

**From:** Walker, Brian  
**Sent:** Thursday, April 17, 2014 9:13 AM  
**To:** Nordelo, Sonia  
**Subject:** RE: Spartan Rd.

Sonia,

I spoke to Joy (project PM) and Lee Shaffer yesterday. Lee said that the developer was supposed to construct a sidewalk in the right-of-way (ROW). This was a required off-site improvement to be paid for by the developer. However, the county found the intersection was failing and decided that a new right turn lane was needed. If the developer had put in the sidewalk it would have been torn up to put in the turn lane.

In order to have space for the right turn lane, the county needed some of the developer's property. The developer is in the process of donating the needed land to the county and in exchange the county has agreed to put in the sidewalk. The cost of purchasing the needed ROW would be have been several times the cost of putting in the sidewalk.

The county is applying for CRA funds to do this project. I am not opposed to the granting of money for the project as long as there is a way of making sure the donation of ROW actually occurs inasmuch as it is still in process and the closing has not yet occurred.

I would also ideally like to see a pairing of the improvements with some sort of landscaping / beautification project. However, this is not a deal breaker.

Regards,  
Brian

## Nordelo, Sonia

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**From:** Smith, Shad  
**Sent:** Monday, April 07, 2014 4:52 PM  
**To:** Nordelo, Sonia  
**Cc:** Blackadar, Brett; Nelson, Anthony  
**Subject:** RE: Spartan Turn Lanes - TAC comments  
**Attachments:** US 17-92 @ Spartan Road TMC.pdf; 12-06000050\_7-Eleven-Spartan.pdf

For full Responses see below by your comments.

Some background is that this project was suppose to be completed a few years ago with the previous development whom were working with the CRA but with the economic downturn it never did fully materialize.

The project needs right of way to be accomplished and with 7-11 being willing to work with the county since CRA funds are available they are willing to donate the property to build the turn lane.

Let me know if you need any further information.

Thanks.

Shad M. Smith, P.E.  
Assistant County Engineer, Engineering Division  
Seminole County Public Works Department  
100 E 1st Street  
Sanford, FL 32771  
Office 407-665-5707  
Fax 407-665-5789

[SSmith@seminolecountyfl.gov](mailto:SSmith@seminolecountyfl.gov)

[www.seminolecountyfl.gov](http://www.seminolecountyfl.gov)

To learn more about the County's proposed One Cent Infrastructure Tax visit [www.seminolecountyfl.gov/onecent](http://www.seminolecountyfl.gov/onecent)



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**From:** Nordelo, Sonia  
**Sent:** Thursday, March 27, 2014 1:40 PM  
**To:** Smith, Shad; Blackadar, Brett  
**Subject:** Spartan Turn Lanes - TAC comments

Good afternoon. The TAC requested additional information about the project. They also requested a representative present the project to them. We will need to collect the following information and go back to TAC.

1. Traffic load at intersection? – Was a study done reflecting the need for the turn lane? If not, how was that decision made? This is a very busy intersection that backs up into the east. This has caused numerous issues with motorists driving the wrong way to get by cars turning. We had received complaints from SCSO and they had tried to up enforcement to discourage the illegal movements. The current WB condition is a WB left and a combo Lt, Thru, Rt lane. The Combo lane creates problems for those wanting to turn right and creates additional delay. For instance in the PM peak hour there are 92 lefts and 40 rights and to compound the issue many of the motorist turning left want to get all the way to the right to get onto the Maitland Blvd. on ramp so there are too many cars wanting to be in the right combination lane. The developer did perform a traffic study but they did not analyze the intersection with Spartan. But they are adding a significant number of daily and peak hour trips. Study is attached.
2. Beautification? – What is being required of the developer? Do they have to install landscaping? Did their approval require off-site improvements? The developer is adding basic landscaping and whatever we destroy we will replace which is good because some of the trees are not looking too good.
3. Are you going to meet ADA standards? Yes this project will meet ADA standards and will add sidewalk along the North side of the road.
4. Can you describe the other improvements happening/already done in the area surrounding this project? The CRA participated a few years ago of the enhancements to US 17-92 including landscaping and lighting.

Please let me know how you would like to proceed.

**Sonia Nordelo, US 17-92 CRA Program Manager**  
**Seminole County Government**  
**Economic Development**  
**1101 E. 1st Street**  
**Sanford, FL 32771**

**407-665-7133**  
**407-335-7184 (cell)**



FDOT District 5  
 US 17/92 Signal Retiming  
 US 17/92 & Spartan Dr  
 Weekday TMC

Albeck Gerken, Inc.  
 1911 N US Hwy 301  
 Suite 410  
 Tampa, Florida, United States 33619  
 (813) 319-3790

Count Name: D5 SC 1180 WD  
 Site Code:1180  
 Start Date: 10/07/2010  
 Page No: 1

### Turning Movement Data

Start Time	Driveway (Spartan Dr) Eastbound						Spartan Dr Westbound						US 17/92 Northbound						US 17/92 Southbound						Int. Total	
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total		
7:00 AM	0	0	0	0	0	0	0	44	1	9	0	54	2	1	162	3	0	168	0	1	588	0	0	569	791	
7:15 AM	0	1	0	0	0	1	0	58	0	8	1	66	2	2	215	3	0	222	0	3	755	1	0	759	1048	
7:30 AM	0	0	0	3	0	3	0	76	0	6	0	82	4	3	228	4	0	239	1	2	791	1	1	795	1119	
7:45 AM	0	0	0	3	1	3	0	60	0	7	0	67	3	6	283	16	0	308	0	2	776	1	0	779	1157	
Hourly Total	0	1	0	6	1	7	0	238	1	30	1	269	11	12	888	26	0	937	1	8	2690	3	1	2902	4115	
8:00 AM	0	0	0	1	0	1	0	63	0	11	0	74	2	3	248	18	0	271	0	2	704	2	0	708	1054	
8:15 AM	0	0	0	1	1	1	0	60	0	16	0	76	5	1	222	18	0	246	0	8	710	1	0	719	1042	
8:30 AM	0	0	0	2	0	2	0	65	0	12	1	77	7	5	244	18	0	274	0	13	634	1	0	648	1001	
8:45 AM	0	0	0	4	0	4	0	52	1	13	0	66	12	1	288	17	0	318	0	3	589	1	0	593	981	
Hourly Total	0	0	0	8	1	8	0	240	1	52	1	293	26	10	1002	71	0	1109	0	26	2637	5	0	2666	4078	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12:00 PM	0	2	0	9	0	11	0	17	0	12	0	29	11	6	325	29	0	371	0	4	257	3	0	264	675	
12:15 PM	0	5	0	7	0	12	0	19	0	10	0	29	13	7	387	20	0	427	1	7	341	0	0	349	817	
12:30 PM	0	5	0	4	0	9	0	31	1	8	0	40	14	2	343	18	0	377	1	9	342	3	0	355	781	
12:45 PM	0	3	0	9	0	12	0	27	0	11	0	38	11	6	379	19	0	415	0	4	319	2	0	325	790	
Hourly Total	0	15	0	29	0	44	0	94	1	41	0	136	49	21	1434	86	0	1590	2	24	1259	8	0	1293	3063	
1:00 PM	0	4	1	4	0	9	0	19	1	7	0	27	15	5	368	30	0	418	1	6	402	3	0	412	866	
1:15 PM	0	6	0	5	0	11	0	12	0	10	1	22	13	7	351	29	0	400	2	15	352	4	1	373	806	
1:30 PM	0	1	2	5	0	8	0	18	0	4	1	22	15	2	366	27	0	430	0	3	366	4	0	373	833	
1:45 PM	0	2	0	5	0	7	0	11	0	9	0	20	9	2	376	18	0	405	0	10	370	3	0	383	815	
Hourly Total	0	13	3	19	0	35	0	60	1	30	2	91	52	16	1481	104	0	1653	3	34	1490	14	1	1541	3320	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	2	1	4	0	7	0	17	0	11	0	28	12	5	531	42	0	590	0	13	312	1	0	326	951	
4:15 PM	0	2	0	4	0	6	0	26	0	12	0	38	9	4	548	65	0	626	0	11	317	1	0	329	999	
4:30 PM	0	3	0	7	0	10	0	33	0	13	0	46	12	3	581	86	0	682	3	9	355	1	0	368	1106	
4:45 PM	0	2	0	9	0	11	0	30	1	7	2	38	9	4	569	82	0	664	0	16	352	1	0	369	1082	
Hourly Total	0	9	1	24	0	34	0	106	1	45	2	150	42	16	2229	275	0	2562	3	49	1336	4	0	1392	4136	
5:00 PM	0	2	1	14	0	17	0	24	0	10	0	34	10	4	676	97	0	787	1	11	392	3	0	407	1245	
5:15 PM	0	0	1	4	0	5	0	19	0	9	0	28	12	1	648	92	0	753	0	9	379	0	0	388	1174	
5:30 PM	0	1	0	0	0	1	0	20	0	10	0	30	10	1	688	96	0	795	1	14	348	0	0	363	1189	
5:45 PM	0	2	2	5	0	9	0	29	0	11	0	40	6	0	657	83	0	746	0	9	323	2	0	334	1129	
Hourly Total	0	5	4	23	0	32	0	92	0	40	0	132	36	6	2069	368	0	3081	2	43	1442	5	0	1492	4737	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7:00 PM	0	0	0	4	0	4	0	16	0	6	1	22	7	0	294	37	0	338	1	5	227	0	0	233	597	
7:15 PM	0	0	0	5	1	5	0	19	0	4	1	23	3	1	329	38	2	371	0	8	214	0	0	222	621	
7:30 PM	0	0	0	2	0	2	0	14	0	10	1	24	7	0	305	22	0	334	0	1	212	0	0	213	573	
7:45 PM	0	0	0	0	0	0	0	7	0	1	0	8	5	0	255	23	0	283	1	8	183	0	0	192	483	
Hourly Total	0	0	0	11	1	11	0	56	0	21	3	77	22	1	1183	120	2	1326	2	22	936	0	0	960	2274	
8:00 PM	0	1	0	1	0	2	0	12	0	5	0	17	6	0	263	18	0	287	0	5	222	1	0	228	534	
8:15 PM	0	0	1	2	1	3	0	10	0	5	0	15	10	1	242	20	0	273	1	10	162	0	0	173	464	
8:30 PM	0	0	0	0	0	0	0	4	0	2	1	6	4	0	216	19	0	239	0	4	144	0	0	148	393	
8:45 PM	0	0	0	0	0	0	0	8	0	6	0	14	5	0	226	24	0	255	0	5	152	1	0	158	427	
Hourly Total	0	1	1	3	1	5	0	34	0	18	1	52	25	1	947	81	0	1054	1	24	660	2	0	707	1818	
Car	0	43	9	120	-	172	0	917	5	267	-	1189	264	80	11812	1125	-	13081	14	228	12320	41	-	12803	27045	
% Car	-	97.7	100.0	97.6	-	97.7	-	99.7	100.0	97.1	-	99.1	99.6	96.4	98.1	99.5	-	98.3	100.0	99.1	98.0	100.0	-	-	98.0	98.2
Truck	0	1	0	3	-	4	0	3	0	8	-	11	1	3	221	6	-	231	0	2	250	0	-	252	498	
% Truck	-	2.3	0.0	2.4	-	2.3	-	0.3	0.0	2.9	-	0.9	0.4	3.6	1.9	0.5	-	1.7	0.0	0.9	2.0	0.0	-	2.0	1.8	
Ped	-	-	-	-	4	-	-	-	-	-	10	-	-	-	-	-	2	-	-	-	-	-	2	-	-	
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	



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FDOT District 5  
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 US 17/92 & Spartan Dr  
 Weekday TMC

Count Name: D5 SC 1180 WD  
 Site Code:1180  
 Start Date: 10/07/2010  
 Page No: 2

### Turning Movement Peak Hour Data (7:15 AM)

Start Time	Driveway (Spartan Dr) Eastbound						Spartan Dr Westbound						US 17/92 Northbound						US 17/92 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:15 AM	0	1	0	0	0	1	0	58	0	8	1	66	2	2	215	3	0	222	0	3	755	1	0	759	1048
7:30 AM	0	0	0	3	0	3	0	76	0	6	0	82	4	3	228	4	0	239	1	2	791	1	1	795	1119
7:45 AM	0	0	0	3	1	3	0	60	0	7	0	67	3	6	283	16	0	308	0	2	776	1	0	779	1157
8:00 AM	0	0	0	1	0	1	0	63	0	11	0	74	2	3	248	18	0	271	0	2	704	2	0	708	1054
PHF	0.000	0.250	0.000	0.583	-	0.667	0.000	0.845	0.000	0.727	-	0.881	0.688	0.583	0.860	0.569	-	0.844	0.250	0.750	0.956	0.625	-	0.956	0.946
Car	0	1	0	6	-	7	0	256	0	31	-	287	10	13	939	39	-	1001	1	9	2977	5	-	2992	4287
% Car	-	100.0	-	85.7	-	87.5	-	99.6	-	96.9	-	99.3	90.9	92.9	96.4	95.1	-	96.3	100.0	100.0	98.4	100.0	-	98.4	97.9
Truck	0	0	0	1	-	1	0	1	0	1	-	2	1	1	35	2	-	39	0	0	49	0	-	49	91
% Truck	-	0.0	-	14.3	-	12.5	-	0.4	-	3.1	-	0.7	9.1	7.1	3.6	4.9	-	3.8	0.0	0.0	1.6	0.0	-	1.6	2.1
Ped	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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FDOT District 5  
 US 17/92 Signal Retiming  
 US 17/92 & Spartan Dr  
 Weekday TMC

Count Name: D5 SC 1180 WD  
 Site Code:1180  
 Start Date: 10/07/2010  
 Page No: 3

### Turning Movement Peak Hour Data (1:00 PM)

Start Time	Driveway (Spartan Dr) Eastbound						Spartan Dr Westbound						US 17/92 Northbound						US 17/92 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
1:00 PM	0	4	1	4	0	9	0	19	1	7	0	27	15	5	368	30	0	418	1	6	402	3	0	412	866
1:15 PM	0	6	0	5	0	11	0	12	0	10	1	22	13	7	351	29	0	400	2	15	352	4	1	373	806
1:30 PM	0	1	2	5	0	8	0	18	0	4	1	22	15	2	386	27	0	430	0	3	366	4	0	373	833
1:45 PM	0	2	0	5	0	7	0	11	0	9	0	20	9	2	376	18	0	405	0	10	370	3	0	383	815
PHF	0.000	0.542	0.375	0.950	-	0.795	0.000	0.789	0.250	0.750	-	0.843	0.867	0.571	0.959	0.867	-	0.961	0.375	0.567	0.927	0.875	-	0.935	0.958
Car	0	12	3	19	-	34	0	60	1	29	-	90	52	16	1445	103	-	1616	3	34	1431	14	-	1482	3222
% Car	-	92.3	100.0	100.0	-	97.1	-	100.0	100.0	96.7	-	98.9	100.0	100.0	97.6	99.0	-	97.8	100.0	100.0	96.0	100.0	-	96.2	97.0
Truck	0	1	0	0	-	1	0	0	0	1	-	1	0	0	36	1	-	37	0	0	59	0	-	59	98
% Truck	-	7.7	0.0	0.0	-	2.9	-	0.0	0.0	3.3	-	1.1	0.0	0.0	2.4	1.0	-	2.2	0.0	0.0	4.0	0.0	-	3.8	3.0
Ped	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



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 Weekday TMC

Count Name: D5 SC 1180 WD  
 Site Code:1180  
 Start Date: 10/07/2010  
 Page No: 4

