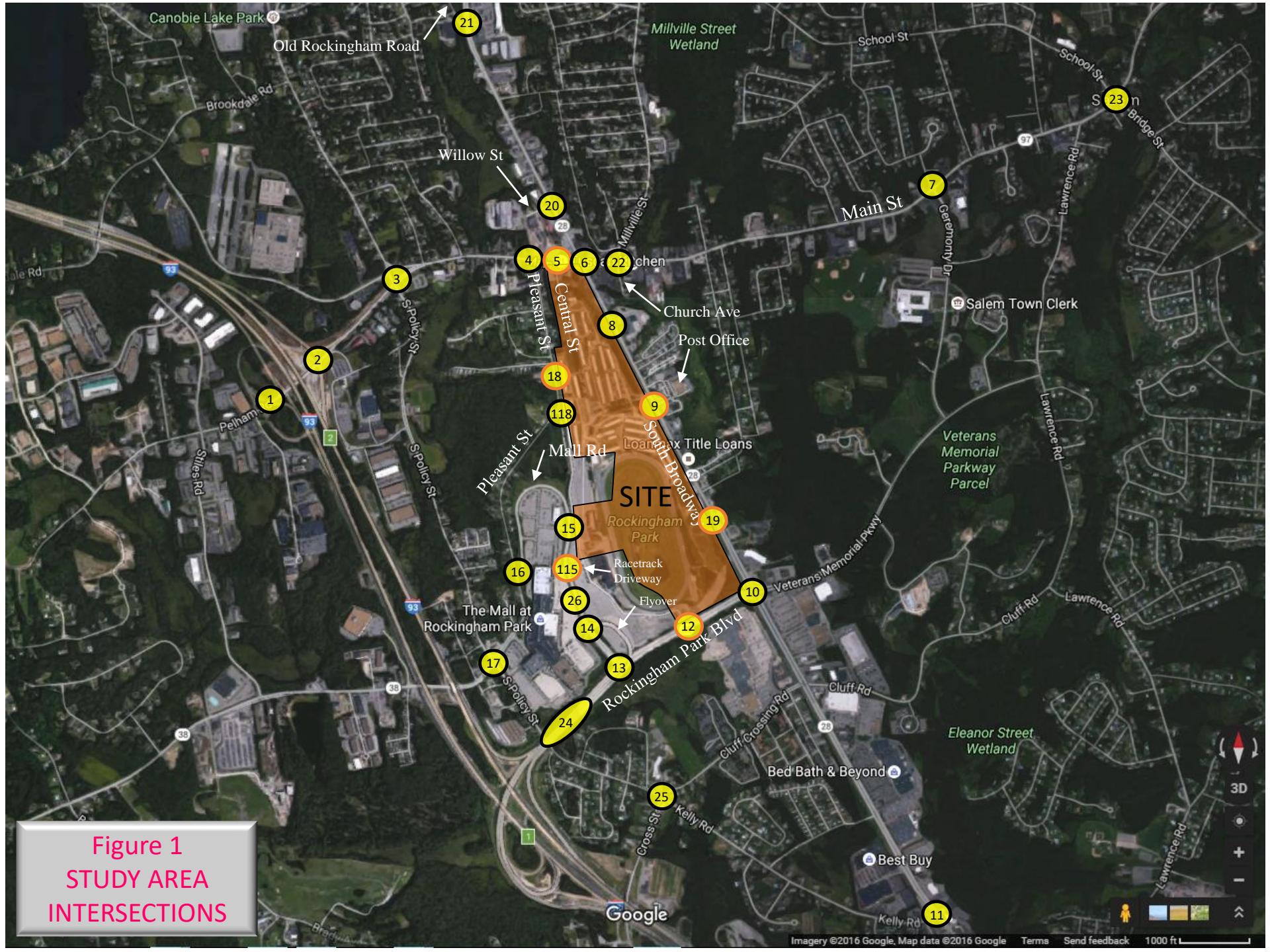
The study area intersections for this scenario are shown on the map on Figure 1.

TRIP-GENERATION

Trip-Generation Methodology

Traffic to be generated by the proposed South and Central Villages was forecast using the trip-generation information provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*¹ 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 TIAS Addendum for the entire 170-acre parcel (based on Masterplan 6-5-17) and what was conceptually approved by the Planning Board (based on Masterplan 7-31-18). All trip-generation data are provided in the Appendix.

¹*Trip Generation Manual*, 9th Edition; Institute of Transportation Engineers; Washington, DC; 2012.



SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Table 1
TRIP-GENERATION LAND USES

Land Use	TIAS Addendum ^a	Conceptual Approval ^b	Current Site ^c	ITE Land Use Code
Retail (includes restaurants, cinema, and bowling alley)	1,250,000 SF	773,450 SF	750,200 SF	LUC 820
General Office	104,000 SF	475,000 SF	250,000 SF	LUC 710
Medical Office	100,000 SF	200,000 SF	--	LUC 720
University/College	--	100,000 SF	--	LUC 550
Hotel	175 ROOMS	160 ROOMS	162 ROOMS	LUC 310
Apartments	556 UNITS	612 UNITS	595 UNITS	LUC 220
Townhomes	96 UNITS	96 UNITS	96 UNITS	LUC 230
Senior Housing	--	20 UNITS	--	LUC 251
Assisted Living	160 UNITS	165 UNITS	--	LUC 254

^a Full site based on Masterplan dated June 5, 2017 and final Site Plans for North Village.

^b Full site based on Masterplan 7-31-18.

^c Partial site based on Final 50-Acre Development, Hanover Site, and South/Central Village.

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*.² These data revealed a 17 percent internal capture rate for the weekday daily, a 8 percent internal capture rate during the weekday AM peak hour, a 19 percent internal capture rate during the weekday PM peak hour, a 12 percent internal capture rate for the Saturday daily, and a 11 percent internal capture rate during Saturday midday peak hour. The Multi-Use Development Trip Generation and Internal Capture Worksheets are provided in the Appendix.

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. Therefore, the proposed project is anticipated to have less impact on the adjacent roadways system beyond the site

² *Trip Generation Handbook*; 3rd Edition; Institute of Transportation Engineers; Washington, DC; August 2014.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

driveways due to the higher than expected new trips. Table 2 summarizes the results of the trip-generation estimates.

It should also be mentioned that in addition to the multi-use and pass-by trips, the Town of Salem and its Traffic Peer Review Consultant also approved an internal walking and biking credit due to the nature of the Tuscan Village development. Accordingly, it was assumed that 33% of shared trips would opt to walk or bike if they are between 0.25 and 0.5 miles away from their destination and 55% of shared trips would opt to walk or bike if they are less than 0.25 miles away from their destination.

