



WILMINGTON URBAN AREA Metropolitan Planning Organization

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North Carolina
BOARD OF
TRANSPORTATION

July 23, 2014

Travis Fluitt, PE

Kimley-Horn and Associates, Inc.
3001 Weston Parkway
Cary, NC 27513

RE: Scope for the Traffic Impact Analysis associated with the proposed
Blake Farm Development
Pender County, NC

Dear Mr. Fluitt:

Based on the information provided, and conversations held to date, it is our understanding that the proposed development will consist of a mixture of uses located on approximately 1,164 acres to the West of US 17 and North of Sidbury Road in Scott's Hill, Pender County, North Carolina. The conceptual land use plan indicates the site will contain the following land uses:

- 500 dwelling units of Single Family Detached Housing
- 700 dwelling units of Senior Adult Housing - Attached
- 1,798 dwelling units of Senior Adult Housing – Detached
- 50,000 square foot of Shopping Center
- 50,000 square foot of Mini-Warehouse
- 300 Room Hotel

Phase 1 will consist of:

- 500 dwelling units of Single Family Detached Housing
- 300 dwelling units of Senior Adult Housing - Attached
- 50,000 square foot of Shopping Center

The site will contain the following external access points:

- Site Access Driveway #1 on US 17
- Site Access Driveway #2 on US 17
- Huggins Road on Sidbury Road

Below please find the scope to be used for the Traffic Impact Analysis:

1. Data Collection - Analysis Parameters:

a. Existing Conditions

- i. Turning movement counts weekday AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak periods, Signal Timing (if applicable) and Lane Geometry;
 - US 17 (Market St) at Sidbury Road
 - US 17 at Scott's Hill Loop Road North
 - US 17 at Scott's Hill Loop Road South
 - US 17 at I-140
 - US 17 at Porters Neck Road
 - US 17 at NC210/Dan Owen Drive
 - US 17 at Site Access Driveway #1
 - US 17 at Site Access Driveway #2

Please note that the Wal-Mart traffic counts can only be used for US 17 at I-140, Porters Neck Road and NC 210/Dan Allen.

- ii. Signal plans may be acquired by sending an email request to NCDOT Traffic Services: Ross Kimbro, rkimbrow@ncdot.gov or by calling (910) 341-0300

b. Site Trip Generation, Site Trip Distribution and Background Traffic Assumptions

i. Site Trip Generation Estimate

- See below

ii. Site Trip Distribution

- To be determined from actual traffic counts

iii. Adjacent Development (approved (but as of yet to be built)) development including but limited to;

- Adjacent Developments are not being considered therefore a higher growth rate of 2% is being utilized.

iv. Planned Roadway Improvements

- There are no planned roadway improvements

v. Background Traffic Assumptions

- Horizon year – 2019 (phase 1) & 2029 Phase II
- Growth rate – 2% per year (or justify use of another percentage)
- Pass-by capture – Not Applicable

2. **Capacity Analysis: Week day AM & PM Peak Hour (as listed and for locations per 1.a.i)**
 - a. Existing - 2014
 - b. Background – 2019 (Phase 1) & 2029 Phase 2 [existing + background growth]
 - c. Combined - 2029 [existing + background growth + site trips]

3. **Final Report Submittal:**
 - a. Completed TIA & Application
 - b. Signed and sealed by a Professional Engineer
 - c. Five total copies of TIA
 - d. Synchro analysis files in digital format
***Six Cd's with PDF of TIA and Synchro files

4. **Notes:**
 - i. This scope shall remain valid for three months from the date of this letter.
 - ii. Please note that if any changes occur (including but not limited to; land use, intensity and/or site access) additional analysis may be required.
 - iii. Access schematic shown in TIA should be reflected in construction documents.

Please contact me if you have any questions regarding this scope.