### Turning Movement Peak Hour Data (5:00 PM)

Start Time	Driveway (Spartan Dr) Eastbound						Spartan Dr Westbound						US 17/92 Northbound						US 17/92 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
5:00 PM	0	2	1	14	0	17	0	24	0	10	0	34	10	4	676	97	0	787	1	11	392	3	0	407	1245
5:15 PM	0	0	1	4	0	5	0	19	0	9	0	28	12	1	648	92	0	753	0	9	379	0	0	388	1174
5:30 PM	0	1	0	0	0	1	0	20	0	10	0	30	10	1	688	96	0	795	1	14	348	0	0	363	1189
5:45 PM	0	2	2	5	0	9	0	29	0	11	0	40	6	0	657	83	0	746	0	9	323	2	0	334	1129
PHF	0.000	0.625	0.500	0.411	-	0.471	0.000	0.793	0.000	0.909	-	0.825	0.792	0.375	0.970	0.948	-	0.969	0.500	0.768	0.920	0.417	-	0.916	0.951
Car	0	5	4	23	-	32	0	92	0	40	-	132	38	6	2639	368	-	3050	2	43	1422	5	-	1472	4686
% Car	-	100.0	100.0	100.0	-	100.0	-	100.0	-	100.0	-	100.0	100.0	100.0	98.8	100.0	-	99.0	100.0	100.0	98.6	100.0	-	98.7	98.9
Truck	0	0	0	0	-	0	0	0	0	0	-	0	0	0	31	0	-	31	0	0	20	0	-	20	51
% Truck	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	1.2	0.0	-	1.0	0.0	0.0	1.4	0.0	-	1.3	1.1
Ped	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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 US 17/92 & Spartan Dr  
 Weekday TMC

Count Name: D5 SC 1180 WD  
 Site Code:1180  
 Start Date: 10/07/2010  
 Page No: 5

### Turning Movement Peak Hour Data (7:00 PM)

Start Time	Driveway (Spartan Dr) Eastbound						Spartan Dr Westbound						US 17/92 Northbound						US 17/92 Southbound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00 PM	0	0	0	4	0	4	0	16	0	6	1	22	7	0	294	37	0	336	1	5	227	0	0	233	597
7:15 PM	0	0	0	5	1	5	0	19	0	4	1	23	3	1	329	38	2	371	0	8	214	0	0	222	621
7:30 PM	0	0	0	2	0	2	0	14	0	10	1	24	7	0	305	22	0	334	0	1	212	0	0	213	573
7:45 PM	0	0	0	0	0	0	0	7	0	1	0	8	5	0	255	23	0	283	1	8	183	0	0	192	483
PHF	0.000	0.000	0.000	0.550	-	0.550	0.000	0.737	0.000	0.525	-	0.802	0.786	0.250	0.899	0.789	-	0.994	0.500	0.688	0.921	0.000	-	0.923	0.915
Car	0	0	0	11	-	11	0	56	0	21	-	77	22	1	1174	120	-	1317	2	22	831	0	-	855	2260
% Car	-	-	-	100.0	-	100.0	-	100.0	-	100.0	-	100.0	100.0	100.0	99.2	100.0	-	99.3	100.0	100.0	99.4	-	-	99.4	99.4
Truck	0	0	0	0	-	0	0	0	0	0	-	0	0	0	9	0	-	9	0	0	5	0	-	5	14
% Truck	-	-	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	0.8	0.0	-	0.7	0.0	0.0	0.6	-	-	0.6	0.6
Ped	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Ped	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

# 7-Eleven Site

U.S. HIGHWAY 17 AT SPARTAN DRIVE, SEMINOLE COUNTY, FLORIDA

## TRAFFIC STUDY

### CONTENTS

SECTION 1.0 Introduction .....	1
SECTION 2.0 Project Description.....	1
SECTION 3.0 Project Site Trip Generation.....	1
SECTION 4.0 Project Site Trip Distribution & Assignment.....	4
SECTION 5.0 Study Area .....	4
SECTION 6.0 Traffic Volumes .....	4
SECTION 7.0 Roadway Segment Analysis.....	10
SECTION 8.0 Intersection Analysis .....	10
SECTION 9.0 Site Access Analysis .....	11
SECTION 10.0 Conclusion .....	12

### TABLES

TABLE 1.0 Trip Generation Summary .....	1
TABLE 2.0 Roadway Segment Analysis.....	10
TABLE 3.0 Intersection Analysis .....	10
TABLE 4.0 Site Access Analysis .....	11

### FIGURES

FIGURE 1.0 Project Site Location .....	2
FIGURE 2.0 Existing Site Conditions .....	3
FIGURE 3.0 Proposed Site Conditions .....	3
FIGURE 4.0 Project Traffic Assignment .....	5
FIGURE 5.0 Existing + Committed Daily Traffic Volumes .....	6
FIGURE 6.0 Total Daily Traffic Volumes.....	7
FIGURE 7.0 Existing + Committed Peak Hour Traffic Volumes.....	8
FIGURE 8.0 Total Peak Hour Traffic Volumes.....	9

### APPENDICES

APPENDIX A: Methodology	APPENDIX E: Traffic Counts
APPENDIX B: Trip Generation	APPENDIX F: Intersection Analysis
APPENDIX C: Project Traffic Distribution & Assignment	APPENDIX G: Site Access Analysis
APPENDIX D: Study Area	APPENDIX H: Turn Lane Warrant Evaluation

# 7-Eleven Project Site

*U.S. Highway 17 at Spartan Drive, Seminole County, Florida*

## TRAFFIC STUDY

*Prepared For:*

**INTERPLAN, LLC.**  
604 Courtland Street, Suite 100  
Orlando, Florida 32804  
(407) 645-5008

**INTERPLAN**<sub>LLC</sub>



*Prepared By:*



**RAYSOR Transportation Consulting, LLC.**  
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Tampa, Florida 33647  
(813) 625-1699 | (813) 413-7432 fx  
ENB No. 27789

November 13, 2012

PROFESSIONAL ENGINEERING CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida, practicing with Raysor Transportation Consulting, LLC., a corporation authorized to operate as an engineering business (ENB No. 27789), by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

PROJECT: 7-Eleven Site  
LOCATION: U.S. Highway 17 at Spartan Drive, Seminole County, Florida  
REPORT DATE: November 13, 2012  
PREPARED FOR: Interplan, LLC.

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

NAME: Michael D. Raysor, P.E., PTOE  
P.E. NO.: 60919  
DATE: November 13, 2012  
SIGNATURE: 

# 7-Eleven Site

U.S. HIGHWAY 17 AT SPARTAN DRIVE, SEMINOLE COUNTY, FLORIDA

## TRAFFIC STUDY

### CONTENTS

SECTION 1.0 Introduction .....	1
SECTION 2.0 Project Description.....	1
SECTION 3.0 Project Site Trip Generation.....	1
SECTION 4.0 Project Site Trip Distribution & Assignment.....	4
SECTION 5.0 Study Area .....	4
SECTION 6.0 Traffic Volumes .....	4
SECTION 7.0 Roadway Segment Analysis.....	10
SECTION 8.0 Intersection Analysis .....	10
SECTION 9.0 Site Access Analysis .....	11
SECTION 10.0 Conclusion .....	12

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TABLE 1.0 Trip Generation Summary .....	1
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TABLE 4.0 Site Access Analysis .....	11

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FIGURE 1.0 Project Site Location .....	2
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FIGURE 3.0 Proposed Site Conditions .....	3
FIGURE 4.0 Project Traffic Assignment .....	5
FIGURE 5.0 Existing + Committed Daily Traffic Volumes .....	6
FIGURE 6.0 Total Daily Traffic Volumes.....	7
FIGURE 7.0 Existing + Committed Peak Hour Traffic Volumes.....	8
FIGURE 8.0 Total Peak Hour Traffic Volumes.....	9

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# 7-Eleven Site

U.S. HIGHWAY 17 AT SPARTAN DRIVE, SEMINOLE COUNTY, FLORIDA

## TRAFFIC STUDY

### SECTION 1.0 INTRODUCTION

This report documents a traffic study undertaken to analyze the proposed development of a 7-Eleven convenience store with gas located at the northeast corner of the intersection of U.S. Highway 17 at Spartan Drive (Seminole County parcel no. 19-21-30-300-0630-0000); as shown on the project location map (Figure 1.0). This traffic study has been prepared in general accordance with Seminole County's *Summary of Traffic Study Requirements for Site Impact Analysis (Projects in the TCEA/DULA)* dated July 8, 2011; as documented in the methodology statement and related correspondence provided in Appendix A.

### SECTION 2.0 PROJECT DESCRIPTION

The project site is currently vacant and is proposed to consist of a 2,940 square foot 7-Eleven convenience store with 12 vehicle fuelling positions. The project site is proposed to access adjacent roads via a right-in/right-out connection to U.S. Highway 17 and via a full access connection to Spartan Drive. Figures 2.0 and 3.0 show the existing and proposed site conditions.

### SECTION 3.0 PROJECT SITE TRIP GENERATION

The daily and peak hour trip generation of the project site was estimated for the proposed development using trip characteristic data, as identified in *Trip Generation* (Institute of Transportation Engineers [ITE], 8<sup>th</sup> edition, 2008) and *Trip Generation Handbook* (ITE, 2<sup>nd</sup> edition, 2004); whereas new external trips were calculated using the "primary trip" data identified in the *Trip Generation Handbook*. Table 1.0 summarizes the trip generation estimate, as further documented in Appendix B.

TABLE 1.0 TRIP GENERATION SUMMARY

Scenario	Daily Trips		AM Peak Hour Trips		PM Peak Hour Trips	
	Driveway Trips	New External Trips	Driveway Trips	New External Trips	Driveway Trips	New External Trips
Proposed 7-Eleven	2,486	344	130	16	176	30



FIGURE 2.0 EXISTING SITE CONDITIONS

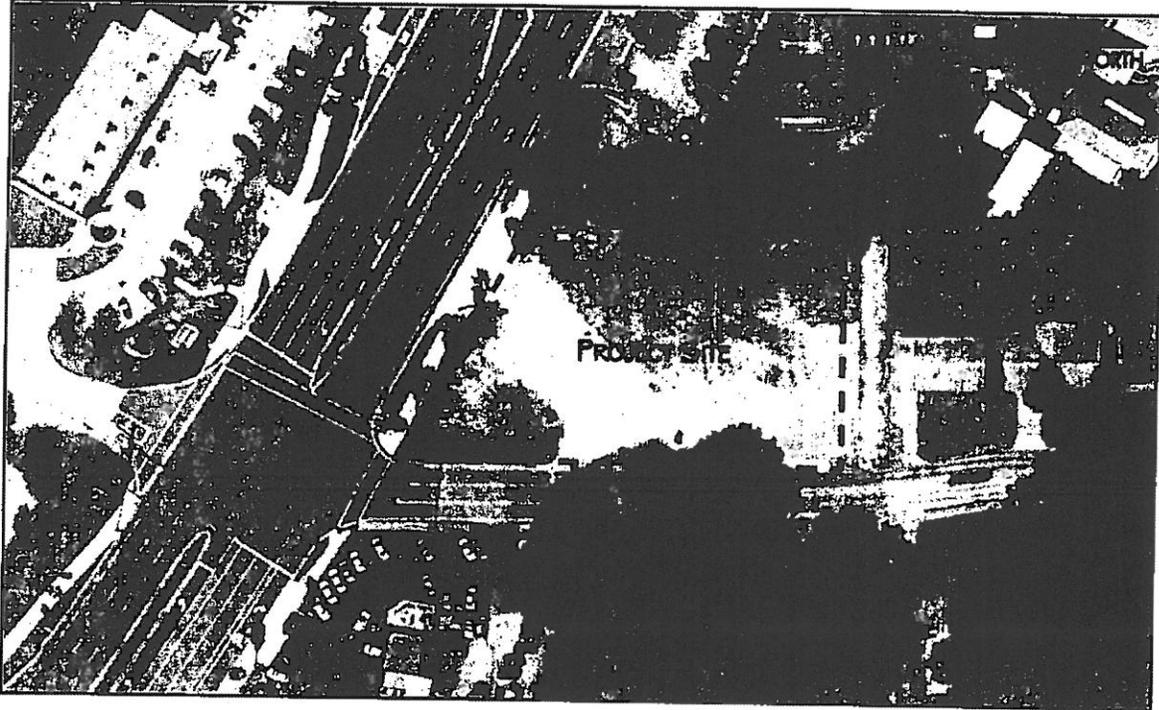
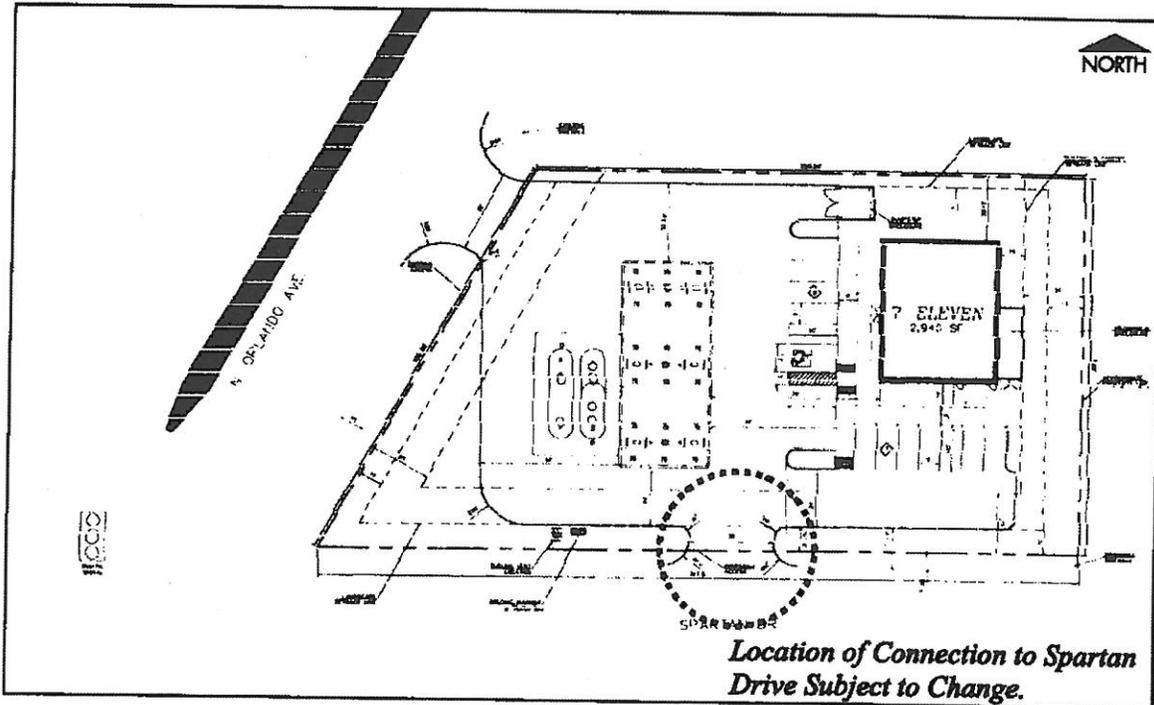


FIGURE 3.0 PROPOSED SITE CONDITIONS



#### **SECTION 4.0 PROJECT SITE TRIP DISTRIBUTION & ASSIGNMENT**

The distribution and assignment of project generated trips was estimated manually in consideration of existing traffic patterns as documented in Appendix C, as summarized in Figure 4.0.

#### **SECTION 5.0 STUDY AREA**

The study area for this analysis was determined to consist of those roadway segments within a mile of the project site perimeter as listed below, (as shown in Appendix D).

- U1700: U.S. Highway 17 from Orange County Line to Lake of the Woods Blvd
- U1705: U.S. Highway 17 from Lake of the Woods Blvd to State Road 436

The major and/or signalized intersections within a 1/4 mile of the project site perimeter are listed below, (as shown in Appendix D).

- U.S. Highway 17 at Spartan Drive

Each of the above roadway segments and intersections were included in the study area, in addition to the project site access connections.

#### **SECTION 6.0 TRAFFIC VOLUMES**

Existing and committed daily traffic volumes for study roadway segments were obtained from the County's *Summary of Roadway Concurrency Information (3/1/12)*, as shown in Figure 5.0. Total traffic volumes for the study roadway segments were calculated by adding project generated new external trips to the existing+committed trips, as shown in Figure 6.0. Appendix E documents the daily traffic volumes used in this analysis.

Existing peak hour traffic volumes for the study intersections were obtained from manual counts undertaken in October 2012. Committed peak hour traffic volumes for study intersections were estimated based on the daily committed traffic volumes using a K factor of 0.091 & a D factor of 0.568, as shown in Figure 7.0. Total traffic volumes for study intersections were calculated by adding project generated trips to the existing+committed trips, as shown in Figure 8.0. Appendix E documents the peak hour traffic volumes used in this analysis.