Table 2
TRIP-GENERATION SUMMARY –
FINAL 50-ACRE DEVELOPMENT, HANOVER, SOUTH & CENTRAL VILLAGE

Time Period/Direction	Total Trips ^a	External Trips ^b	Pass-By Trips ^c	New Trips ^d
Weekday Daily	33,820	27,920	5,610	22,310
Weekday AM Peak Hour:				
Enter	811	757	62	695
Exit	<u>574</u>	<u>520</u>	<u>62</u>	<u>458</u>
Total	1,385	1,277	124	1,153
Weekday PM Peak Hour:				
Enter	1,490	1,194	254	940
Exit	<u>1,710</u>	<u>1,414</u>	<u>254</u>	<u>1,160</u>
Total	3,200	2,608	508	2,100
Saturday Daily	39,550	34,990	7,650	27,340
Saturday Midday Peak Hour:				
Enter	2,006	1,785	378	1,407
Exit	<u>1,862</u>	<u>1,641</u>	<u>378</u>	<u>1,263</u>
Total	3,868	3,426	756	2,670

^a Based on ITE Land Use Codes provided in the ITE Trip-Generation Manual for Final 50-Acre Development, Hanover Site, plus South/Central Village based on LUC 820 for 750,200 sf, LUC 710 for 250,000 sf, LUC 310 for 162 rooms, LUC 220 for 595 units, and LUC 230 for 96 units.

^b Based on above ITE Land Use Codes utilizing the internal trip capture estimation for mixed-use developments provided in the ITE Trip-Generation Handbook.

^c 25 percent of Total External Trips for all uses with a *pass-by* rate in the ITE Trip-Generation Handbook.

^d Total External Trips minus Pass-by Trips.

As shown in Table 2, assuming full occupancy of the North Village, the Hanover Site, and the South and Central Villages within Tuscan Village, the 170-acre site is expected to generate

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

1,153 *new* vehicle trips (695 entering and 458 exiting) during the weekday AM peak hour, 2,100 *new* vehicle trips (940 entering and 1,160 exiting) during the weekday PM peak hour, and 2,670 *new* vehicle trips (1,407 entering and 1,263 exiting) during the Saturday midday peak hour.

Trip-Generation Comparison to 170-Acre Development

A final comparison is provided to the entire 170-acre development based on the Traffic Impact and Access Study – Addendum 8/18/17 prepared for the project.³ Accordingly, the 50-acre development, Hanover site, and South/Central Village traffic volumes have been compared to what has been approved for the 170-acre parcel and are presented in Table 3. All trip-generation data are provided in the Appendix.

As shown in Table 3, with the construction and occupancy of the 50-acre development (North Village), the 281 apartment units (Hanover) on the 120-acre parcel, and the South and Central Villages on the 120-acre parcel, on average, 73 percent of the approved new trips of the entire Tuscan Village development will be permitted on a daily basis and 77 percent of the approved new trips on a peak hour basis.

³ Greenman-Pedersen, Inc. (GPI), *Traffic Impact and Access Study - Addendum 8/17/18, Tuscan Village (Phase III), Salem, New Hampshire*. August 18, 2017.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Table 3
TRIP-GENERATION COMPARISON TO 170-ACRE DEVELOPMENT

Time Period/Direction	External Trips				New Trips			
	Approved 170-Acre Development ^a	Final 50-Acre Development, Hanover, plus South/Central Village ^b	Remaining Trips to be Permitted ^c	Percent Permitted of Approved Trips ^d	Approved 170-Acre Development ^a	Final 50-Acre Development, Hanover, plus South/Central Village ^b	Remaining Trips to be Permitted ^c	Percent Permitted of Approved Trips ^d
Weekday Daily	39,300	27,920	11,380	71%	31,330	22,310	9,020	71%
Weekday AM Peak Hour:								
Enter	902	757	145	84%	817	695	122	85%
Exit	<u>608</u>	<u>520</u>	<u>88</u>	<u>86%</u>	<u>523</u>	<u>458</u>	<u>65</u>	<u>88%</u>
Total	1,510	1,277	233	85%	1,340	1,153	187	86%
Weekday PM Peak Hour:								
Enter	1,672	1,194	478	71%	1,304	940	364	72%
Exit	<u>1,920</u>	<u>1,414</u>	<u>506</u>	<u>74%</u>	<u>1,552</u>	<u>1,160</u>	<u>392</u>	<u>75%</u>
Total	3,592	2,608	984	73%	2,856	2,100	756	74%
Saturday Daily	47,700	34,990	12,710	73%	36,970	27,340	9,630	74%
Saturday Midday Peak Hour:								
Enter	2,553	1,785	768	70%	2,026	1,407	619	69%
Exit	<u>2,311</u>	<u>1,641</u>	<u>670</u>	<u>71%</u>	<u>1,784</u>	<u>1,263</u>	<u>521</u>	<u>71%</u>
Total	4,864	3,426	1,438	70%	3,810	2,670	1,140	70%

^a Trips of Approved 170-Acre Development (TIAS Addendum 8-18-17) based on LUC 820 for 1,250,000 sf, LUC 710 for 104,000 sf, LUC 720 for 100,000 sf, LUC 310 for 175 rooms, LUC 220 for 556 units, LUC 230 for 96 units, and LUC 254 for 160 units.

^b Trips of Final 50-Acre Development, Hanover Site, plus South/Central Village based on LUC 820 for 750,200 sf, LUC 710 for 250,000 sf, LUC 310 for 162 rooms, LUC 220 for 595 units, and LUC 230 for 96 units (from Table 2).

^c Trips of Approved 170-Acre Development minus Trips of Final 50-Acre Development, Hanover Site, plus South/Central Village.

^d Percent of Trips of Final 50-Acre Development, Hanover Site, plus South/Central Village over Trips of Approved 170-Acre Development.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

EXPECTED MITIGATION

The proposed mitigation that was approved for the 170-acre project is shown in Table 4 and is color coded with 50-acre improvements (green) as well as 120-acre improvements (blue). The signal timing modifications at 11 locations (6 final and 5 interim) will be completed as part of the opening of Market Basket on the 50-acre site. The internal roadways within the 120-acre site are scheduled to be completed by Fall 2019. It is expected that the South Village will be constructed first and the Central Village will follow. As part of the South Village, the construction of the site driveway on Rockingham Park Boulevard (Node 12) will be completed. As part of the Central Village, the southern site driveway on South Broadway (Node 19) will be complete. Once Tuscan Boulevard is open to traffic from Rockingham Park Boulevard (Node 12), the final signal timing modifications will be implemented at 5 locations that previously had interim modifications.

Accordingly, with the opening of the first store in the South Village, access/egress will be available via Main Street (Node 5), South Broadway (Nodes 9), Rockingham Park Boulevard (Node 12), Mall Road (Node 115), and Pleasant Street (Node 18). Once occupancy occurs in Central Village, access/egress will be provided at all of these points as well as at the southern site driveway on South Broadway (Node 19).