Regards,

Amy L. Kimes, PE
 Construction Project Manager
 Wilmington MPO

Copy:	Robert Vause, District Engineer, NCDOT	Anthony Law, District Engineer, NCDOT
	Katie Hite, Division Traffic Engineer, NCDOT	Ben Hughes, NCDOT
	Jessi Booker, NCDOT	Bill McDow, WMPO
	Mike Kozlosky, Executive Director, WMPO	Kyle Breuer, Pender Co Planning

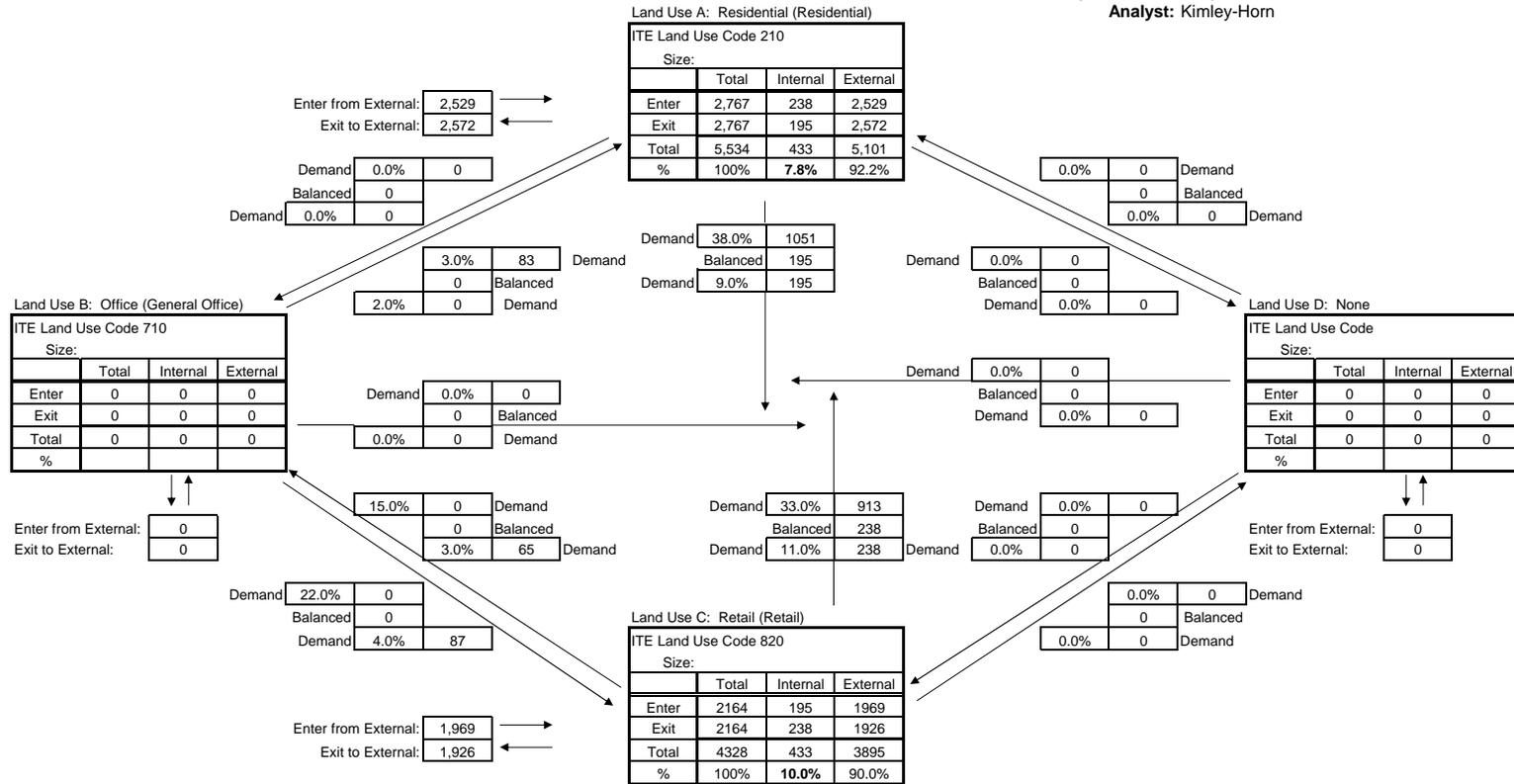
Blake Farm

Table 1 - Phase 1 Trip Generation

Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
210 Single Family Detached Housing	500	d.u.	4,618	2,309	2,309	360	90	270	447	282	165
252 Senior Adult Housing - Attached	300	d.u.	916	458	458	60	20	40	74	40	34
820 Shopping Center	50,000	s.f.	4,328	2,164	2,164	102	63	39	377	181	196
Subtotal			9,862	4,931	4,931	522	173	349	898	503	395
<i>Internal Capture</i>											
Single Family Detached Housing			362	199	163	0	0	0	34	21	13
Senior Adult Housing - Attached			71	39	32	0	0	0	6	3	3
Shopping Center			433	195	238	0	0	0	40	16	24
Internal Capture Total		8.91%	866	433	433	0	0	0	80	40	40
Total External Trips			8,996	4,498	4,498	522	173	349	818	463	355
<i>Pass-By Traffic (ITE)</i>											
820 Shopping Center	<u>AM</u>	<u>PM</u>									
	0%	34%	1,140	570	570	0	0	0	114	56	58
Total Net New External Trips			7,856	3,928	3,928	522	173	349	704	407	297

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET
 (Source: Chapter 7, ITE Trip Generation Handbook, 2nd Edition, June 2004)

Project Number: 018837000
Project Name: Blake Farm
Scenario: Phase 1
Analysis Period: Daily
Analyst: Kimley-Horn