FIGURE 4.0 PROJECT TRAFFIC ASSIGNMENT

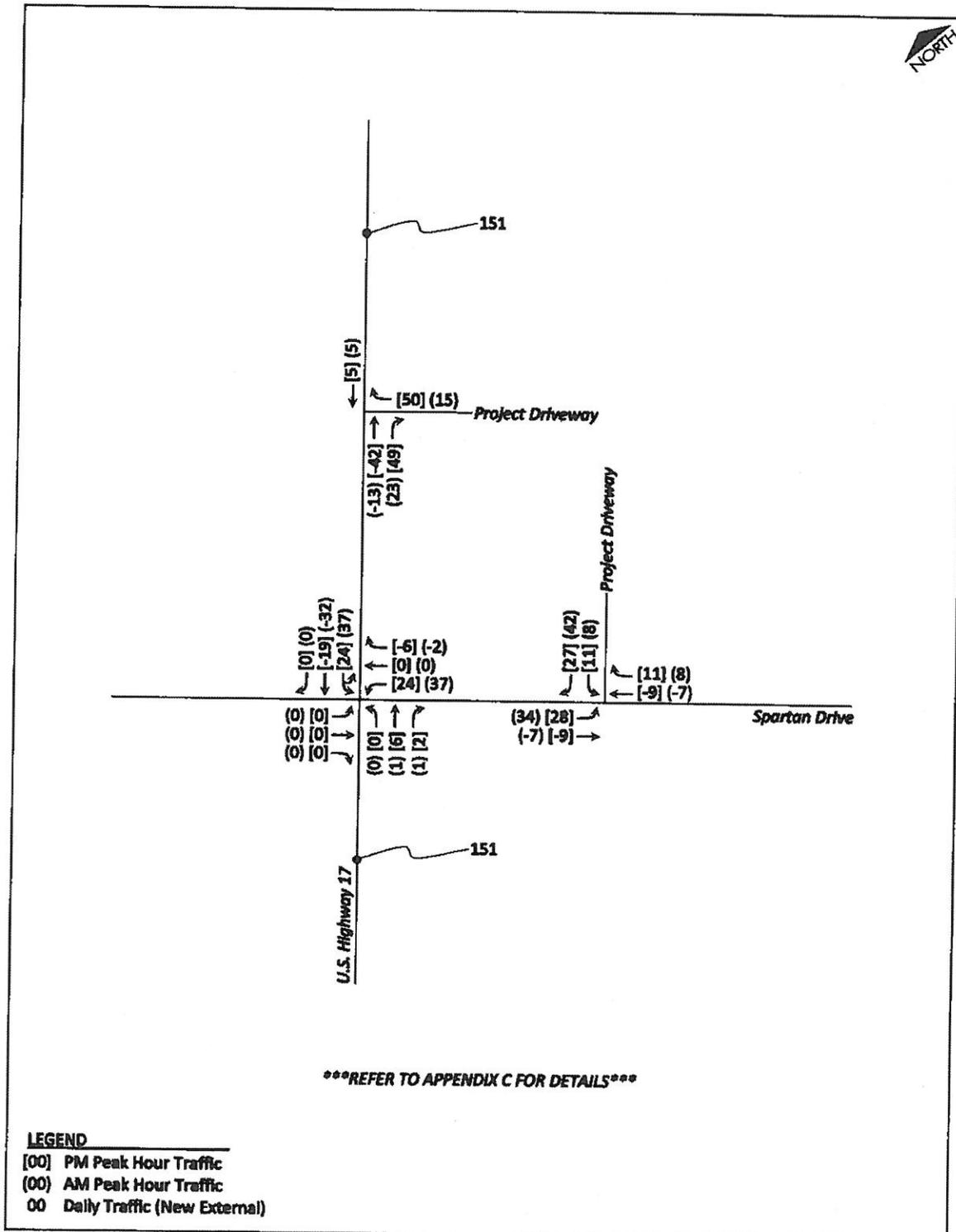


FIGURE 5.0 EXISTING + COMMITTED DAILY TRAFFIC VOLUMES

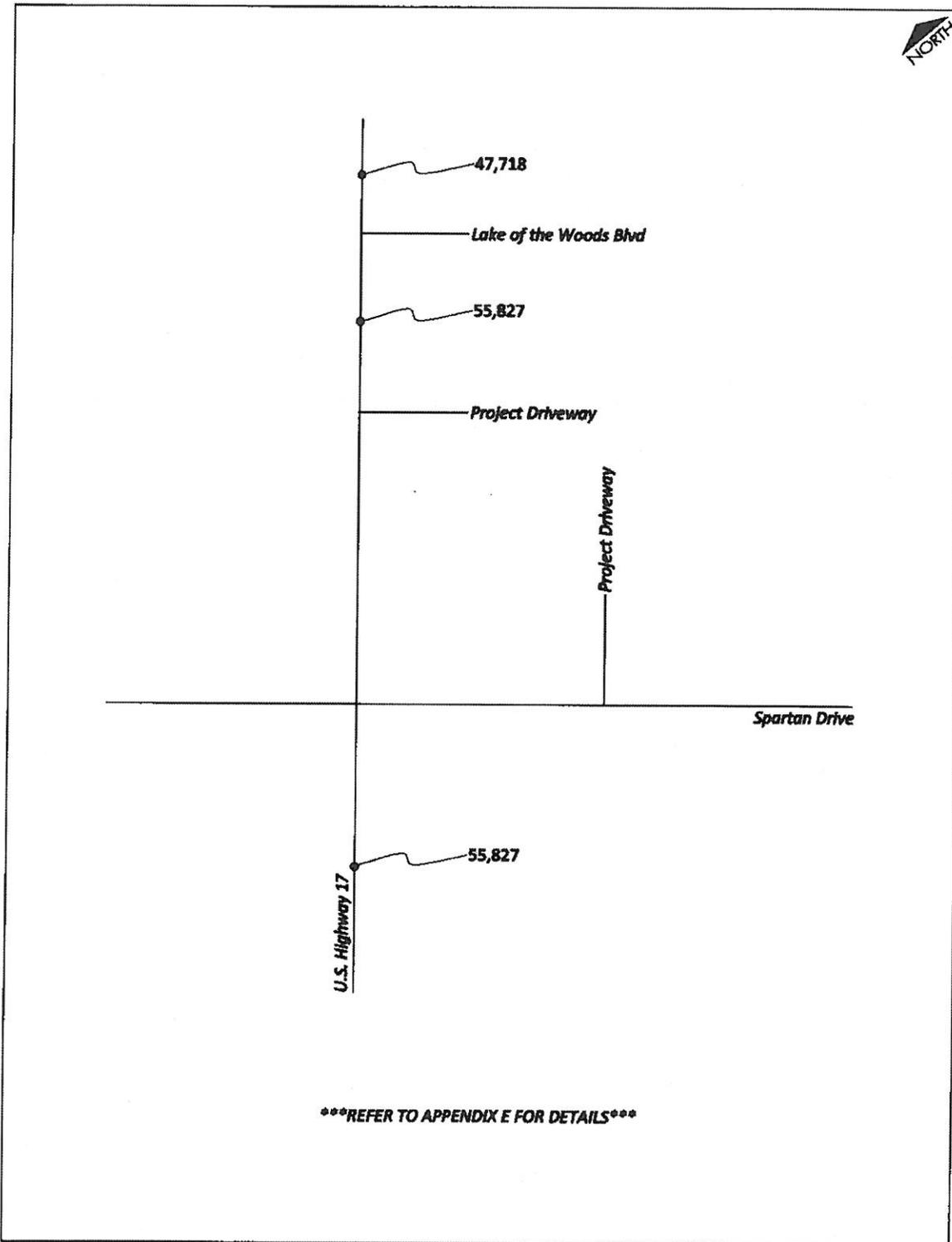


FIGURE 6.0 TOTAL (WITH-PROJECT) DAILY TRAFFIC VOLUMES

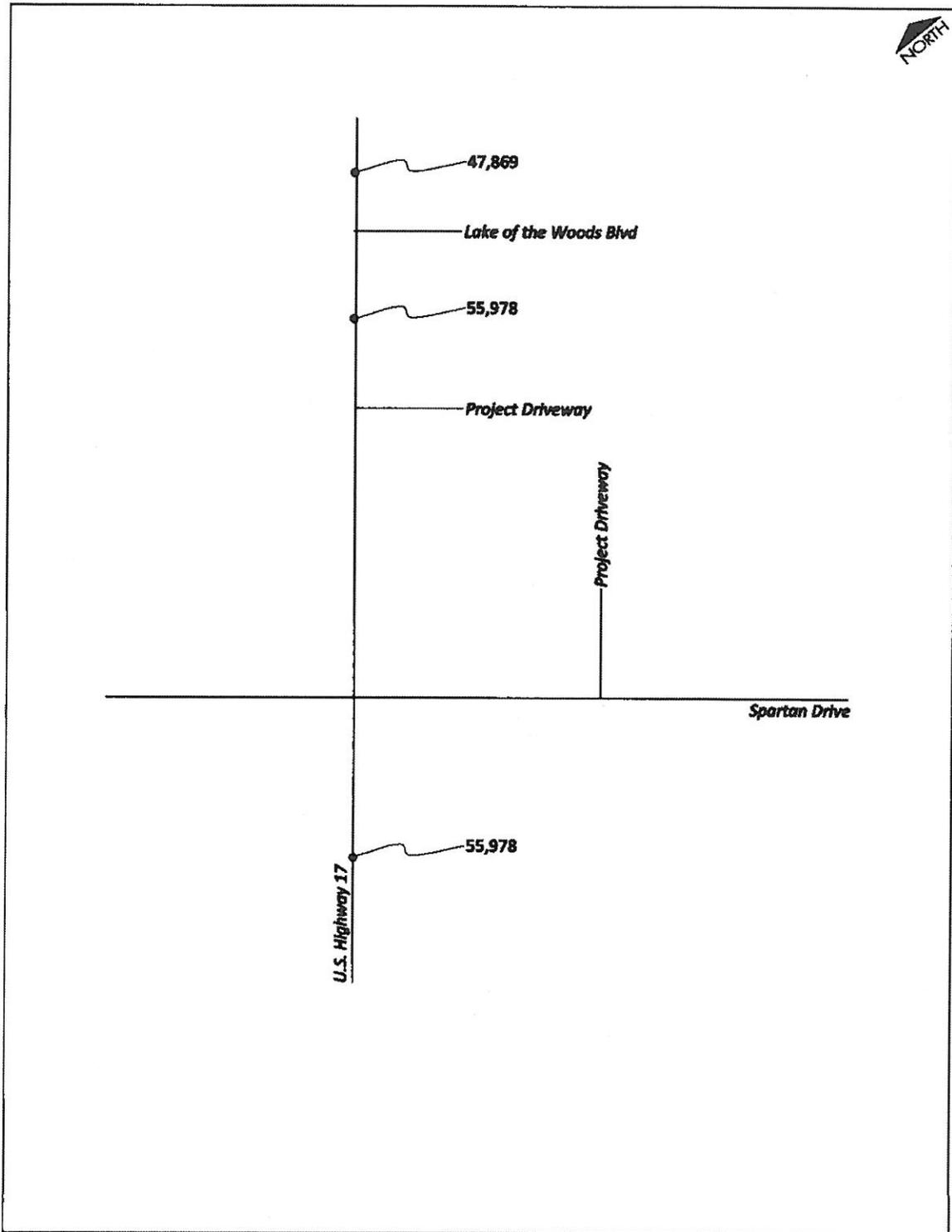


FIGURE 7.0 EXISTING + COMMITTED PEAK HOUR TRAFFIC VOLUMES

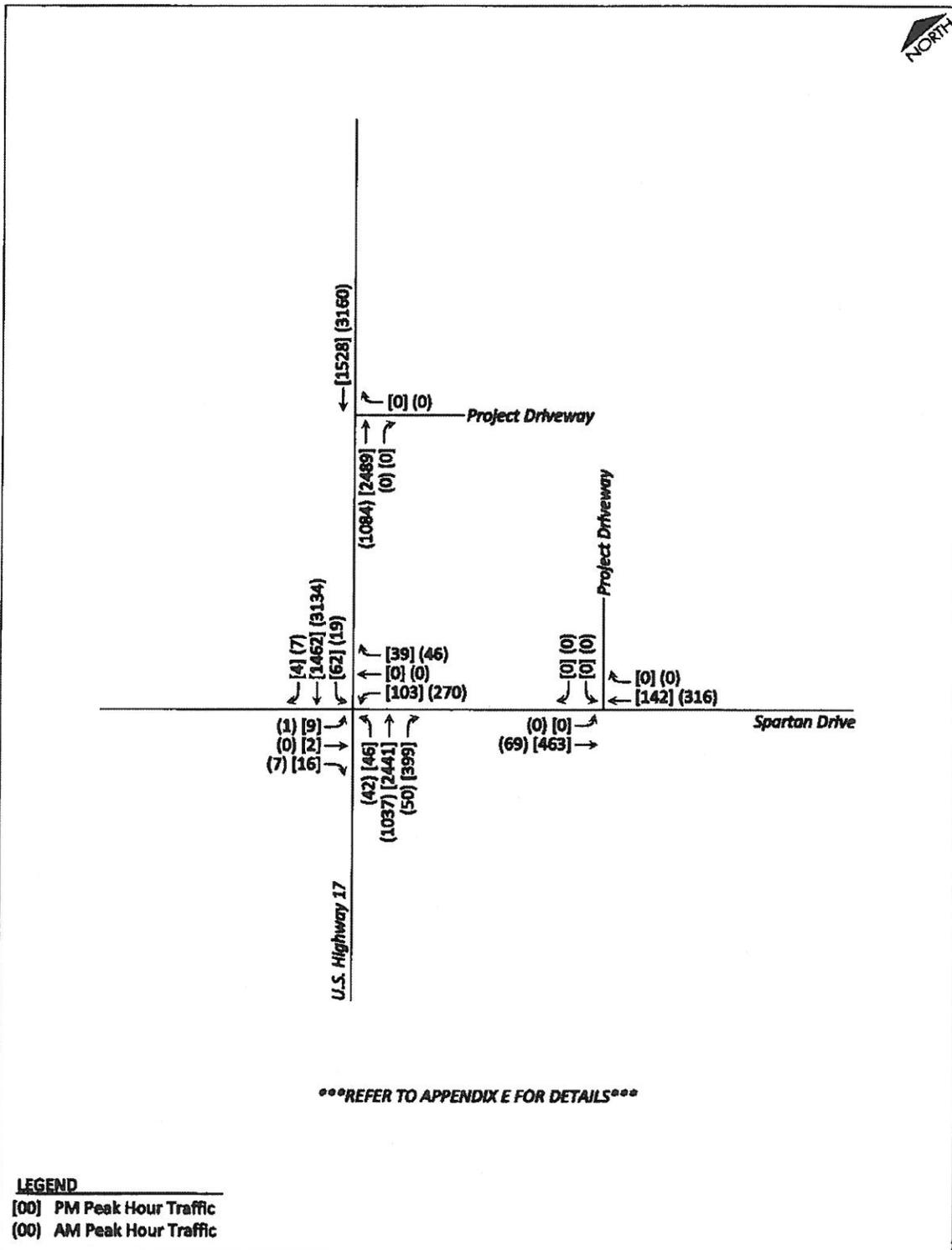
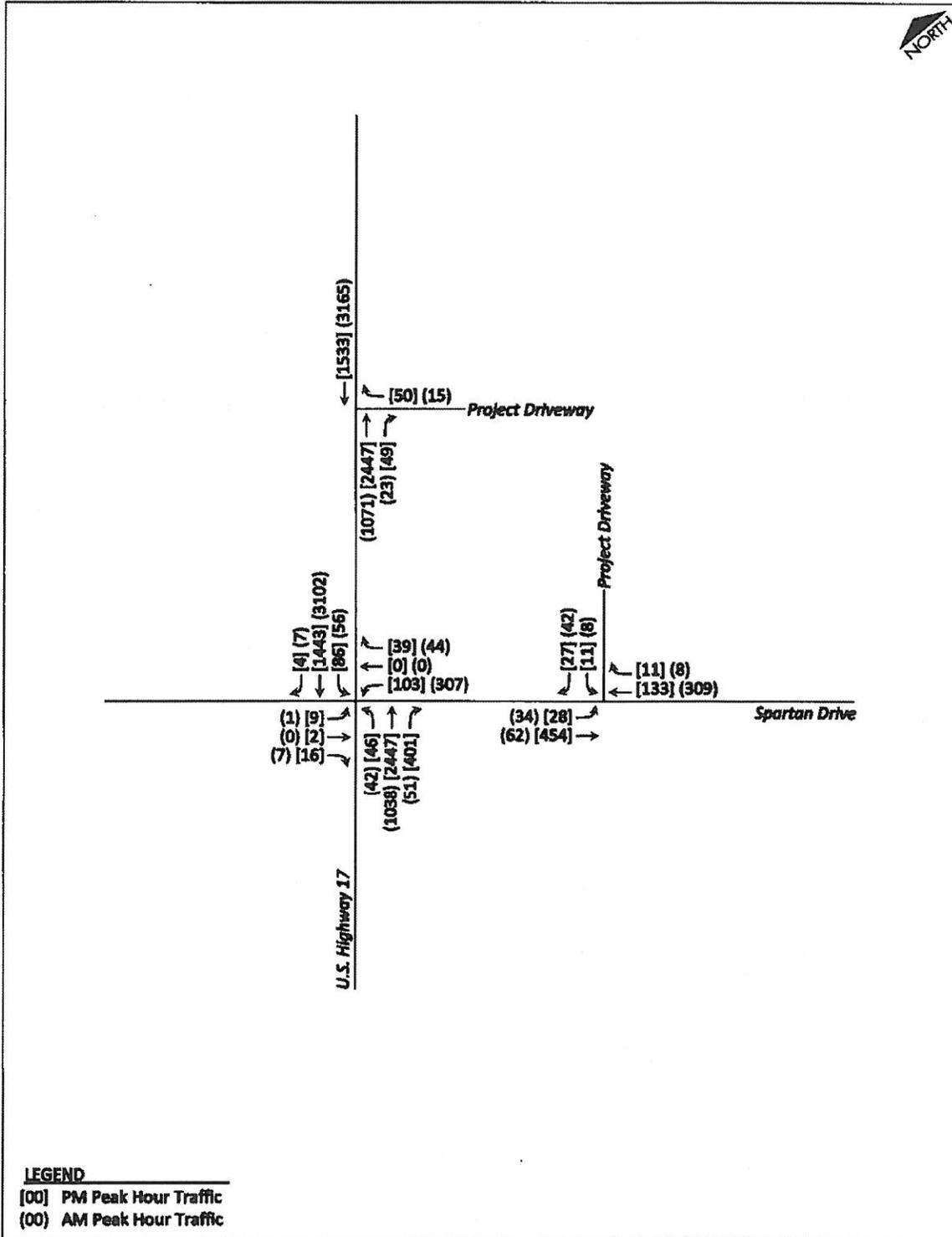