CONSTRUCTION SCHEDULE

As the 120-acre parcel proceeds through the Site Plan permitting process, Table 5 provides the preliminary schedule for project phasing and off-site improvements. This information will be updated as necessary as the rest of the 120-acre parcel is permitted.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Table 4
PROPOSED MITIGATION

Study Area Intersection	Tuscan Village Mitigation Commitments – 50-acre commitments / 120-acre commitments
1 – NH 97 at I-93 SB On/Off-Ramps (Exit 2)	Signal timing modifications during AM/PM/SAT.
2 – NH 97 at I-93 NB On/Off-Ramps (Exit 2)	Signal timing modifications during AM/PM/SAT.
3 – NH 97 at N. Policy Street and S. Policy Street	Remove the exclusive pedestrian phase and implement concurrent pedestrian phasing for pedestrians to cross South Policy Street. Signal timing modifications during AM/PM/SAT.
4 – NH 97 at Pleasant Street and Tuscan Market Driveway	Fair-share contribution to be determined with the Town of Salem.
5 – NH 97 at Central Street and Tuscan Kitchen Driveway	Central Street will be reconstructed to be a right-in/right-out only roadway.
6 – NH 97 at N. Broadway/S. Broadway – The Depot	Coordination of South Broadway corridor during AM/PM/SAT. Fair-share contribution to be determined with the NHDOT and Town of Salem. *The owner of the Tuscan Village project has committed to funding a portion of the land takings required by the Town of Salem in order to construct a sidewalk along the west side of South Broadway (NH Route 28) as part the Town's improvements at this location.
7 – NH 97 at Geremony Drive	Signal timing modifications during AM/PM/SAT. Fair-share contribution to be determined with the Town of Salem and/or NHDOT.
8 – NH 28 at Coca-Cola Driveway and Site Driveway	Donation of land along site frontage as requested by the NHDOT (13-feet wide). Signalize intersection and coordinate with South Broadway corridor during AM/PM/SAT. Construct a southbound left-turn lane.
9 – NH 28 at Post Office Driveway and Site Driveway	Coordination of South Broadway corridor during AM/PM/SAT. (Construction of exclusive left-turn lanes, all new signal equipment/poles/mast arms and other geometric improvements to the Post Office driveway - being done as part of Phase I [Auto Dealership]).
10 – NH 28 at Rockingham Park Blvd and Veterans Memorial Pkwy	Coordination of South Broadway corridor during AM/PM/SAT. Fair-share contribution to be determined with the Town of Salem and/or NHDOT.
11 – NH 28 at Kelly Road and Shared Retail Driveway	Coordination of South Broadway corridor during AM/PM/SAT. Add pedestrian equipment and phasing for NH28 crosswalk.
12 – Rockingham Park Blvd at Racetrack Driveway/Site Driveway	Coordination of Rockingham Park Boulevard corridor during AM/PM/SAT. Construction of an additional eastbound left-turn lane along with new signal equipment to accommodate the new lanes and relocation of the existing equipment. (This driveway will not be used until Design Anchor Store is open).
13 – Rockingham Park Blvd at Mall Road	Coordination of Rockingham Park Boulevard corridor during AM/PM/SAT - Interim and Final. Construction of an additional Rockingham Park Boulevard eastbound left-turn lane and westbound through lane along with new signal equipment to accommodate the new lanes and relocation of the existing equipment.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Table 4 (continued)
PROPOSED MITIGATION

Study Area Intersection	Tuscan Village (170-Acres) Mitigation Commitments
14 – Mall Road at Mall Driveway and Rockingham Park Blvd Flyover	Restripe flyover westbound approach to provide two right-turn lanes. Signal timing modifications during AM/PM/SAT -- Interim and Final.
115 – Mall Road at Mall Driveway and Site Driveway	Widen and restripe Mall Road northbound approach to provide an exclusive right-turn lane into the site. Install new signal equipment to accommodate the new lanes and relocation of existing equipment. Signal phasing/timing modifications during AM/PM/SAT.
15 – Mall Road at Mall Driveway (Sears)	N/A.
16 – Mall Road at Pleasant Street	Signal timing modifications during AM/PM/SAT.
17 – Pleasant Street/Lowell Road at South Policy Street	Signal timing modifications during AM/PM/SAT.
18 – Pleasant Street at Site Driveway	N/A
118 – Pleasant Street at Site Access Road	Install STOP sign and STOP line on site access road which will be gated.
19 – South Broadway at Site Driveway	Signalize intersection and coordinate with Rockingham Park Boulevard corridor during AM/PM/SAT. Restripe South Broadway in the northbound direction to include two exclusive northbound left-turn lanes and two through lanes. Construct a channelized southbound right-turn lane on South Broadway. Install NO TURN ON RED signs that light up when the pedestrian button is pushed.
20 – North Broadway at Willow Street	Signalize intersection and coordinate with South Broadway corridor during AM/PM/SAT. Construct a northbound left-turn lane.
21 – North Broadway at Old Rockingham Road/Retail Plaza	Signal timing modifications during AM/PM/SAT.
22 – Main Street at Church Avenue and Millville Street	Signalize intersection and coordinate with Main Street corridor during AM/PM/SAT. Align Church Avenue and Millville Street and construct a westbound left-turn lane and northbound right-turn lane.
23 – Main Street at Bridge Street and School Street	Signal timing modifications during AM/PM/SAT.
24 – Interstate-93 Exit 1 Merge and Diverge Areas	N/A
25 – S. Policy Street and Kelly Road at Cross Street and Cluff Crossing Road	Signal timing modifications during AM/PM/SAT.
26 – Mall Road at Site Driveway (Right-In/Right-Out)	Widen Mall Road northbound approach to provide an exclusive right-turn lane into the site.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

Table 5
PROJECT PHASING AND SCHEDULE

	Development Phase	Scheduled Occupancy
I.	Internal Roadway/Infrastructure/Lake/Floodplain	May 2019 (Tuscan Blvd/Artisan Dr between Central St & Mall Rd) Summer/Fall 2019 (remainder of internal roadway and lake)
II.	Medical Outparcel (Site B)	September 2021
III.	South Village (Site A)	September 2021
IV.	Hanover Apartments (Site K)	July 2020 (66 Units) October 2020 (110 Units) January 2021 (105 Units)
V.	Mall Road Outparcels & Maintenance Buildings (Sites G, H, and M)	March 2019 (Site M) November 2019 (Site G) March 2020 (Site H)
VI.	Central Village (Sites C, E, and F)	September 2021
VII.	Corporate Office/Higher Education (Sites D, I, and J)	May 2022
VIII.	Assisted Living (Site L)	May 2022
	Off-Site Improvement Phase	Schedule Completion
I.	Interim Signal Timing Modifications	May 2019
II.	Mall Road	December 2019
III.	NH Route 28 Southern Site Driveway (Node 19)	June 2021
IV.	NH Route 28	June 2021
V.	Rockingham Park Boulevard	September 2021
VI.	Final Signal Timing Modifications	September 2021

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

CONCLUSIONS

The addition of the South and Central Village to the 170-Acre Tuscan Village development has been evaluated with respect to the traffic volumes. Conclusions of this effort are presented below.

- When the South and Central Villages receive their certificate of occupancy, the following access and egress points will be open; Main Street (Node 5), South Broadway (Nodes 9 and 19), Rockingham Park Boulevard (Node 12), Mall Road (Node 115), and Pleasant Street (Node 18).
- Assuming full occupancy of the North Village, the Hanover Site, and the South and Central Villages within Tuscan Village, the 170-acre site is expected to generate 1,153 *new* vehicle trips (695 entering and 458 exiting) during the weekday AM peak hour, 2,100 *new* vehicle trips (940 entering and 1,160 exiting) during the weekday PM peak hour, and 2,670 *new* vehicle trips (1,407 entering and 1,263 exiting) during the Saturday midday peak hour.
- Assuming full occupancy of the North Village, the Hanover Site, and the South and Central Villages within Tuscan Village, the 170-acre site is expected to generate 1,277 *external* vehicle trips (757 entering and 520 exiting) during the weekday AM peak hour, 2,608 *external* vehicle trips (1,194 entering and 1,414 exiting) during the weekday PM peak hour, and 3,426 *external* vehicle trips (1,785 entering and 1,641 exiting) during the Saturday midday peak hour.
- With the construction and occupancy of the 50-acre development (North Village), the 281 apartment units (Hanover), and the South and Central Villages on the 120-acre parcel, on average, 72 percent of the approved external/new trips for the entire Tuscan Village development will be permitted on a daily basis and 76 percent of the approved external/new trips on a peak hour basis.
- As part of the South Village, the construction of the site driveway on Rockingham Park Boulevard (Node 12) will be completed. As part of the Central Village, the southern site driveway on South Broadway (Node 19) will be complete. All roadway and traffic signal improvement projects and signal timing modifications are expected to be completed by September 2021.

SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

APPENDIX

GFA LAND USE PLAN DATED 12/13/18
TRIP-GENERATION DATA

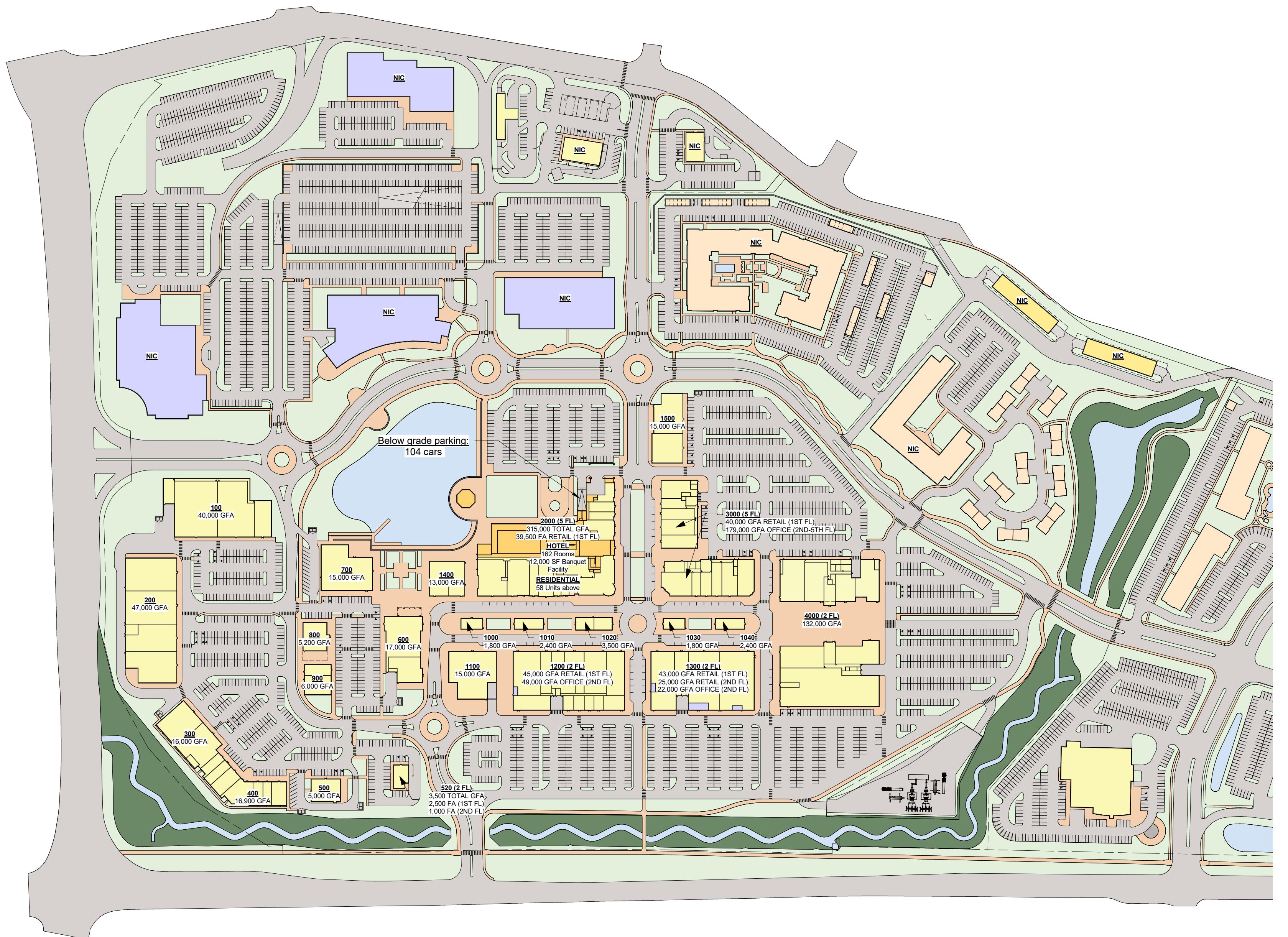
SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

GFA LAND USE PLAN DATED 12/13/18

TUSCAN VILLAGE

SALEM, NH
PCA PROJECT #15076.00



REVISIONS:

ORIGINAL ISSUE:
12/13/18

**PERMITTING -
GFA LAND USE PLAN**

A6.01

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SOUTH & CENTRAL VILLAGE SITE PLAN MEMORANDUM

Tuscan Village (Phase III) – Salem, New Hampshire

TRIP-GENERATION DATA

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
<hr/>					
<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>	452	134	17	522	44
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>	11,854	485	1,291	10,414	1,614
CUMULATIVE SUBTOTAL	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%