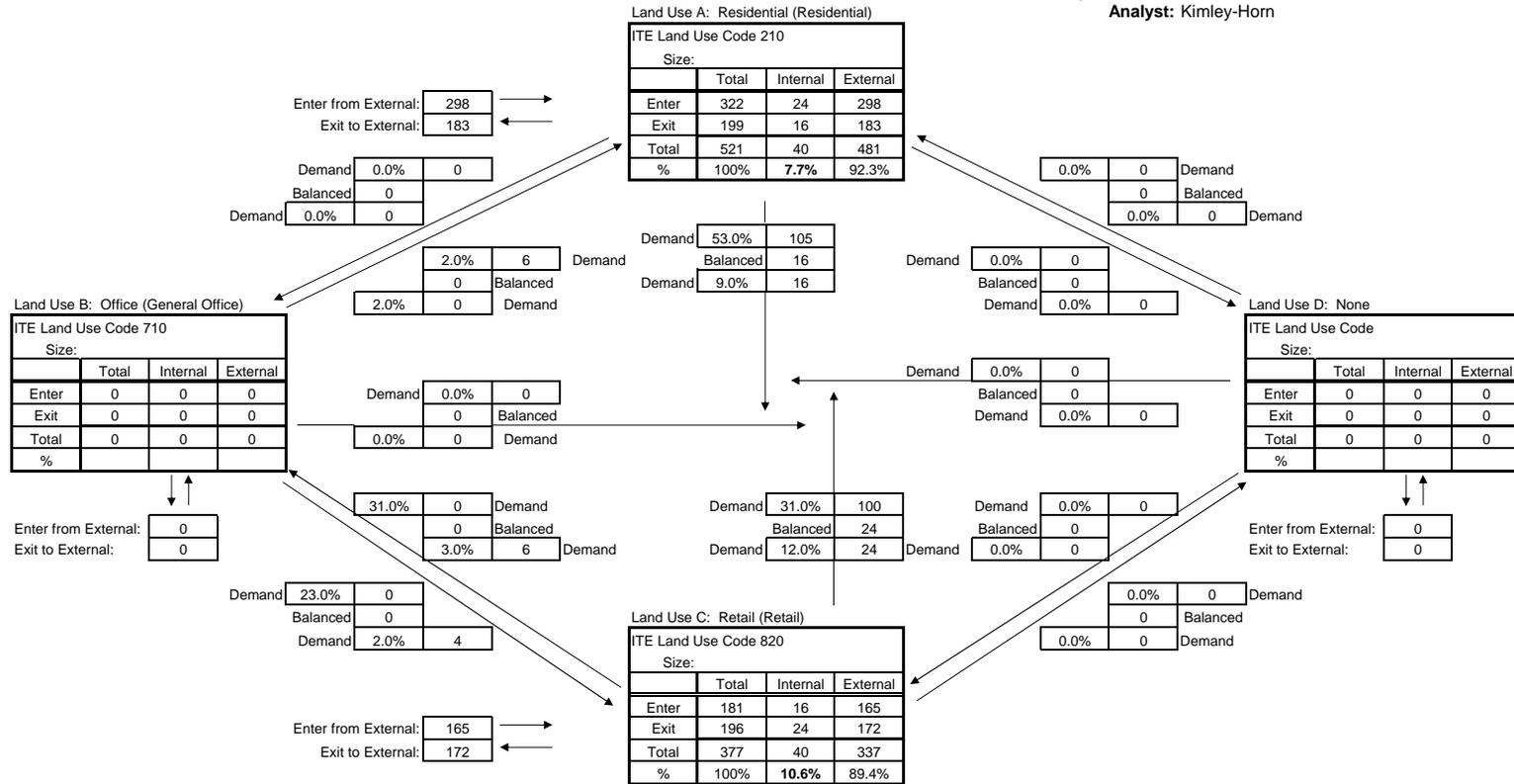


NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	2,529	0	1,969	0	4,498
Exit	2,572	0	1,926	0	4,498
Total	5,101	0	3,895	0	8,996
Single Use Trip Gen Estimate	5,534	0	4,328	0	9,862

ITE Overall Internal Capture Rate = **8.78%**

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET
 (Source: Chapter 7, ITE Trip Generation Handbook, 2nd Edition, June 2004)

Project Number: 018837000
Project Name: Blake Farm
Scenario: Phase 1
Analysis Period: PM Peak
Analyst: Kimley-Horn



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	298	0	165	0	463
Exit	183	0	172	0	355
Total	481	0	337	0	818
Single Use Trip Gen Estimate	521	0	377	0	898