FIGURE 8.0 TOTAL (WITH-PROJECT) PEAK HOUR TRAFFIC VOLUMES



**SECTION 7.0 ROADWAY SEGMENT ANALYSIS**

Roadway segment analyses (for daily conditions) were undertaken for the study area roadway segments using generalized analysis methods in consideration of the capacity values as reported in the County's *Summary of Roadway Concurrency Information (3/1/12)*, as summarized in Table 2.0. The results of the analysis indicate that the study area roadway segments are estimated to operate acceptably with available capacity upon development of the subject project.

**TABLE 2.0 ROADWAY SEGMENT ANALYSIS (DAILY)**

ID No.	Roadway	Limits	Daily Capacity	Traffic Volume			V/C	
				Existing	Committed Project	Total		
U1700	U.S. 27	Orange County Line to Lake of the Woods	60,000	55,596	231	151	55,978	0.93
U1705	U.S. 27	Lake of the Woods Blvd to State Road 436	60,000	47,413	305	151	47,869	0.80

**SECTION 8.0 INTERSECTION ANALYSIS [OFF-SITE]**

Peak hour analyses were undertaken for the off-site study intersection of U.S. Highway 17 at Spartan Drive using *Highway Capacity Manual (TRB, 2000)* methodologies calculated by Synchro software. Existing signal timings were used in the analysis. The results of the intersection analyses are summarized in Table 3.0, as further documented in Appendix F. As shown in Table 3.0, the intersection of U.S. Highway 17 at Spartan Drive is identified to currently operate acceptably, and is anticipated to continue to operate acceptably for total traffic conditions with minimal project impacts.

**TABLE 3.0 U.S. HIGHWAY 17 AT SPARTAN DRIVE INTERSECTION ANALYSIS (PEAK HOUR)**

Condition	Peak Hour	Overall Operations			Movements @ V/C > 1.0
		LOS	Delay [sec]	V/C	
Existing Traffic	AM	C	33.4	0.90	none
	PM	B	15.7	0.68	none
Total Traffic	AM	D	35.6	0.86	none
	PM	B	17.0	0.70	none

**SECTION 9.0 SITE ACCESS ANALYSIS**

A peak hour analysis of the site access connections to the adjacent roadway segments was performed using *Highway Capacity Manual* (TRB, 2000) methodologies calculated by Synchro software; as summarized in Table 4.0 and further documented in Appendix G. The results of the analysis indicate that acceptable operating conditions can be anticipated for each of the site access connections in terms of level of service, delays, and available capacity.

**TABLE 4.0 SITE ACCESS ANALYSIS**

Location	Peak Hour	Measure	Eastbound			Westbound			Northbound			Southbound		
			L	T	R	L	T	R	L	T	R	L	T	R
Project Driveway at U.S. 17	AM	LOS	[3]	[3]	[3]	[3]	[3]	A	[3]	[1]	[2]	[3]	[1]	[3]
		Delay	[3]	[3]	[3]	[3]	[3]	8.8	[3]	[1]	[2]	[3]	[1]	[3]
		V/C	[3]	[3]	[3]	[3]	[3]	0.02	[3]	[1]	[2]	[3]	[1]	[3]
	PM	LOS	[3]	[3]	[3]	[3]	[3]	B	[3]	[1]	[2]	[3]	[1]	[3]
		Delay	[3]	[3]	[3]	[3]	[3]	10.0	[3]	[1]	[2]	[3]	[1]	[3]
		V/C	[3]	[3]	[3]	[3]	[3]	0.07	[3]	[1]	[2]	[3]	[1]	[3]
Project Driveway at Spartan Drive	AM	LOS	[2]	A	[3]	[3]	A	[2]	[3]	[3]	[3]	B	[3]	[2]
		Delay	[2]	3.0	[3]	[3]	0.0	[2]	[3]	[3]	[3]	10.7	[3]	[2]
		V/C	[2]	0.03	[3]	[3]	0.20	[2]	[3]	[3]	[3]	0.08	[3]	[2]
	PM	LOS	[2]	A	[3]	[3]	A	[2]	[3]	[3]	[3]	B	[3]	[2]
		Delay	[2]	0.6	[3]	[3]	0.0	[2]	[3]	[3]	[3]	10.6	[3]	[2]
		V/C	[2]	0.02	[3]	[3]	0.09	[2]	[3]	[3]	[3]	0.06	[3]	[2]

[1] Unopposed Movement; [2] Shared Lane; [3] Not Applicable

A turn lane warrant evaluation was undertaken to identify if new turn lanes would be needed on either U.S. Highway 17 or Spartan Drive at the project site driveway connections. The need for right turn lanes was evaluated in consideration of warranting criteria documented in the Florida Department of Transportation's *Driveway Handbook* (March, 2005). The need for left turn lanes was evaluated in consideration of warranting criteria documented in the Institute of Transportation Engineers' report *Guidelines for Left-Turn Lanes* (ITE, August 2000). The results of the turn lane warrant evaluation concluded that new turn lanes are not warranted on either U.S. Highway 17 or Spartan Drive at the project site driveway connections pursuant to these resources; as documented in Appendix H.

**SECTION 10.0 CONCLUSION**

Based on the data, analyses and findings contained herein, and summarized below, the following is concluded in consideration of the development of the subject 7-Eleven site:

- ◆ Acceptable operating conditions are anticipated for each of the site access connections, the off-site study intersections, and the study area roadway segments.
- ◆ Project impacts were identified to be minimal at each of the study intersections and roadway segments, with insignificant changes in level of service and v/c ratios.
- ◆ New turn lanes are not warranted on either U.S. Highway 17 or Spartan Drive at the project site driveway connections.
- ◆ Transportation improvements are identified to not be necessary in association with the development of the proposed 7-Eleven site.

# **APPENDIX A**

## **Methodology**

October 29, 2012

VIA EMAIL

Mr. Shad M. Smith, P.E.  
 Principal Engineer, Engineering Division  
 Seminole County Public Works Department  
 520 West Lake Mary Boulevard, Suite 200  
 Sanford, Florida 32773

**Subject: 7-Eleven Development Site (NEC US-17/Spartan Drive)  
 Traffic Study Methodology Statement [REVISED]**

Dear Mr. Smith,

Seminole County property id no. 19-21-30-300-0630-0000 is an approximately 1.00 acre site located at the northeast corner of the intersection of U.S. Highway 17 at Spartan Drive, and is proposed for the development of a 7-Eleven convenience store with gas (refer to Attachment "A" for location map). This letter documents our proposed methodology for undertaking the required traffic study; whereas the following methodology has been prepared in general accordance with Seminole County's *Summary of Traffic Study Requirements for Site Impact Analysis (Projects in the TCEA/DULA)* dated July 8, 2011.

**Project Description**

The project site is currently vacant as shown in Attachment "B". The project site is proposed to consist of a 2,940 square foot 7-Eleven convenience store with 12 vehicle fueling positions, as shown in Attachment "C". The project site is proposed to access adjacent roads via a right-in/right-out connection to U.S. Highway 17 and via a full access connection to Spartan Drive.

**Trip Generation**

The daily and peak hour trip generation of the project site was estimated for the proposed development using trip characteristic data, as identified in *Trip Generation* (Institute of Transportation Engineers [ITE], 8<sup>th</sup> edition, 2008) and *Trip Generation Handbook* (ITE, 2<sup>nd</sup> edition, 2004); whereas new external trips were calculated using the "primary trip" data identified in the *Trip Generation Handbook* Table 1.0 summarizes the trip generation estimate, as further documented in Attachment "D".

**TABLE 1.0 TRIP GENERATION SUMMARY**

Scenario	Daily Trips		AM Peak Hour Trips		PM Peak Hour Trips	
	Driveway Trips	New External Trips	Driveway Trips	New External Trips	Driveway Trips	New External Trips
Proposed 7-Eleven	2,486	344	130	16	176	30

## RAYSOR Transportation Consulting

---

Mr. Shad M. Smith, P.E.  
October 29, 2012  
Page 2 of 3

### Trip Distribution & Assignment

The distribution and assignment of project generated trips was estimated manually based on existing traffic patterns as shown in Attachment "E".

### Study Area Roadway Segments

The study area shall consist of those roadway segments within a mile of the project site perimeter as listed below (as shown in Attachment "F").

- U1700: U.S. Highway 17 from Orange County Line to Lake of the Woods Blvd
- U1705: U.S. Highway 17 from Lake of the Woods Blvd to State Road 436

Each of the above roadway segments are proposed to be included in the study area.

### Study Area Intersections

The major and/or signalized intersections within a 1/4 mile of the project site perimeter are listed below (as shown in Attachment "G").

- U.S. Highway 17 at Spartan Drive

The above intersection is proposed to be included in the study area, along with the project site access connections.

### Analysis Scenarios

For study roadway segments, daily conditions will be analyzed for total traffic conditions (i.e., existing + committed + new project). For study intersections, PM peak hour conditions will be analyzed for total traffic conditions (i.e., existing + committed + new project).

### Traffic Volumes

Existing and committed daily traffic volumes for study roadway segments will be obtained from the County's *Summary of Roadway Concurrence Information* (3/1/12). Total traffic volumes for study roadway segments will be calculated by adding project generated new external trips to the existing+committed trips.

Existing PM peak hour traffic volumes for study intersections will be obtained from manual counts to be undertaken in October/November 2012. Committed PM peak hour traffic volumes for study intersections will be estimated based on the daily committed traffic volumes using a K factor of 0.091 & a D factor of 0.568. Total traffic volumes for study intersections will be calculated by adding project generated driveway trips to the existing+committed trips.

### Analysis Procedures

Roadway segment analyses will be conducted using generalized analysis methods in consideration of the capacity values as reported in the County's *Summary of Roadway Concurrence Information* (3/1/12). Intersection analyses will be undertaken using Highway Capacity Manual procedures calculated using Synchro software.

**RAYSOR Transportation Consulting**

---

Mr. Shad M. Smith, P.E.  
October 29, 2012  
Page 3 of 3

Documentation

A report documenting the traffic impact study will be prepared in accordance with County requirements. The report will be signed and sealed by a professional engineer registered in the State of Florida.

If you should have any questions or comments regarding the materials discussed herein, please feel free to contact me.

Sincerely,  
RAYSOR Transportation Consulting

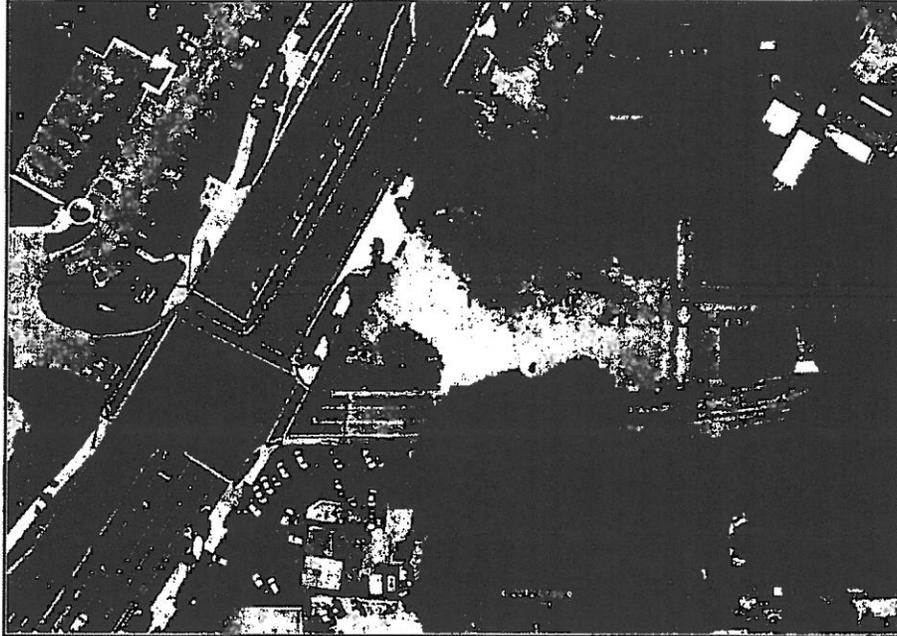
  
Michael D. Rysor, P.E., PTOE  
President

**7-ELEVEN: U.S. HIGHWAY 17 AT SPARTAN DRIVE**

**LOCATION MAP**

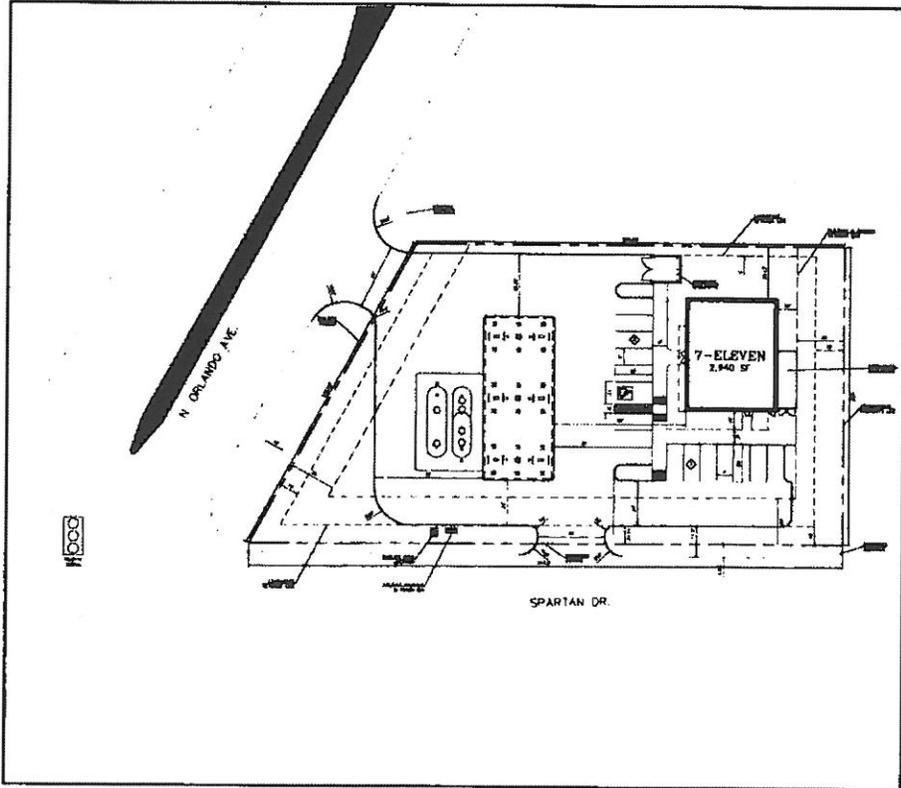


**7-ELEVEN: U.S. HIGHWAY 17 AT SPARTAN DRIVE**  
**EXISTING SITE CONDITIONS**



ATTACHMENT B - 1 of 1

**7-ELEVEN: U.S. HIGHWAY 17 AT SPARTAN DRIVE**  
**PROPOSED SITE CONDITIONS**



ATTACHMENT C - 1 of 1

**7-Eleven Site**

**U.S. Highway 17 at Spartan Drive**

**Proposed Conditions Trip Generation Estimate**

ITE LUC	Land Use Description	Size	Daily			AM Peak Hour			PM Peak Hour					
			Trip Rate	Trips	Enter	Exit	Trip Rate	Trips	Enter	Exit	Trip Rate	Trips	Enter	Exit
853	Convenience Market w/ Gas Pumps	2,940 sf	845.60	2,486	1,243	1,243	43.90	190	65	65	59.69	176	88	88
<b>Driveway Trips</b>				<b>2,486</b>	<b>1,243</b>	<b>1,243</b>		<b>190</b>	<b>65</b>	<b>65</b>		<b>176</b>	<b>88</b>	<b>88</b>
<b>Percent New Trips<sup>(1)</sup></b>				<b>13.8%</b>				<b>11.4%</b>				<b>16.2%</b>		
<b>Pass-By Trips</b>				<b>2,142</b>	<b>1,071</b>	<b>1,071</b>		<b>114</b>	<b>57</b>	<b>57</b>		<b>146</b>	<b>73</b>	<b>73</b>
<b>Net External Trips</b>				<b>344</b>	<b>172</b>	<b>172</b>		<b>16</b>	<b>8</b>	<b>8</b>		<b>30</b>	<b>15</b>	<b>15</b>

(1) Primary Trip Rate Sources: AM & PM - ITE Trip Generation Handbook (2nd ed.), Weekday calculated as average of AM and PM.