HANOVER INCREASES STILL USE 50-ACRE METHODOLOGY

(1) TIAS Addendum 8/18/17				(2) Site Plan III Memo 5/19/17				(3) Final 50-Acre Development (50-acre methodology)				(4) Final 50-Acre Development plus Hanover (50-acre methodology)				Additional Trips as a result of Hanover (over Final 50-Acre Development)				Additional Trips as a result of Hanover (over Approved 50-Acre Development)					
Weekday Daily	Entering	23,178	19,642	3,975	15,667	9,067	8,045	1,704	6,341	8,827	7,805	1,643	6,162	9,762	8,031	1,562	6,469	935	226	-81	307	695	-14	-142	128
	Exiting	<u>23,178</u>	<u>19,642</u>	<u>3,975</u>	<u>15,667</u>	<u>9,067</u>	<u>8,045</u>	<u>1,704</u>	<u>6,341</u>	<u>8,827</u>	<u>7,805</u>	<u>1,643</u>	<u>6,162</u>	<u>9,762</u>	<u>8,031</u>	<u>1,562</u>	<u>6,469</u>	<u>935</u>	<u>226</u>	<u>-81</u>	<u>307</u>	<u>695</u>	<u>-14</u>	<u>-142</u>	<u>128</u>
	Total	46,356	39,284	7,950	31,334	18,134	16,090	3,408	12,682	17,654	15,610	3,286	12,324	19,524	16,062	3,124	12,938	1,870	452	-162	614	1,390	-28	-284	256
Weekday AM Peak Hour	Entering	965	902	85	817	351	349	52	297	345	343	51	292	372	368	51	317	27	25	0	25	21	19	-1	20
	Exiting	<u>671</u>	<u>608</u>	<u>85</u>	<u>523</u>	<u>321</u>	<u>319</u>	<u>52</u>	<u>267</u>	<u>317</u>	<u>315</u>	<u>51</u>	<u>264</u>	<u>428</u>	<u>424</u>	<u>51</u>	<u>373</u>	<u>111</u>	<u>109</u>	<u>0</u>	<u>109</u>	<u>107</u>	<u>105</u>	<u>-1</u>	<u>106</u>
	Total	1,636	1,510	170	1,340	672	668	104	564	662	658	102	556	800	792	102	690	138	134	0	134	128	124	-2	126
Weekday PM Peak Hour	Entering	2,001	1,672	368	1,304	788	392	142	550	767	671	136	535	867	702	128	574	100	31	-8	39	79	310	-14	24
	Exiting	<u>2,249</u>	<u>1,920</u>	<u>368</u>	<u>1,552</u>	<u>747</u>	<u>651</u>	<u>142</u>	<u>509</u>	<u>725</u>	<u>629</u>	<u>136</u>	<u>493</u>	<u>780</u>	<u>615</u>	<u>128</u>	<u>487</u>	<u>55</u>	<u>-14</u>	<u>-8</u>	<u>-6</u>	<u>33</u>	<u>-36</u>	<u>-14</u>	<u>-22</u>
	Total	4,250	3,592	736	2,856	1,535	1,343	284	1,059	1,492	1,300	272	1,028	1,647	1,317	256	1,061	155	17	-16	33	112	-26	-28	2
Saturday Daily	Entering	26,401	23,978	5,372	18,606	13,120	13,087	2,861	10,226	12,802	12,028	2,693	9,335	13,700	12,289	2,617	9,672	898	261	-76	337	580	-798	-244	-554
	Exiting	<u>26,163</u>	<u>23,740</u>	<u>5,372</u>	<u>18,368</u>	<u>13,120</u>	<u>13,087</u>	<u>2,861</u>	<u>10,226</u>	<u>12,802</u>	<u>12,028</u>	<u>2,693</u>	<u>9,335</u>	<u>13,700</u>	<u>12,289</u>	<u>2,617</u>	<u>9,672</u>	<u>898</u>	<u>261</u>	<u>-76</u>	<u>337</u>	<u>580</u>	<u>798</u>	<u>244</u>	<u>554</u>
	Total	52,564	47,718	10,744	36,974	26,240	26,174	5,722	20,452	25,604	24,056	5,386	18,670	27,400	24,578	5,234	19,344	1,796	522	-152	674	1,160	-1,596	-488	-1,108
Saturday Midday Peak Hour	Entering	2,865	2,553	527	2,026	1,014	1,011	202	809	983	910	186	724	1,056	932	180	752	73	22	-6	28	42	-79	-22	-57
	Exiting	<u>2,623</u>	<u>2,311</u>	<u>527</u>	<u>1,794</u>	<u>961</u>	<u>958</u>	<u>202</u>	<u>756</u>	<u>931</u>	<u>858</u>	<u>186</u>	<u>672</u>	<u>1,004</u>	<u>880</u>	<u>180</u>	<u>700</u>	<u>73</u>	<u>22</u>	<u>-6</u>	<u>28</u>	<u>43</u>	<u>-78</u>	<u>-22</u>	<u>-56</u>
	Total	5,488	4,864	1,054	3,810	1,975	1,969	404	1,565	1,914	1,768	372	1,396	2,060	1,812	360	1,452	146	44	-12	56	85	-157	-44	-113

ALL FUTURE INCREASES WILL FOLLOW 170-ACRE METHODOLOGY

				(4) Final 50-Acre Development plus Hanover (50-acre methodology)				(5) 50-Acre Development plus Hanover and Central/South Village				Additional Trips as a result of Central/South Village										
	Total Trips	9,762	8,031	1,562	6,469	16,911	13,958	2,803	11,155	7,149	5,927	1,241	4,686									
		<u>9,762</u>	<u>8,031</u>	<u>1,562</u>	<u>6,469</u>	<u>16,911</u>	<u>13,958</u>	<u>2,803</u>	<u>11,155</u>	<u>7,149</u>	<u>5,927</u>	<u>1,241</u>	<u>4,686</u>									
		19,524	16,062	3,124	12,938	33,822	27,916	5,606	22,310	14,298	11,854	2,482	9,372									
						372	368	51	317	811	757	62	695	439	389	11	378					
						<u>428</u>	<u>424</u>	<u>51</u>	<u>373</u>	<u>574</u>	<u>520</u>	<u>62</u>	<u>458</u>	<u>146</u>	<u>96</u>	<u>11</u>	<u>85</u>					
						800	792	102	690	1,385	1,277	124	1,153	585	485	22	463					
										867	702	128	574	1,490	1,194	254	940	623	492	126	366	
										<u>780</u>	<u>615</u>	<u>128</u>	<u>487</u>	<u>1,710</u>	<u>1,414</u>	<u>254</u>	<u>1,160</u>	<u>930</u>	<u>799</u>	<u>126</u>	<u>673</u>	
										1,647	1,317	256	1,061	3,200	2,608	508	2,100	1,553	1,291	252	1,039	
											13,700	12,289	2,617	9,672	19,775	17,496	3,828	13,668	6,075	5,207	1,211	3,996
											<u>13,700</u>	<u>12,289</u>	<u>2,617</u>	<u>9,672</u>	<u>19,775</u>	<u>17,496</u>	<u>3,828</u>	<u>13,668</u>	<u>6,075</u>	<u>5,207</u>	<u>1,211</u>	<u>3,996</u>
											27,400	24,578	5,234	19,344	39,550	34,992	7,656	27,336	12,150	10,414	2,422	7,992
											1,056	932	180	752	2,006	1,785	378	1,407	950	853	198	655
											<u>1,004</u>	<u>880</u>	<u>180</u>	<u>700</u>	<u>1,862</u>	<u>1,641</u>	<u>378</u>	<u>1,263</u>	<u>858</u>	<u>761</u>	<u>198</u>	<u>563</u>
											2,060	1,812	360	1,452	3,868	3,426	756	2,670	1,808	1,614	396	1,218

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

750,200

250,000

595

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

External Trips																					
Discount Home Furnishing					High Turnover Sit-Down Restaurant					Corporate / Medical											
Car Dealership (LUC 841)	Retail (LUC 820)	Sporting Goods (LUC 861)	Superstore (LUC 869)	Furniture Store (LUC 890)	Supermarket (LUC 850)	Fast Food Restaurant (LUC 933)	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	0 0	0 0	0 0	0 0	0 0	1,001 1,001	0 0	0 0	0 0	0 0	531 581	1,046 1,008	164 158	0 0	0 0	13,958 13,958
0 11,210	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	2,002 2,002	0 0	0 0	0 0	0 0	1,112 2,054	322 322	0 0	0 0	0 0	27,916
0 22,426	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	319 354	0 0	0 0	0 0	0 0	63 92	58 286	9 49	0 0	0 0	757
0 308	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	35 354	0 0	0 0	0 0	0 0	29 92	228 286	40 49	0 0	0 0	520
0 188	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	354 354	0 0	0 0	0 0	0 0	92 92	286 286	49 49	0 0	0 0	1,277
0 496	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	354 354	0 0	0 0	0 0	0 0	63 92	58 286	9 49	0 0	0 0	757
0 979	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	37 37	0 0	0 0	0 0	0 0	42 42	116 116	20 20	0 0	0 0	1,194
0 1,052	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	242 242	0 0	0 0	0 0	0 0	49 49	61 61	10 10	0 0	0 0	1,414
0 2,031	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	279 279	0 0	0 0	0 0	0 0	91 91	177 177	30 30	0 0	0 0	2,608
0 15,226	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	247 247	0 0	0 0	0 0	0 0	570 570	1,271 1,271	182 182	0 0	0 0	17,496
0 15,399	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	237 237	0 0	0 0	0 0	0 0	522 522	1,171 1,171	167 167	0 0	0 0	17,496
0 30,625	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	484 484	0 0	0 0	0 0	0 0	1,092 1,092	2,442 2,442	349 349	0 0	0 0	34,992
0 1,587	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	33 33	0 0	0 0	0 0	0 0	44 44	97 97	24 24	0 0	0 0	1,785
0 1,436	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	39 39	0 0	0 0	0 0	0 0	45 45	100 100	21 21	0 0	0 0	1,641
0 3,023	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	72 72	0 0	0 0	0 0	0 0	89 89	197 197	45 45	0 0	0 0	3,426