ITE Overall Internal Capture Rate = **8.91%**

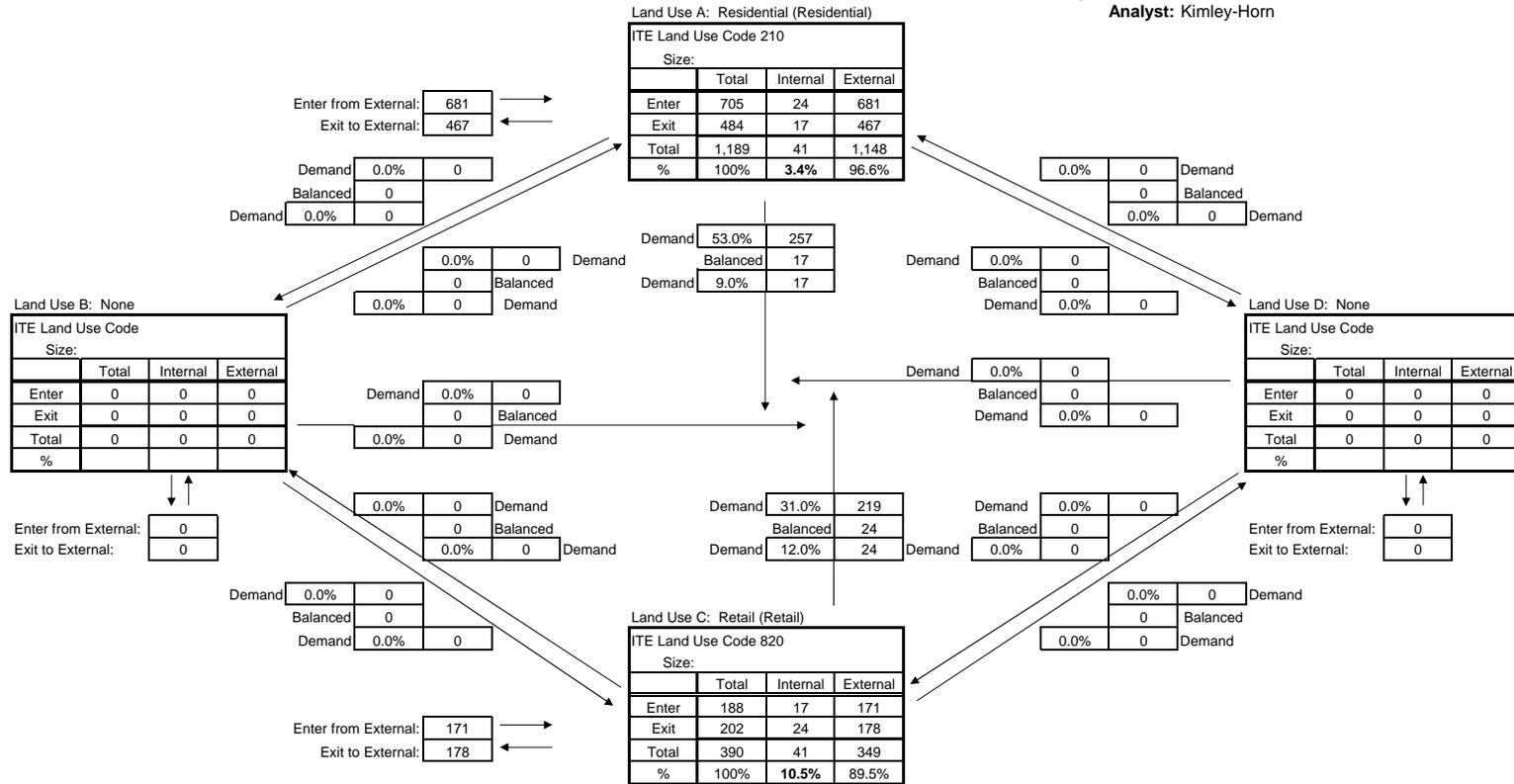
Blake Farm

Table 2 - Phase 2 Trip Generation

Land Use	Intensity		Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
			151 Mini-Warehouse	50,000	s.f.	126	63	63	7	4	3
210 Single Family Detached Housing	500	d.u.	4,618	2,309	2,309	360	90	270	447	282	165
251 Senior Adult Housing - Detached	1,798	d.u.	6,186	3,093	3,093	336	118	218	392	239	153
252 Senior Adult Housing - Attached	700	d.u.	2,108	1,054	1,054	140	48	92	170	92	78
310 Hotel	300	rooms	2,312	1,156	1,156	159	94	65	180	92	88
820 Shopping Center	50,000	s.f.	4,328	2,164	2,164	102	63	39	377	181	196
Subtotal			19,678	9,839	9,839	1,104	417	687	1,579	893	686
<i>Internal Capture</i>											
Mini-Warehouse			13	6	7	0	0	0	2	1	1
Single Family Detached Housing			135	74	61	0	0	0	16	10	6
Senior Adult Housing - Detached			181	100	81	0	0	0	13	8	5
Senior Adult Housing - Attached			62	34	28	0	0	0	6	3	3