**Table 5.12**  
**Pass-By Trips and Diverted Limited Trips**  
**Weekday, a.m. Peak Period**  
**Land Use 853—Convenience Market with Gasoline Pumps**

SIZE OF LOT SQ. FT./GPA	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PRIMARY TRIP (PI)	NO. OF PASS- BY TRIP (P)	DIVERTED LIMITED TRIP (DI)	PASSEY TRIP (PI)	ADJ. STREET PEAK HOUR VOLUME	SOURCE
2.8	Louisville area, KY	1993	n/a	7:00-9:00 a.m.	11	—	35	54	1,240	Barton-Aechmann Assoc.
2.4	Louisville area, KY	1993	n/a	7:00-9:00 a.m.	17	—	35	48	1,210	Barton-Aechmann Assoc.
4.2	Louisville area, KY	1993	47	7:00-9:00 a.m.	18	—	19	82	1,795	Barton-Aechmann Assoc.
2.6	Crestwood, KY	1993	n/a	7:00-9:00 a.m.	15	—	13	72	940	Barton-Aechmann Assoc.
3.7	Louisville area, KY	1993	49	7:00-9:00 a.m.	18	—	18	66	980	Barton-Aechmann Assoc.
3.0	New Albany, IN	1993	62	7:00-9:00 a.m.	10	—	16	74	790	Barton-Aechmann Assoc.
2.3	Louisville, KY	1993	58	7:00-9:00 a.m.	5	—	31	64	1,225	Barton-Aechmann Assoc.
2.2	New Albany, IN	1993	79	7:00-9:00 a.m.	8	—	38	56	685	Barton-Aechmann Assoc.
3.6	Louisville area, KY	1993	48	7:00-9:00 a.m.	4	—	29	87	1,885	Barton-Aechmann Assoc.

Average Pass-By Trip Percentage: 83

**AVERAGE VALUE = 11.4**

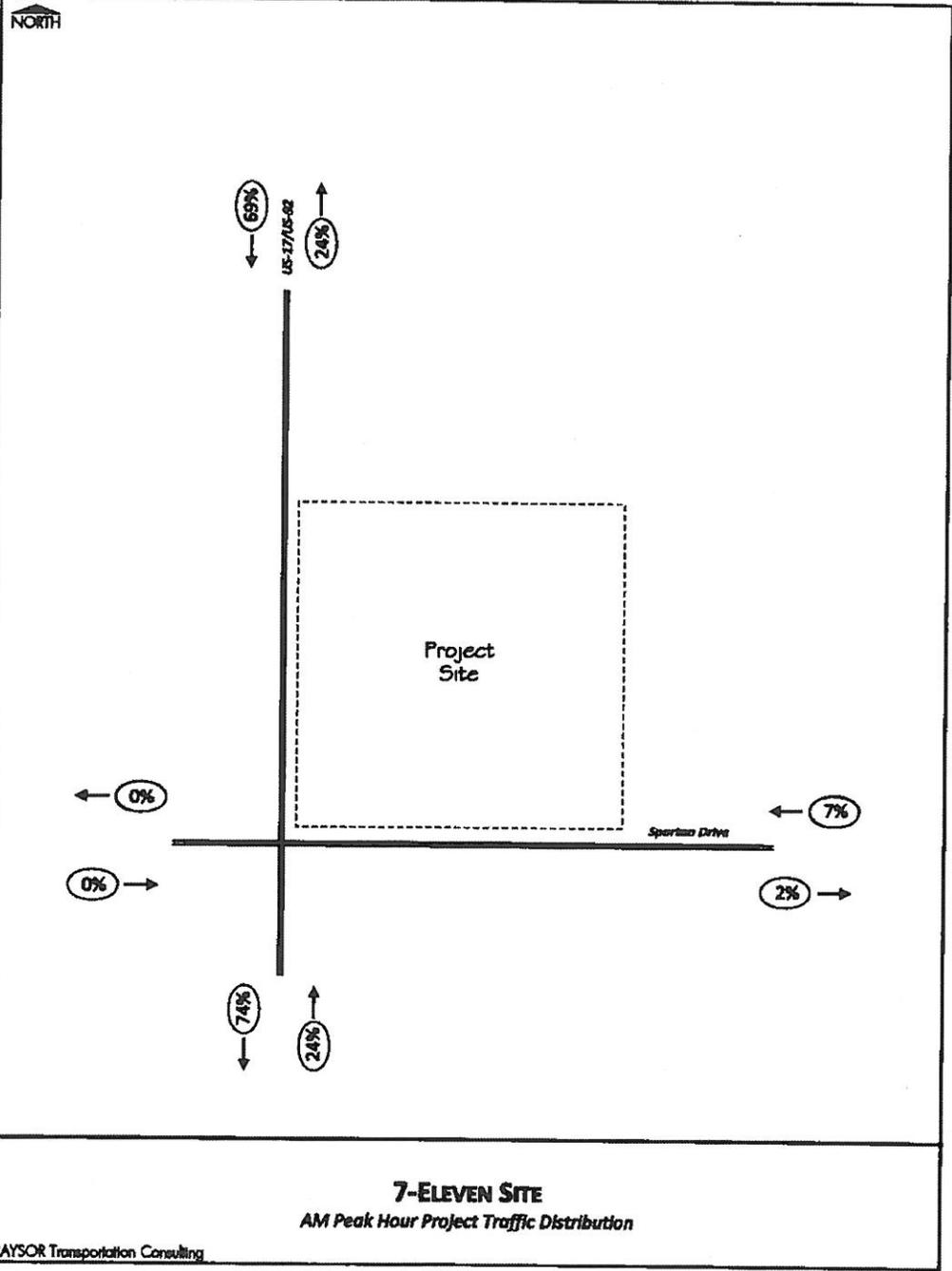
**Table 5.13**  
**Pass-By Trips and Diverted Linked Trips**  
**Weekday, p.m. Peak Period**

**Land Use 853 - Convenience Market with Gasoline Pumps**

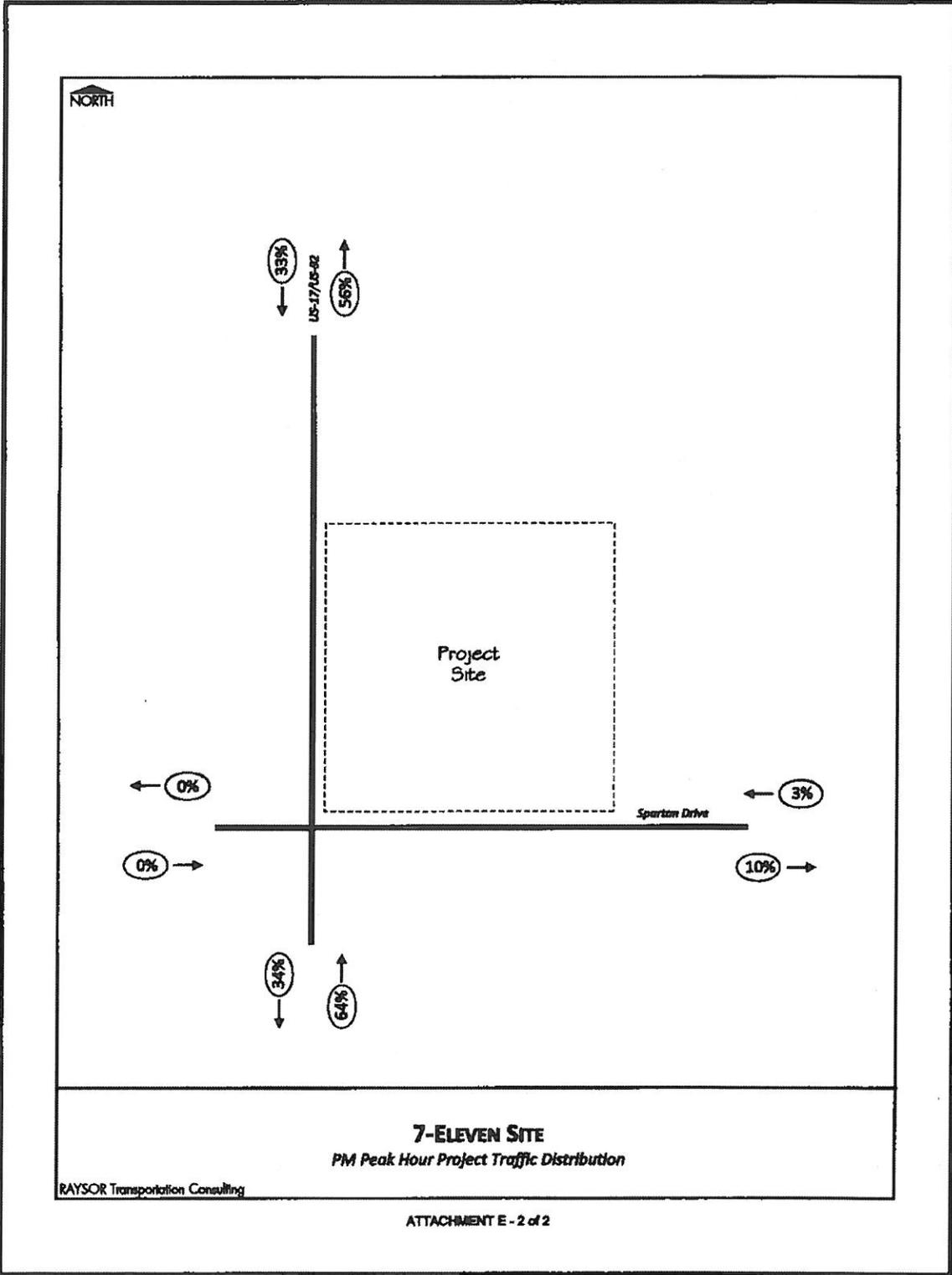
SIZE 1,000 SQ. FT. (A)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TRUE PERIOD	PRIMARY TRIP (N)	NON-PASS- BY TRIP (N)	DIVERTED LINKED TRIP (N)	PASS BY TRIP (N)	ADJ. STREET PEAK-HOUR VOLUME	SOURCE
2.8	Louisville area, KY	1983	n/a	4:00-6:00 p.m.	11	-	27	82	2,875	Barton-Achtmann Assoc.
2.4	Louisville area, KY	1983	n/a	4:00-6:00 p.m.	13	-	29	58	2,655	Barton-Achtmann Assoc.
4.2	Louisville area, KY	1983	81	4:00-6:00 p.m.	26	-	16	56	2,300	Barton-Achtmann Assoc.
2.6	Creswood, KY	1983	68	4:00-6:00 p.m.	15	-	18	87	960	Barton-Achtmann Assoc.
3.7	Louisville area, KY	1983	70	4:00-6:00 p.m.	16	-	23	81	2,175	Barton-Achtmann Assoc.
3.0	New Albany, IN	1983	80	4:00-6:00 p.m.	15	-	20	85	1,165	Barton-Achtmann Assoc.
2.2	Louisville, KY	1983	87	4:00-6:00 p.m.	15	-	27	57	1,854	Barton-Achtmann Assoc.
2.2	New Albany, IN	1983	115	4:00-6:00 p.m.	16	-	38	48	820	Barton-Achtmann Assoc.
3.6	Louisville area, KY	1983	80	4:00-6:00 p.m.	17	-	27	56	2,505	Barton-Achtmann Assoc.
2.8	Birmingham Co., FL	1983	82	4:00-6:00 p.m.	20	-	7	73	n/a	Tipton Associates Inc.
2.6	Seminole Co., FL	1983	99	4:00-6:00 p.m.	15	-	4	81	n/a	Tipton Associates Inc.
2.6	Seminole Co., FL	1983	115	4:00-6:00 p.m.	16	-	15	96	n/a	Tipton Associates Inc.
2.6	Volusia Co., FL	1983	98	4:00-6:00 p.m.	16	-	11	74	n/a	Tipton Associates Inc.
2.4	Volusia Co., FL	1983	38	4:00-6:00 p.m.	24	-	2	74	n/a	Tipton Associates Inc.
2.7	Volusia Co., FL	1983	82	4:00-6:00 p.m.	8	-	5	87	n/a	Tipton Associates Inc.