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

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

EXTERNAL Residential CHECK			
Weekday Daily	Entering	12,748	1,210
	Exiting	12,792	1,166
	Total	25,540	2,376
Weekday AM Peak Hour	Entering	690	67
	Exiting	252	520
	Total	942	335
Weekday PM Peak Hour	Entering	1,058	136
	Exiting	1,343	71
	Total	2,401	207
Saturday Daily	Entering	16,043	1,453
	Exiting	16,158	1,338
	Total	32,201	2,791
Saturday Midday Peak Hour	Entering	1,664	121
	Exiting	1,520	121
	Total	3,184	242

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

Weekday Daily	NEW		
	Retail	Residential	CHECK
	Entering	9,945	1,270
Exiting	9,989	1,166	11,155
Total	19,934	2,376	22,310

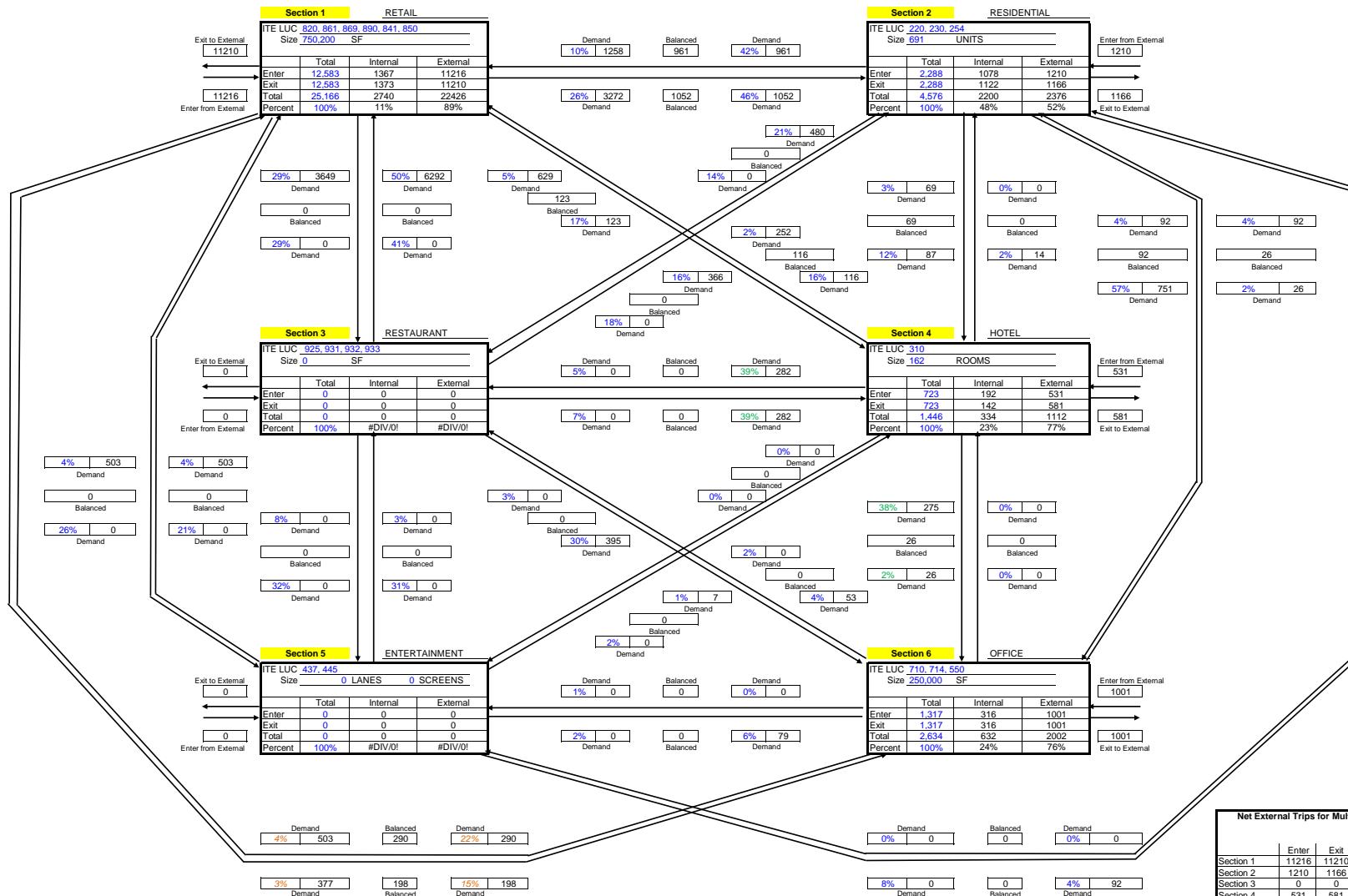
Weekday AM Peak Hour	NEW		
	628	67	695
	Entering	Exiting	Total
Exiting	190	268	458
Total	818	335	1,153

Weekday PM Peak Hour	NEW		
	804	136	940
	Entering	Exiting	Total
Exiting	1,089	71	1,160
Total	1,893	207	2,100

Saturday Daily	NEW		
	12,215	1,453	13,668
	Entering	Exiting	Total
Exiting	12,330	1,338	13,668
Total	24,545	2,791	27,336

Saturday Midday Peak Hour	NEW		
	1,286	121	1,407
	Entering	Exiting	Total
Exiting	1,142	121	1,263
Total	2,428	242	2,670