Hotel			67	37	30	0	0	0	6	3	3
Shopping Center			432	194	238	0	0	0	39	16	23
Internal Capture Total			890	445	445	0	0	0	82	41	41
Total External Trips			18,788	9,394	9,394	1,104	417	687	1,497	852	645
<i>Pass-By Traffic (ITE)</i>											
820 Shopping Center	<u>AM</u>	<u>PM</u>									
	0%	34%	1,150	575	575	0	0	0	115	56	59
Total Net New External Trips			17,638	8,819	8,819	1,104	417	687	1,382	796	586

ITE MULTI-USE PROJECT INTERNAL CAPTURE WORKSHEET
 (Source: Chapter 7, ITE Trip Generation Handbook, 2nd Edition, June 2004)

Project Number: 018837000
Project Name: Blake Farm
Scenario: Phase 2
Analysis Period: PM Peak
Analyst: Kimley-Horn



NET EXTERNAL TRIPS FOR MULTI-USE DEVELOPMENT					
Category	Land Use				Total
	A	B	C	D	
Enter	681	0	171	0	852
Exit	467	0	178	0	645
Total	1,148	0	349	0	1,497
Single Use Trip Gen Estimate	1,189	0	390	0	1,579

ITE Overall Internal Capture Rate = **5.19%**



Blake Farm TIA - Proposed Site Traffic Distribution