Average Pass-By Trip Percentage: 68

**AVERAGE VALUE = 16.2**



ATTACHMENT E - 1 of 2



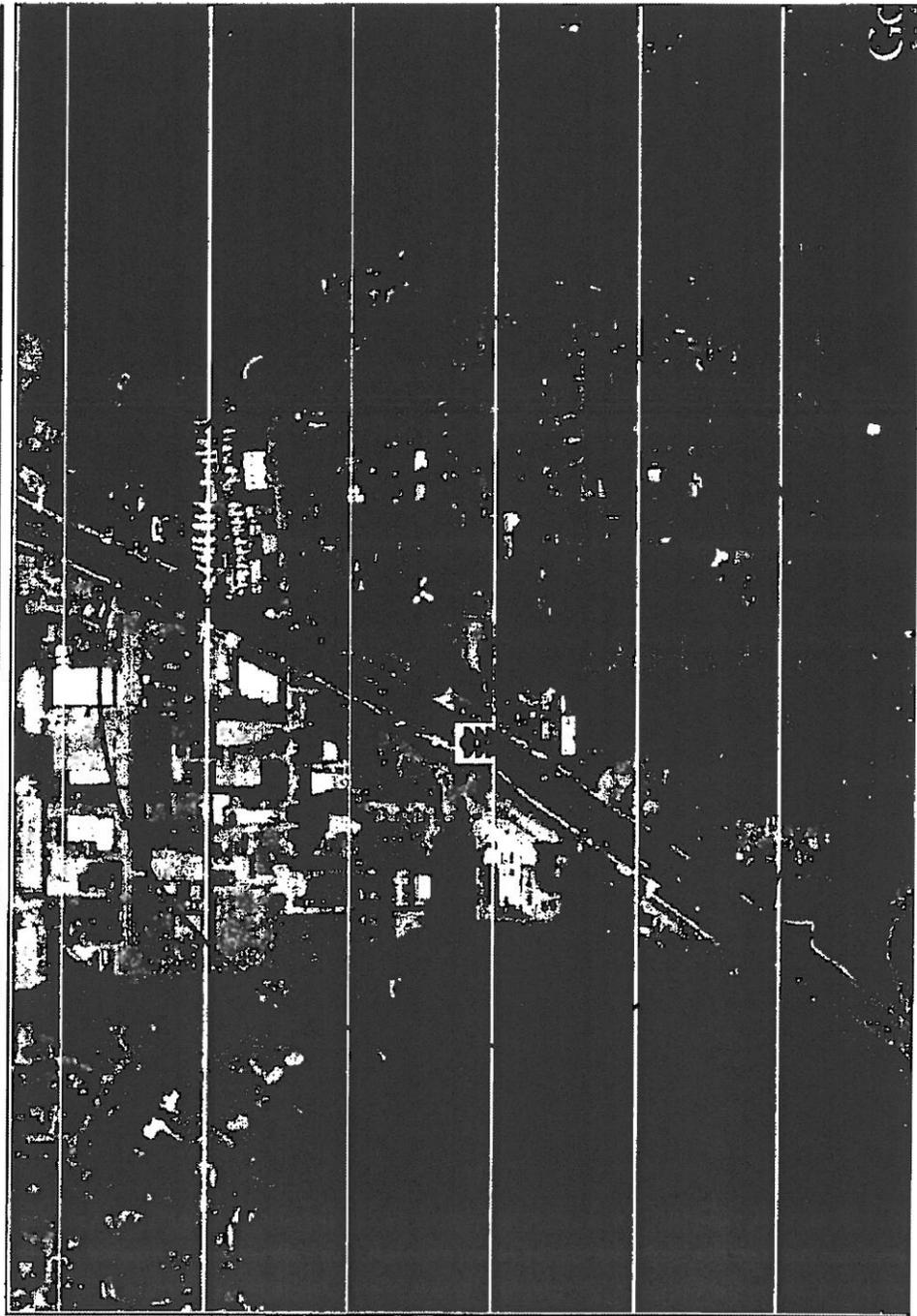
7-Eleven Site  
U.S. Highway 17 at Spartan Drive

ONE MILE RADIUS OF INFLUENCE



ATTACHMENT F - 1 of 1

7-Eleven Site  
U.S. Highway 17 at Spartan Drive



CRC

One-Quarter Mile Radius of Influence

**Michael Raysor**

---

**From:** Nelson, Anthony [ANelson@seminolecountyfl.gov]  
**Sent:** Friday, November 02, 2012 11:31 AM  
**To:** 'Michael Raysor'  
**Subject:** RE: 7-11 site at US-17/Spartan

Michael:

Revised the trip distribution you provided to show 12% eastbound and 12% westbound for Spartan Drive. This is a cut through road that is fairly traveled and the 12% seems more practical for such a road, as Spartan Drive. Please coordinate with the design engineer as I cannot approve the TIA until I have the correct design shown of the location of the driveway on Spartan, once it has been shifted farther to the east. I have no further comments.

Regards,  
Tony Nelson

---

**From:** Michael Raysor [mailto:mdr@raysor-transportation.com]  
**Sent:** Monday, October 29, 2012 4:00 PM  
**To:** Nelson, Anthony  
**Cc:** Smith, Shad  
**Subject:** RE: 7-11 site at US-17/Spartan

Tony,

I have revised the methodology (attached) in response to your comments, as follows:

- (1) Removed reference to growth/seasonal factors.
- (2) Provided supporting information for the assumed primary trips (percent new trips) - refer to Attachment D-2 & D-3. (noting that the values proposed are the same as those approved for use for the Red Bug/Tuskawilla site)
- (3) Provided trip distributions for study segments - refer to Attachment E-1 & E-2.
- (4) Added reference to County established K and D factors.
- (5) In regard to the driveway location, I will forward the comment to the site engineer.

Thank you, and I will be looking forward to hearing from you.

-Mike

Michael D. Raysor, P.E., PTOE  
RAYSOR Transportation Consulting  
19046 Bruce B. Downs Boulevard, #308  
Tampa, Florida 33647  
(813) 625-1699 | (813) 413-7432 fx

---

**From:** Nelson, Anthony [mailto:ANelson@seminolecountyfl.gov]  
**Sent:** Monday, October 22, 2012 11:30 AM  
**To:** 'Michael Raysor'  
**Cc:** Smith, Shad  
**Subject:** RE: 7-11 site at US-17/Spartan

Attached is our response to the methodology you submitted for the referenced project. Please revised and resubmit an updated methodology at your earliest convenience for review and approval, prior to the submittal of the Traffic Impact Analysis.

Regards,  
Tony Nelson

---

From: Michael Raysor [mailto:mdr@raysor-transportation.com]  
Sent: Thursday, October 18, 2012 4:40 PM  
To: Nelson, Anthony  
Subject: 7-11 site at US-17/Spartan

Tony,

I have attached our proposed methodology for conducting the traffic study for the development of the 7-11 site at US-17/Spartan. The methodology was prepared in general accordance with the County's guidelines.

Please review and forward either comments or approval.

Also, when you get this email, could you please respond back with an estimate regarding when we can expect approval/comments?

Thank you.

-Mike

Michael D. Raysor, P.E., PTOE  
RAYSOR Transportation Consulting  
19046 Bruce B. Downs Boulevard, #308  
Tampa, Florida 33647  
(813) 625-1699 | (813) 413-7432 fx

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\*\*\*\*Florida has a very broad Public Records Law. Virtually all written communications to or from State and Local Officials and employees are public records available to the public and media upon request. Seminole County policy does not differentiate between personal and business emails. E-mail sent on the County system will be considered public and will only be withheld from disclosure if deemed confidential pursuant to State Law.\*\*\*\*

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\*\*\*\*Florida has a very broad Public Records Law. Virtually all written communications to or from State and Local Officials and employees are public records available to the public and media upon request. Seminole County policy does not differentiate between personal and business emails. E-mail sent on the County system will be considered public and will only be withheld from disclosure if deemed confidential pursuant to State Law.\*\*\*\*

# **APPENDIX B**

## **Trip Generation**

**7-Eleven Site**

**U.S. Highway 17 at Spartan Drive**

**Proposed Conditions Trip Generation Estimate**

ITE LUC	Land Use Description	Size	Daily			AM Peak Hour			PM Peak Hour					
			Trip Rate	Trips	Enter	Exit	Trip Rate	Trips	Enter	Exit	Trip Rate	Trips	Enter	Exit
853	Convenience Market w/ Gas Pumps	2,940 sf	845.60	2,486	1,243	1,243	43.90	130	65	65	59.69	176	88	88
<b>Driveway Trips</b>				<b>2,486</b>	<b>1,243</b>	<b>1,243</b>		<b>130</b>	<b>65</b>	<b>65</b>		<b>176</b>	<b>88</b>	<b>88</b>
<b>Percent New Trips<sup>(1)</sup></b>				<b>13.8%</b>				<b>11.4%</b>				<b>16.2%</b>		
<b>Pass-By Trips</b>				<b>2,142</b>	<b>1,071</b>	<b>1,071</b>		<b>114</b>	<b>57</b>	<b>57</b>		<b>146</b>	<b>73</b>	<b>73</b>
<b>New External Trips</b>				<b>344</b>	<b>172</b>	<b>172</b>		<b>16</b>	<b>8</b>	<b>8</b>		<b>30</b>	<b>15</b>	<b>15</b>

(1) Primary Trip Rate Sources: AM & PM - ITE Trip Generation Handbook (2nd ed.), Weekday calculated as average of AM and PM.

**Table 5.12**  
**Pass-By Trips and Diverted Linked Trips**  
**Weekday, a.m. Peak Period**

**Land Use 853 - Convenience Market with Gasoline Pumps**

SIZE (1,000 SQ. FT. GFA)	LOCATION	WEEKDAY SURVEY DATE	NO. OF INTERVIEWS	TIME PERIOD	PRIMARY TRIP (%)	NON-PASS BY TRIP (%)	DIVERTED LINKED TRIP (%)	PASS-BY TRIP (%)	ADJ STREET PEAK HOUR VOLUME	SOURCE
2.8	Louisville area, KY	1983	n/a	7:00-9:00 a.m.	11	-	35	54	1,240	Barton-Aechman Assoc.
2.4	Louisville area, KY	1983	n/a	7:00-9:00 a.m.	17	-	35	48	1,210	Barton-Aechman Assoc.
4.2	Louisville area, KY	1983	47	7:00-9:00 a.m.	19	-	19	62	1,705	Barton-Aechman Assoc.
2.6	Crestwood, KY	1983	n/a	7:00-9:00 a.m.	15	-	13	72	940	Barton-Aechman Assoc.
3.7	Louisville area, KY	1983	49	7:00-9:00 a.m.	16	-	18	66	990	Barton-Aechman Assoc.
3.0	New Albany, IN	1983	62	7:00-9:00 a.m.	10	-	16	74	790	Barton-Aechman Assoc.
2.3	Louisville, KY	1983	58	7:00-9:00 a.m.	5	-	31	64	1,255	Barton-Aechman Assoc.
2.2	New Albany, IN	1983	79	7:00-9:00 a.m.	6	-	38	56	635	Barton-Aechman Assoc.
3.6	Louisville area, KY	1983	49	7:00-9:00 a.m.	4	-	29	87	1,985	Barton-Aechman Assoc.

Average Pass-By Trip Percentage: 63

**AVERAGE VALUE = 11.4**

**Table 5.13**  
**Pass-By Trips and Diverted Linked Trips**  
**Weekday, p.m. Peak Period**  
**Land Use 853 — Convenience Market with Gasoline Pumps**

SIZE (1,000 SQ FT GFA)	LOCATION	WEEKDAY SURVEY DATE	NO OF INTERVIEWS	TIME PERIOD	PRIMARY TRIP (%)	NON-PASS- BY TRIP (%)	DIVERTED LINKED TRIP (%)	PASS-BY TRIP (%)	ADJ STREET PEAK HOUR VOLUME	SOURCE
2.8	Louisville area, KY	1993	n/a	4:00-6:00 p.m.	11	—	27	62	2,875	Barton-Aeschman Assoc.
2.4	Louisville area, KY	1993	n/a	4:00-6:00 p.m.	13	—	29	58	2,655	Barton-Aeschman Assoc.
4.2	Louisville area, KY	1993	61	4:00-6:00 p.m.	26	—	16	58	2,300	Barton-Aeschman Assoc.
2.6	Crestwood, KY	1993	68	4:00-6:00 p.m.	15	—	18	67	950	Barton-Aeschman Assoc.
3.7	Louisville area, KY	1993	70	4:00-6:00 p.m.	16	—	23	61	2,175	Barton-Aeschman Assoc.
3.0	New Albany, IN	1993	80	4:00-6:00 p.m.	15	—	20	65	1,165	Barton-Aeschman Assoc.
2.3	Louisville, KY	1993	67	4:00-6:00 p.m.	16	—	27	57	1,954	Barton-Aeschman Assoc.
2.2	New Albany, IN	1993	115	4:00-6:00 p.m.	16	—	36	48	820	Barton-Aeschman Assoc.
3.6	Louisville area, KY	1993	60	4:00-6:00 p.m.	17	—	27	56	2,505	Barton-Aeschman Assoc.
2.6	Seminole Co., FL	1993	82	4:00-6:00 p.m.	20	—	7	73	n/a	Tipton Associates Inc.
2.6	Seminole Co., FL	1993	98	4:00-6:00 p.m.	15	—	4	81	n/a	Tipton Associates Inc.
2.6	Seminole Co., FL	1993	115	4:00-6:00 p.m.	16	—	15	69	n/a	Tipton Associates Inc.
2.6	Volusia Co., FL	1993	98	4:00-6:00 p.m.	15	—	11	74	n/a	Tipton Associates Inc.
2.4	Volusia Co., FL	1993	38	4:00-6:00 p.m.	24	—	2	74	n/a	Tipton Associates Inc.
2.7	Volusia Co., FL	1993	82	4:00-6:00 p.m.	8	—	5	87	n/a	Tipton Associates Inc.