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



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

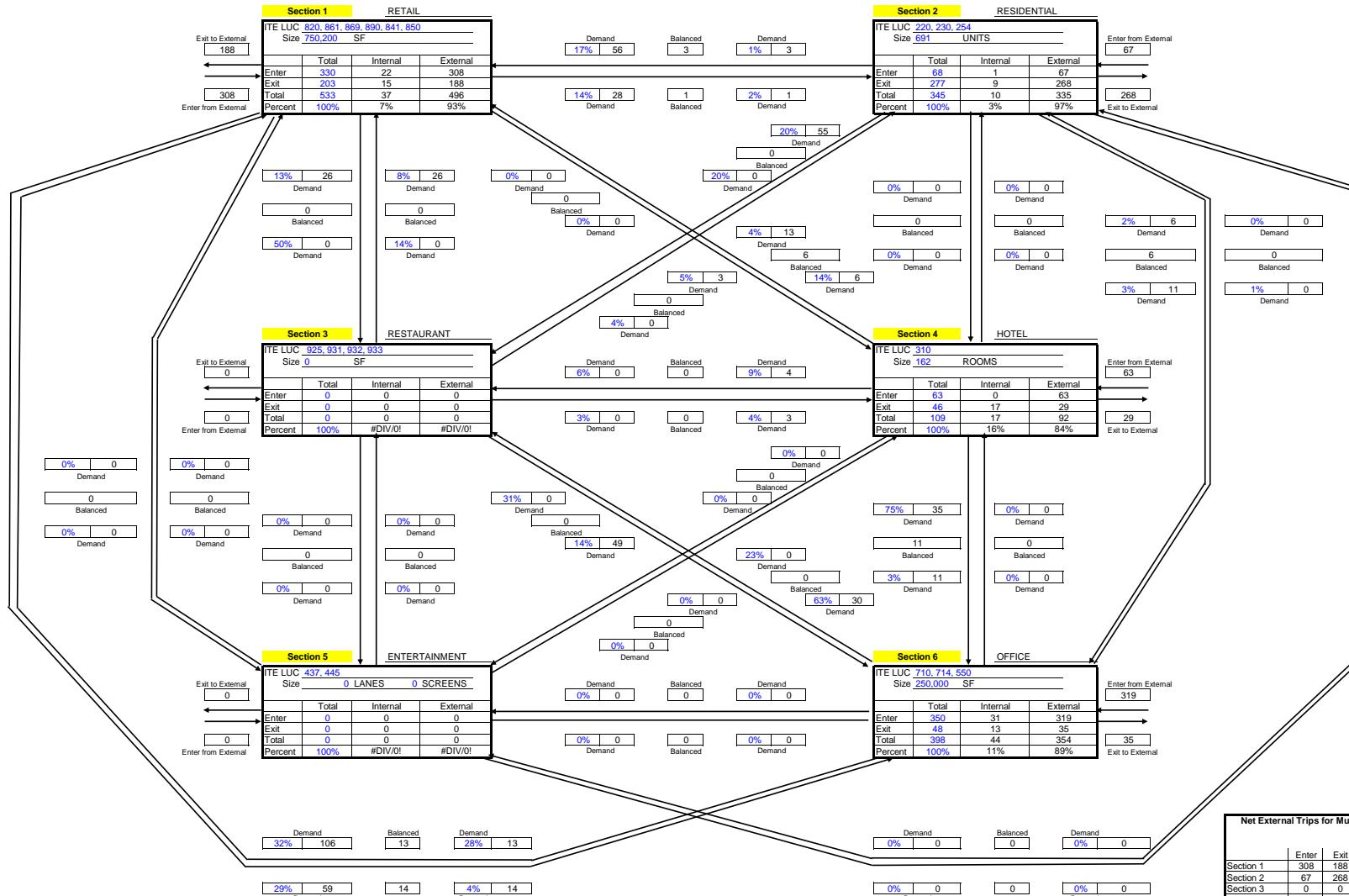
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.

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

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

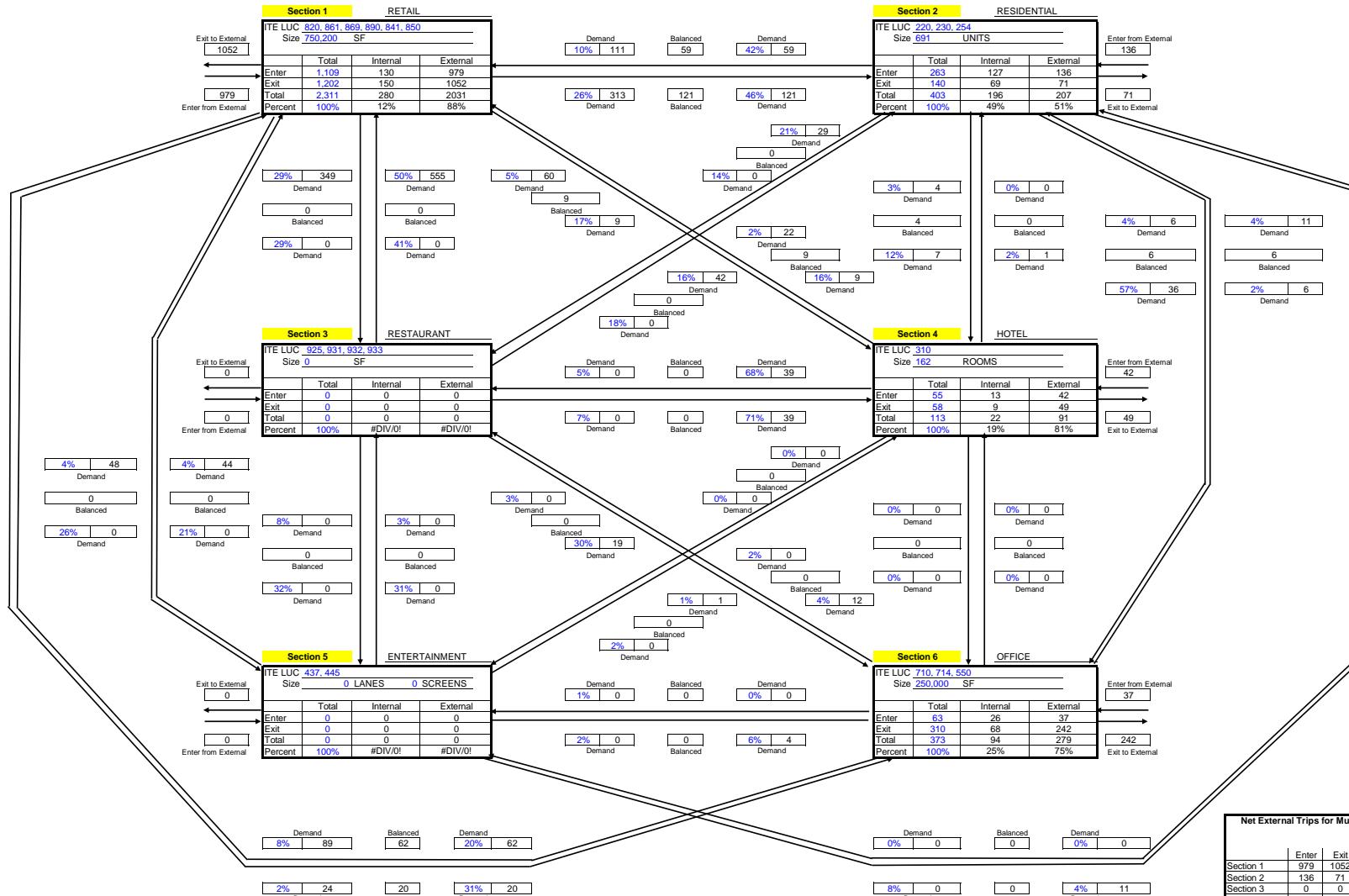
**MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY**

Name of Dvlp: Tuscan Village
 Time Period: Weekday AM



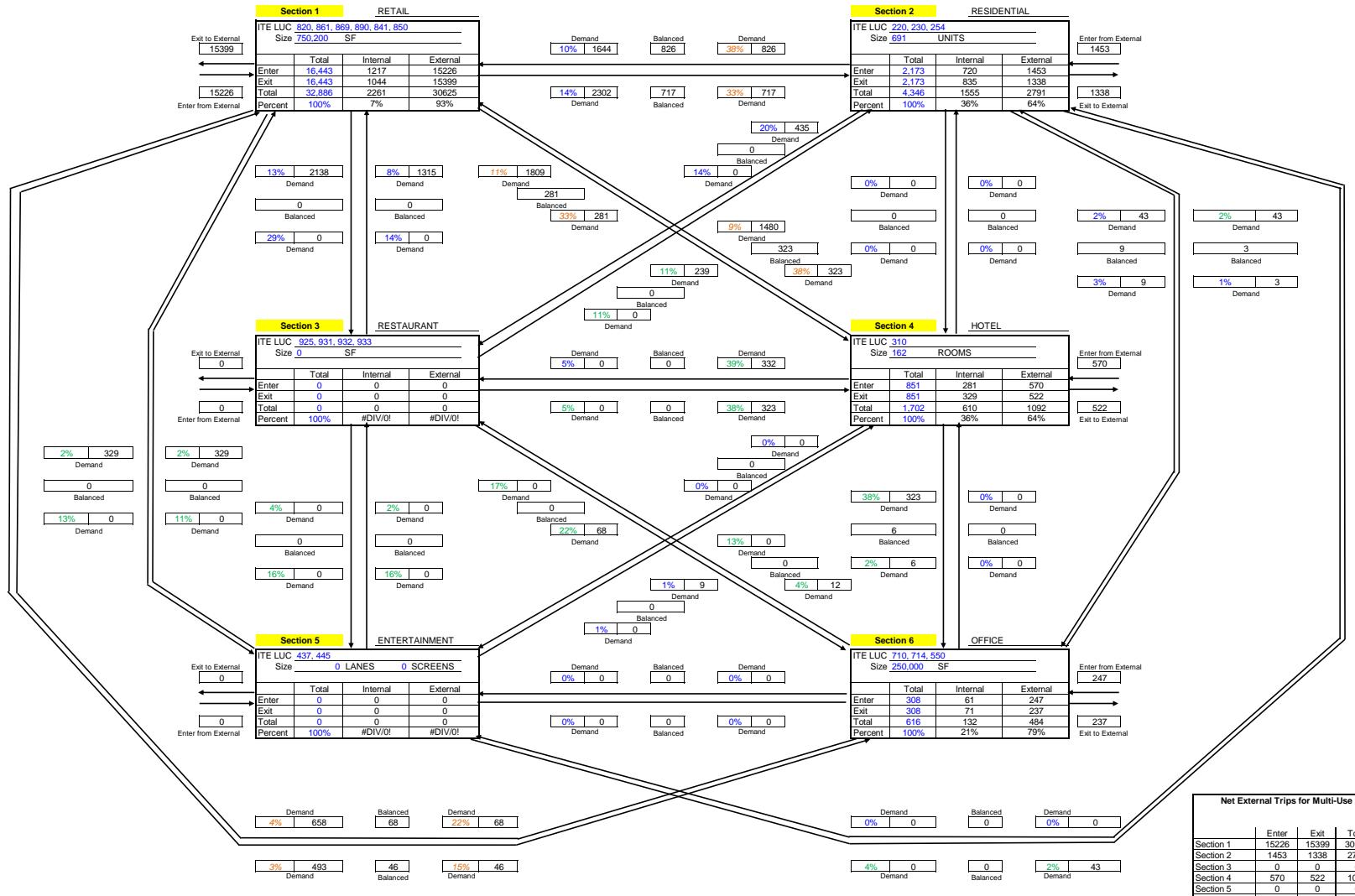
Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

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



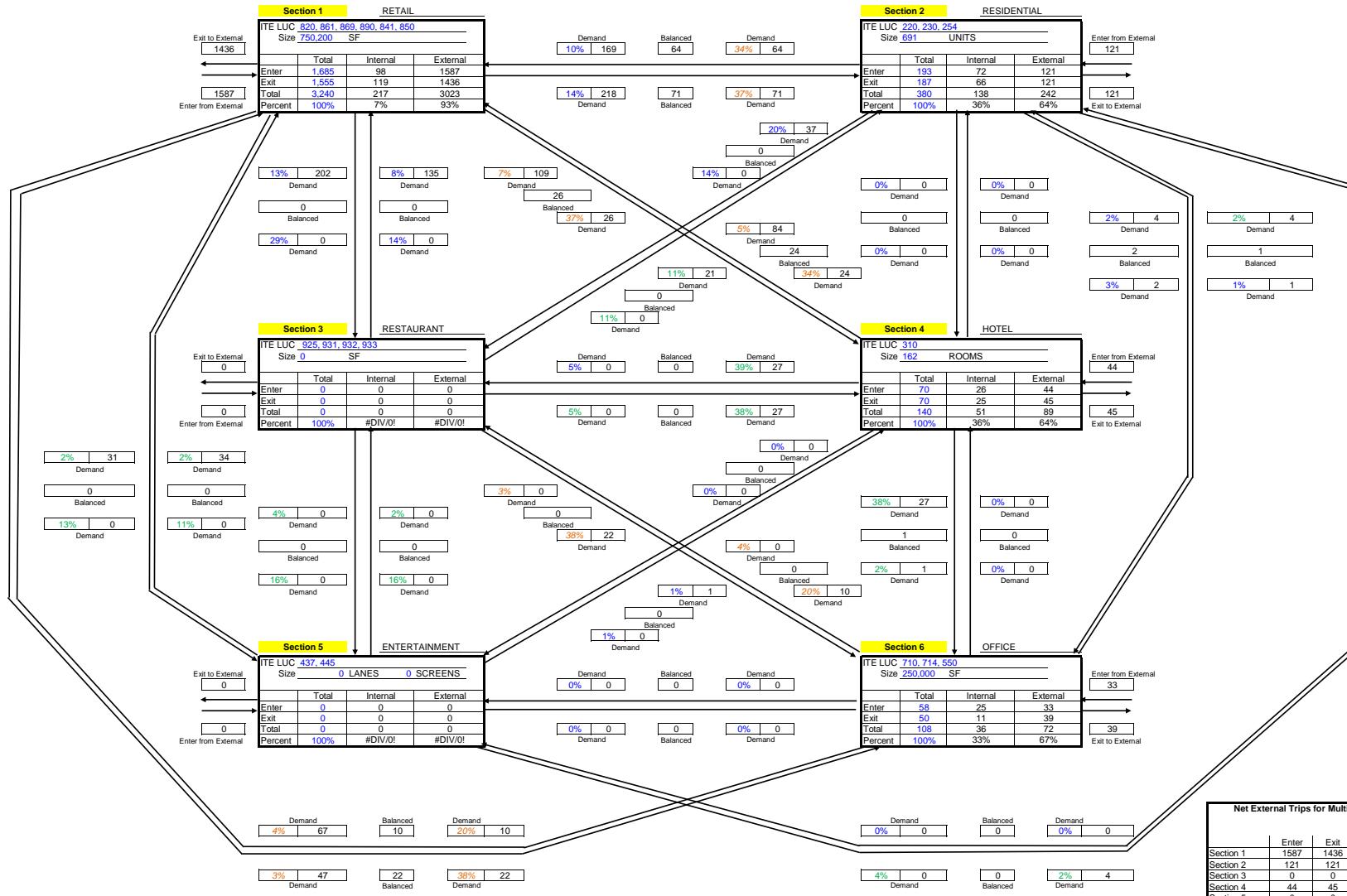
Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

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



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.

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



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): 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 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 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 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 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 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 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 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 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 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 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.