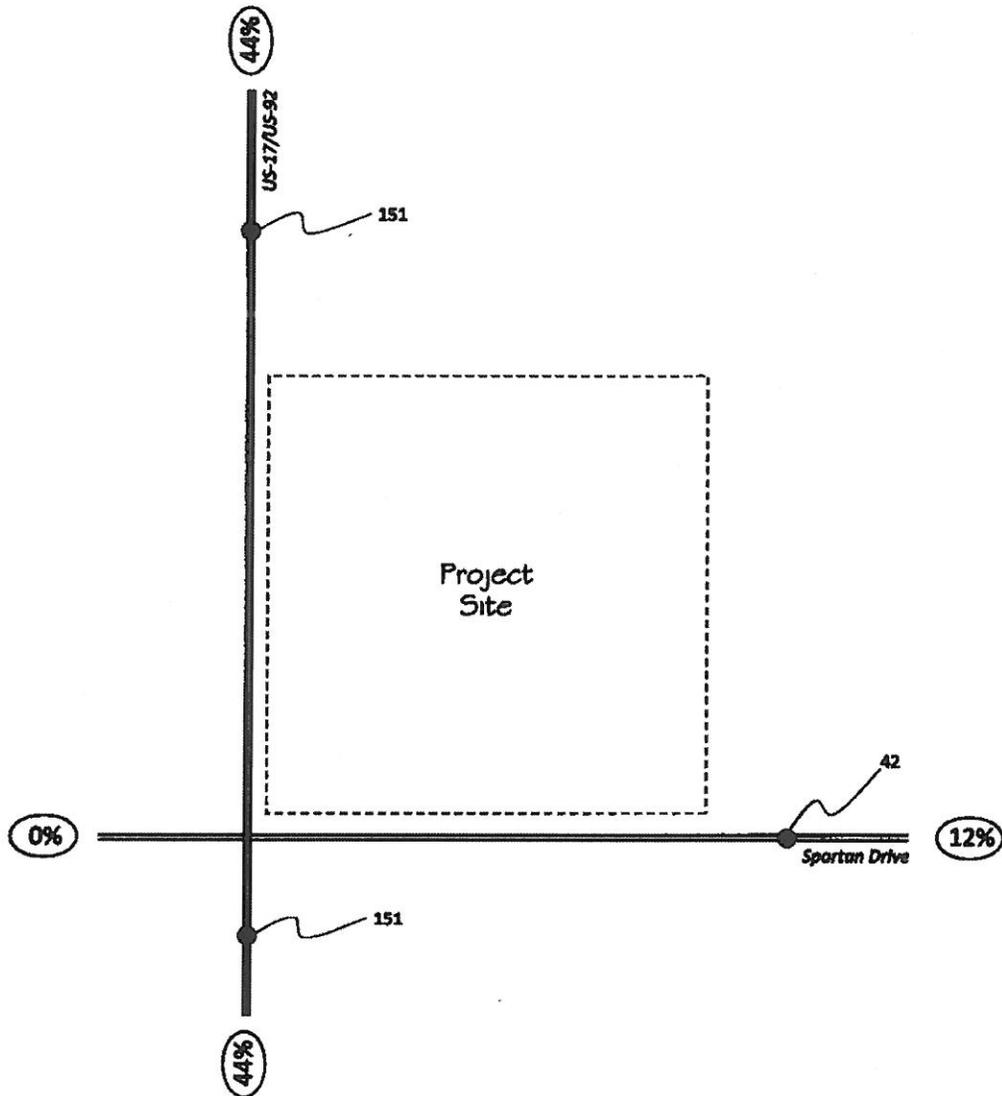
Average Pass-By Trip Percentage: 66

**AVERAGE VALUE = 16.2**

# **APPENDIX C**

## **Project Traffic Distribution & Assignment**

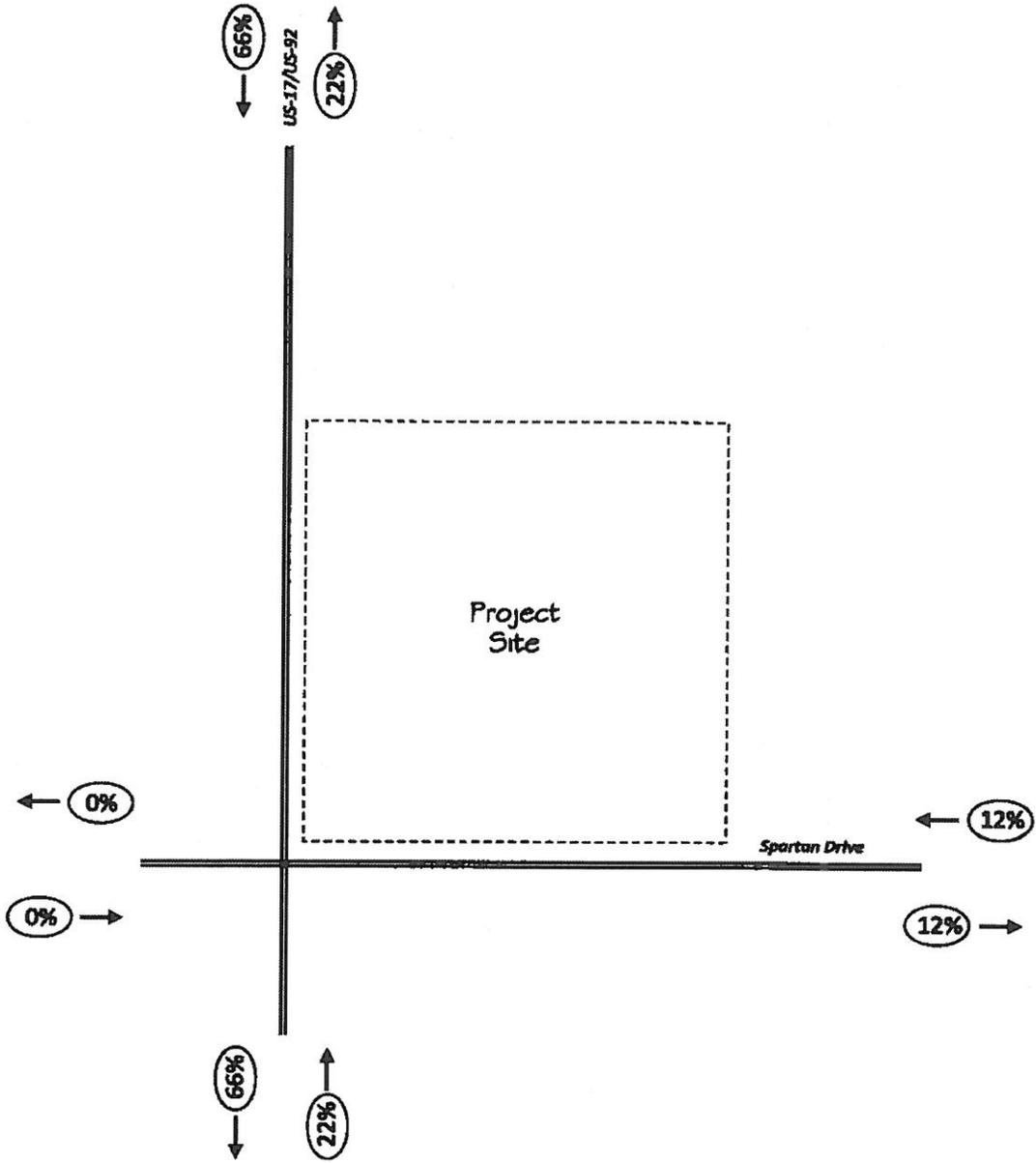
NORTH



**7-ELEVEN SITE**  
*Daily Project Traffic Distribution & Assignment*

RAYSOR Transportation Consulting

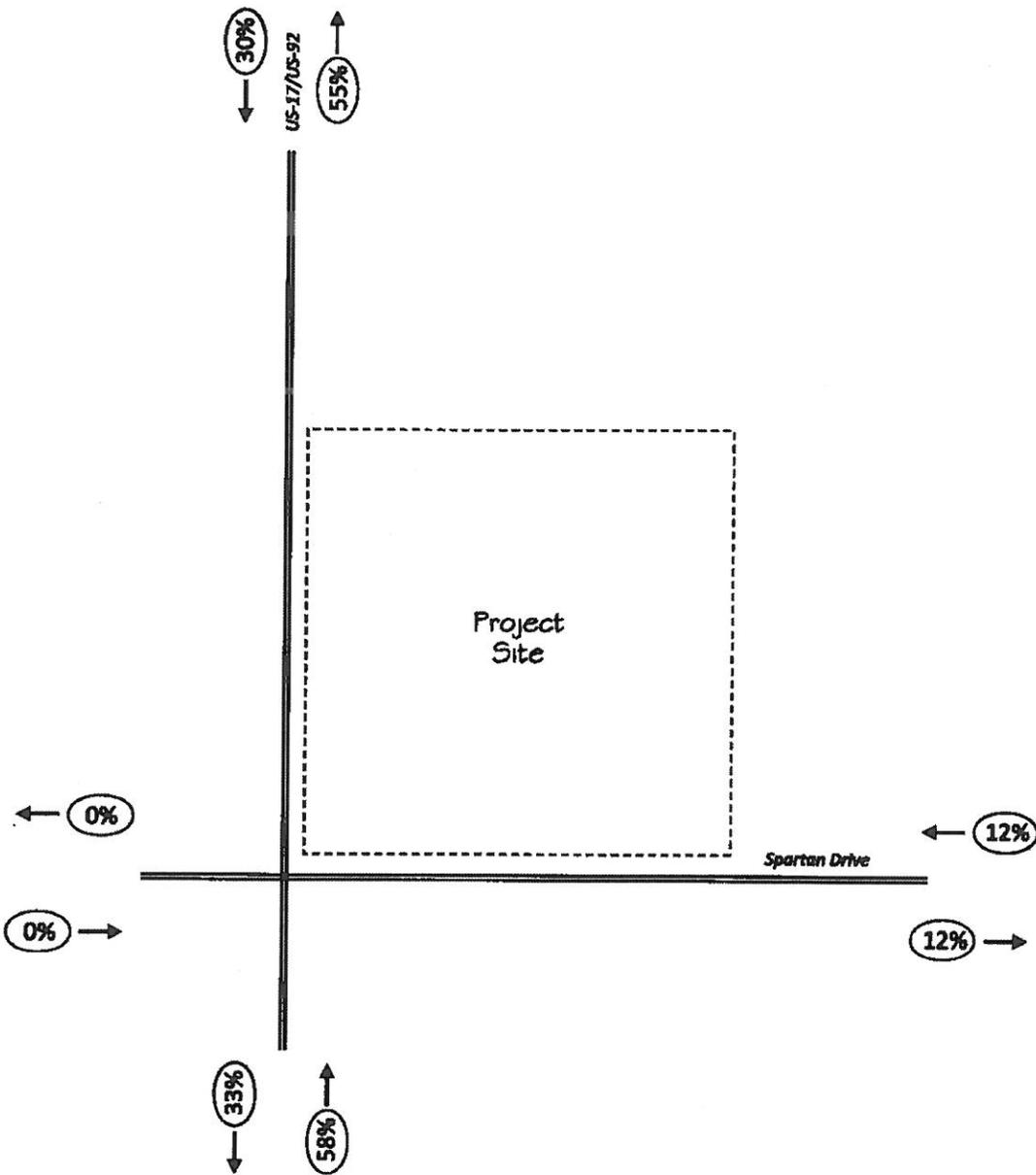
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**7-ELEVEN SITE**  
**AM Peak Hour Project Traffic Distribution**

RAYSOR Transportation Consulting

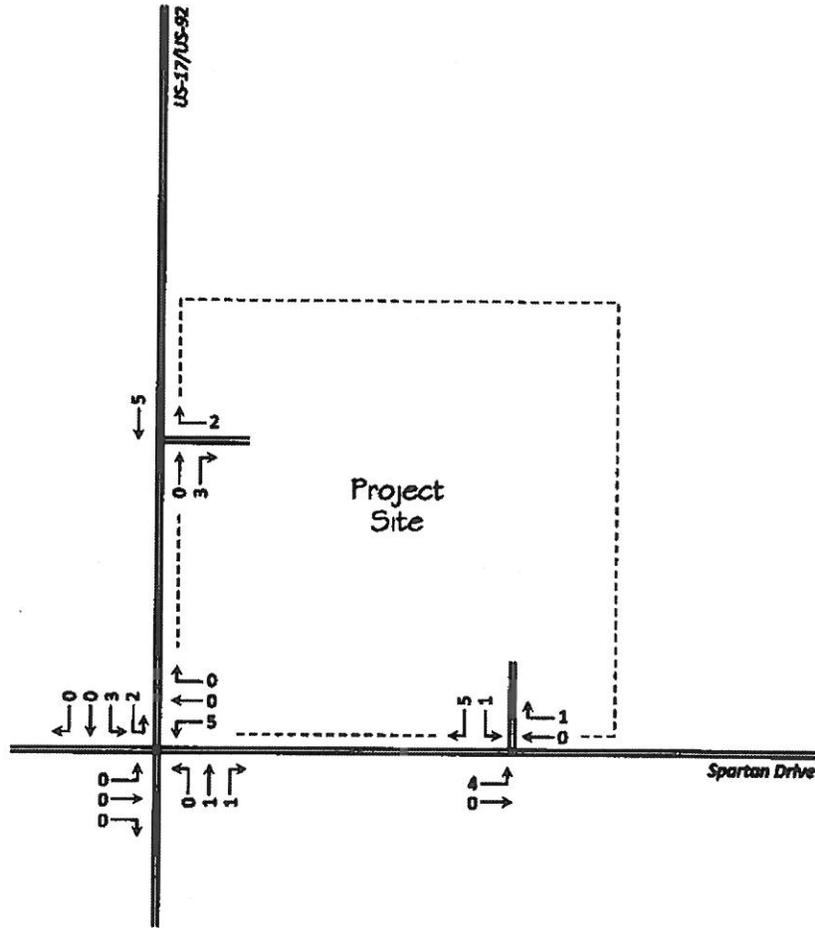
NORTH



**7-ELEVEN SITE**  
*PM Peak Hour Project Traffic Distribution*

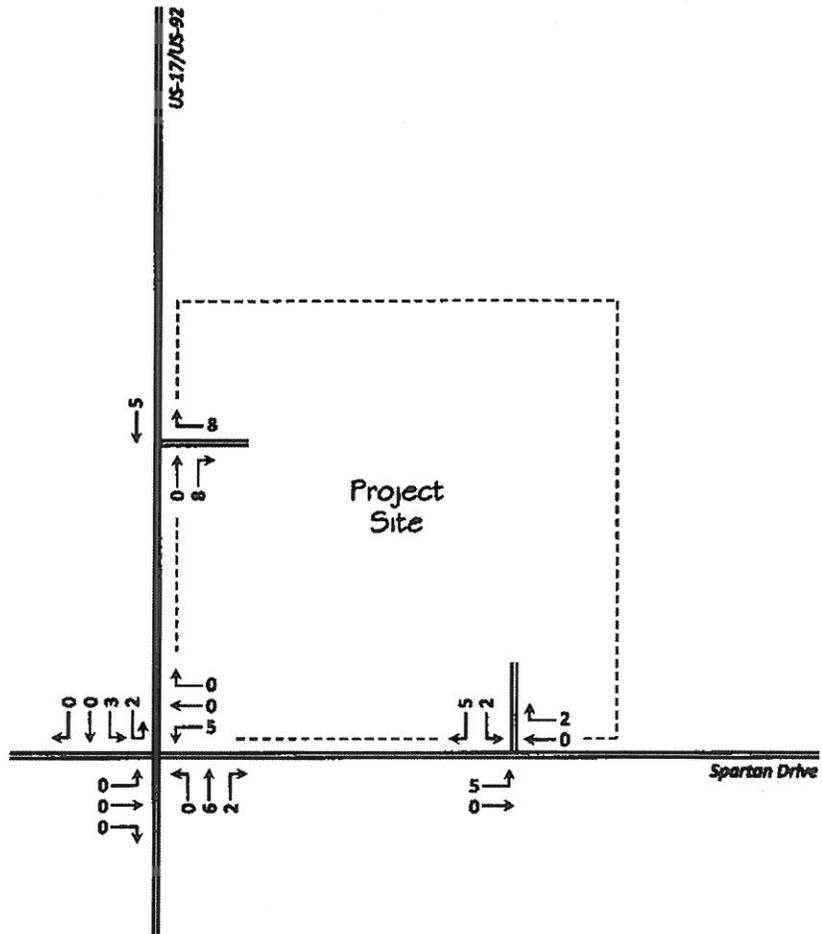
RAYSOR Transportation Consulting

NORTH



### 7-ELEVEN SITE

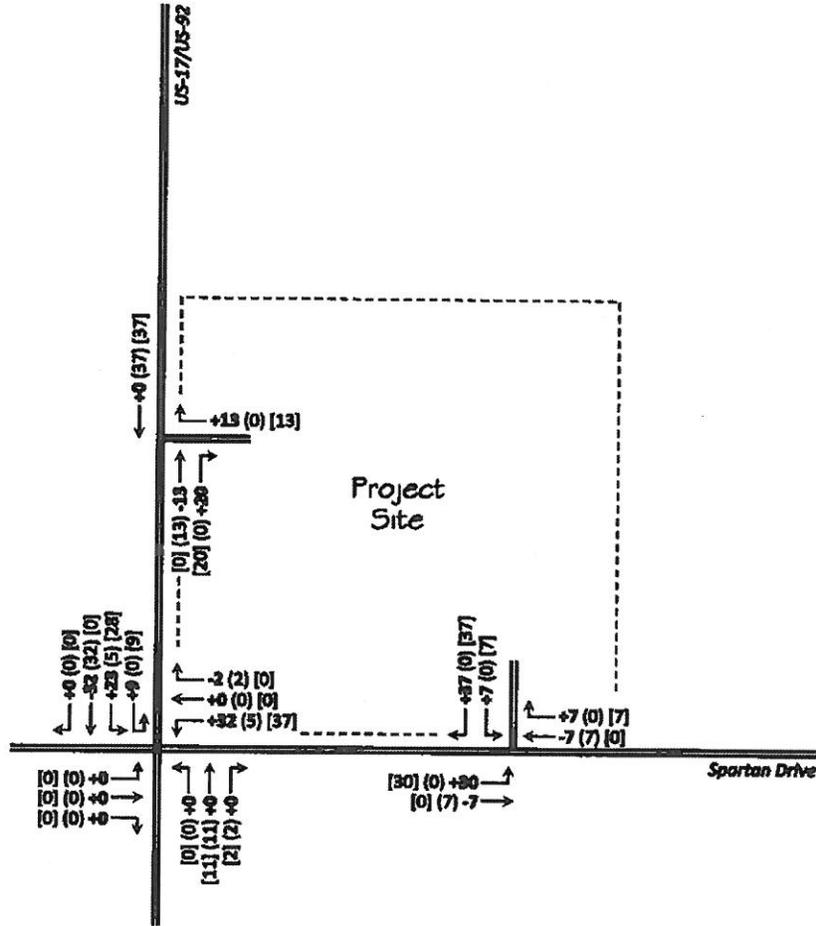
AM Peak Hour Project Traffic Assignment (New External Trips)



### 7-ELEVEN SITE

PM Peak Hour Project Traffic Assignment (New External Trips)

NORTH



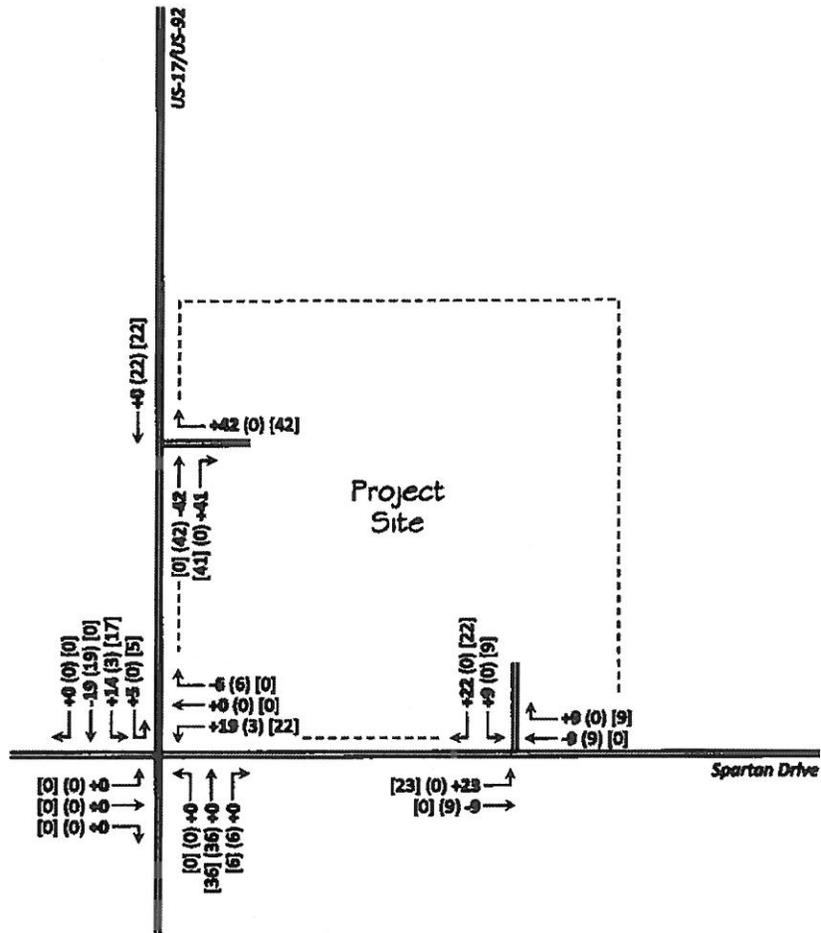
**LEGEND**

- (00) Unaltered Vehicle Movements - Original
- [00] Captured Vehicle Movements - PassBy
- 00 Net Vehicle Movements - Resulting Differential

**7-ELEVEN SITE**

AM Peak Hour Project Traffic Assignment (Pass-By Trips)

NORTH

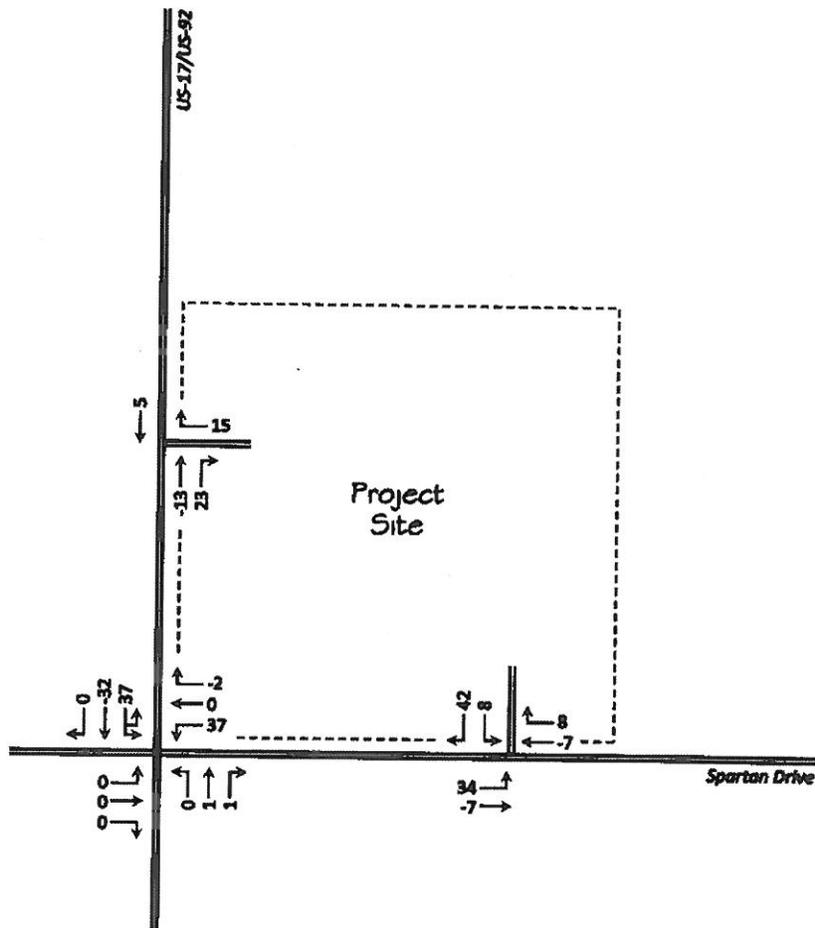


**LEGEND**  
[00] Unaltered Vehicle Movements - Original  
[00] Captured Vehicle Movements - PassBy  
00 Net Vehicle Movements - Resulting Differential

**7-ELEVEN SITE**  
*PM Peak Hour Project Traffic Assignment (Pass-By Trips)*

RAYSOR Transportation Consulting

NORTH

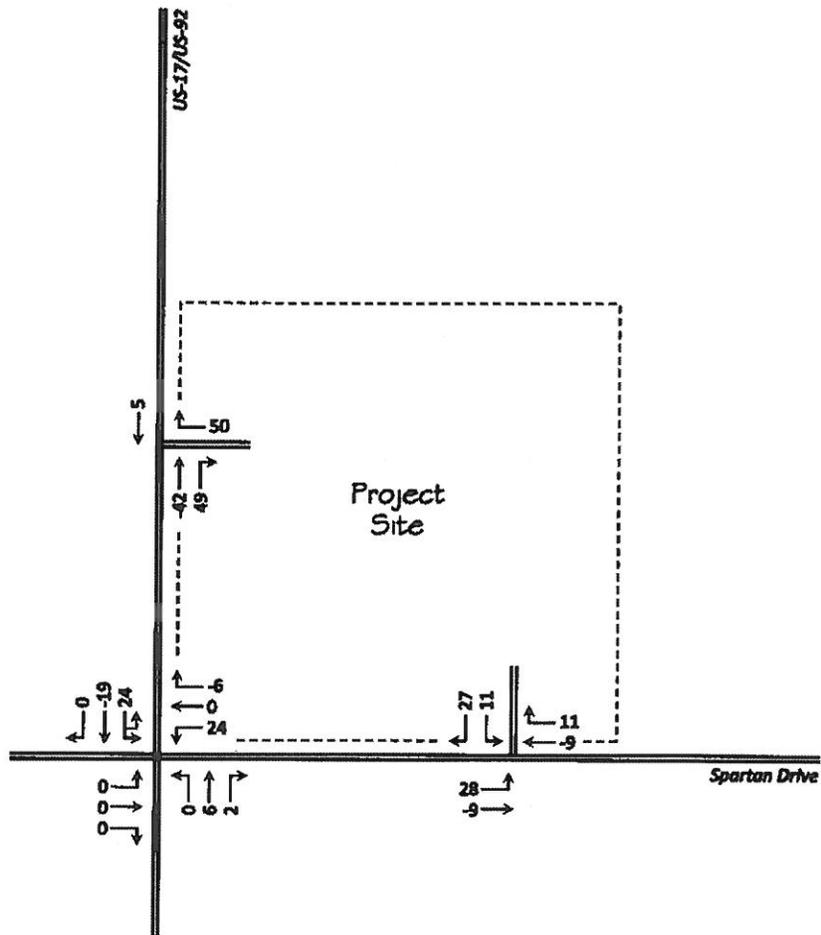


### 7-ELEVEN SITE

AM Peak Hour Project Traffic Assignment (New External & Pass-By Trips)

RAYSOR Transportation Consulting

NORTH



### 7-ELEVEN SITE

PM Peak Hour Project Traffic Assignment (New External & Pass-By Trips)

RAYSOR Transportation Consulting

# **APPENDIX D**

## **Study Area**

**ONE MILE RADIUS OF INFLUENCE**

**7-Eleven Site  
U.S. Highway 17 at Spartan Drive**



**ONE-QUARTER MILE RADIUS OF INFLUENCE**

**7-Eleven Site  
U.S. Highway 17 at Spartan Drive**



# **APPENDIX E**

## **Traffic Counts**

RKEY	Roadway Name	From	To	
TSK50	Tuskawilla Rd	East Lake Dr	Red Bug Lake Rd	
				Current Traffic Count <b>34,237</b>
				Roadway Link Capacity <b>42,660</b>
				Committed Trips <b>257</b>
				Net Available Capacity <b>8,096</b>
TSK75	Tuskawilla Rd	Winter Springs Blvd	East Lake Dr	
				Current Traffic Count <b>26,256</b>
				Roadway Link Capacity <b>42,660</b>
				Committed Trips <b>117</b>
				Net Available Capacity <b>16,187</b>
TSK90	Tuskawilla Rd	S.R. 434	Winter Springs Blvd	
				Current Traffic Count <b>19,582</b>
				Roadway Link Capacity <b>42,660</b>
				Committed Trips <b>156</b>
				Net Available Capacity <b>22,922</b>
U1700	U.S. 17-92	Lake of the Woods Blvd	Orange County Line	
				Current Traffic Count <b>55,596</b>
				Roadway Link Capacity <b>60,000</b>
				Committed Trips <b>231</b>
				Net Available Capacity <b>4,173</b>
U1705	U.S. 17-92	S.R. 436	Lake of the Woods Blvd	
				Current Traffic Count <b>47,413</b>
				Roadway Link Capacity <b>60,000</b>
				Committed Trips <b>305</b>
				Net Available Capacity <b>12,282</b>
U1710	U.S. 17-92	Triplet Lake Dr	S.R. 436	
				Current Traffic Count <b>50,441</b>
				Roadway Link Capacity <b>60,000</b>
				Committed Trips <b>0</b>
				Net Available Capacity <b>9,559</b>
U1715	U.S. 17-92	Dog Track Rd/Seminola Blvd	Triplet Lake Dr	
				Current Traffic Count <b>51,519</b>
				Roadway Link Capacity <b>60,000</b>
				Committed Trips <b>708</b>
				Net Available Capacity <b>7,773</b>
U1720	U.S. 17-92	S.R. 434	Seminola-Dogtrack Rd	
				Current Traffic Count <b>47,429</b>
				Roadway Link Capacity <b>60,000</b>
				Committed Trips <b>520</b>
				Net Available Capacity <b>12,051</b>

Thursday, March 01, 2012

This information has been provided by Shad M. Smith, P.E. at Seminola County Engineering and is current information as of the above referenced date.

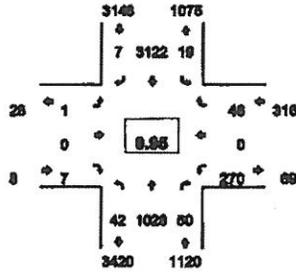
Peak Hour Committed Volumes		
$231 \times K(0.091) \times D(0.568) = 12$		
AM	NB	SB
	9	12
PM	12	9

Type of peak hour being reported: Intersection Peak

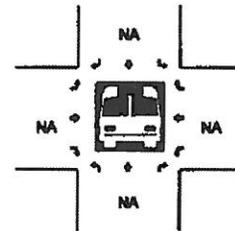
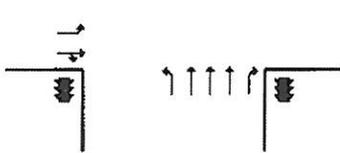
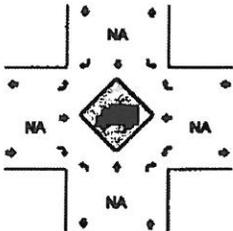
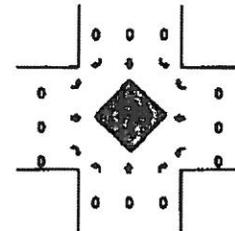
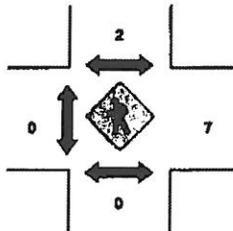
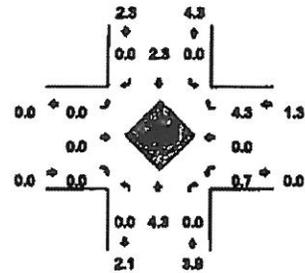
Method for determining peak hour: Total Entering Volume

LOCATION: US 17 – Spartan Dr  
CITY/STATE: Fern Park, FL

QC JOB #: 10837701  
DATE: Tue, Oct 23 2012



Peak-Hour: 7:30 AM – 8:30 AM  
Peak 15-Min: 7:30 AM – 7:45 AM



15-Min Count Period Beginning At	US 17 (Northbound)					US 17 (Southbound)					Spartan Dr (Eastbound)					Spartan Dr (Westbound)					Total	Hourly Totals
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*		
7:00 AM	1	171	3	1	0	0	564	0	0	0	1	0	0	0	1	42	0	3	0	0	787	
7:15 AM	5	190	6	2	0	4	746	0	0	0	0	0	2	0	0	50	0	5	0	0	1012	
8:30 AM	6	253	12	3	2	7	732	1	0	0	2	0	0	0	3	62	1	8	0	3	1066	4474
8:45 AM	2	288	16	8	2	3	745	0	0	0	1	1	2	0	0	69	1	11	0	3	1162	4512
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>					<b>Southbound</b>					<b>Eastbound</b>					<b>Westbound</b>					<b>Total</b>	
All Vehicles	18	1004	28	4	4	4	3486	0	0	4	0	0	0	0	4	284	0	32	0	12	4652	
Heavy Trucks	0	40	0			0	52	0			0	0	0			4	0	0			66	
Pedestrians	0	0				0	0				0	0				4	0				4	
Bicycles	0	0				0	0				0	0				0	0				0	
Railroad																						
Stopped Buses																						

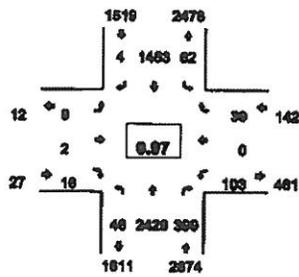
Comments:

Type of peak hour being reported: Intersection Peak

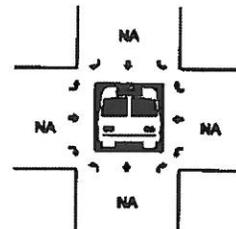
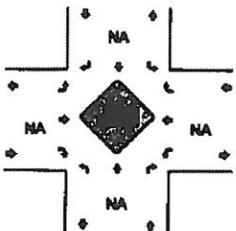
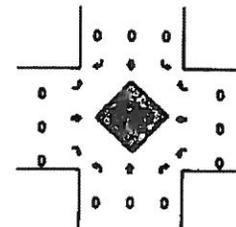
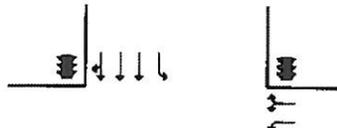
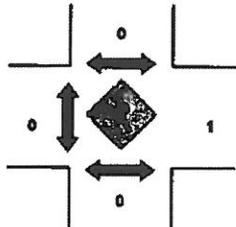
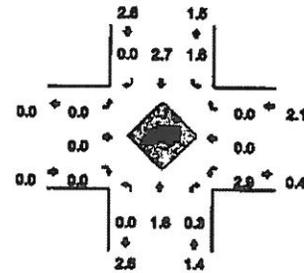
Method for determining peak hour: Total Entering Volume

LOCATION: US 17 – Spartan Dr  
CITY/STATE: Fern Park, FL

QC JOB #: 10837702  
DATE: Tue, Oct 23 2012



Peak-Hour: 5:00 PM – 6:00 PM  
Peak 15-Min: 5:00 PM – 5:15 PM



15-Min Count Period Beginning At	US 17 (Northbound)				US 17 (Southbound)				Spartan Dr (Eastbound)				Spartan Dr (Westbound)				Total	Hourly Totals				
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left			Thru	Right	U	R*
4:00 PM	1	543	40	13	3	4	305	1	1	0	2	0	0	0	4	16	0	5	0	2	939	
4:15 PM	1	516	45	6	10	3	308	1	0	0	1	0	0	0	5	23	0	10	0	1	930	
4:30 PM	1	548	51	13	8	10	330	1	0	0	1	2	0	0	4	18	0	5	0	2	892	
4:45 PM	1	622	89	9	10	13	284	0	1	0	1	0	0	0	2	18	0	3	0	8	1041	3902

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Peak 15-Min Flowrate	Northbound				Southbound				Eastbound				Westbound				Total				
	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left	Thru	Right	U	R*	Left		Thru	Right	U	R*
All Vehicles	4	2372	344	38	38	62	1676	4	4	0	8	0	0	4	16	112	0	28	0	4	4700
Heavy Trucks	0	44	4			4	52	0			0	0	0			8	0	0			112
Pedestrians	0	0				0	0				0	0				4	0				4
Bicycles	0	0				0	0				0	0				0	0				0
Railroad																					0
Stopped Buses																					0

Comments:

# **APPENDIX F**

## **Intersection Analysis**

HCM Signalized Intersection Capacity Analysis  
1: Spartan Drive & US-17

7-Eleven Site  
AM Peak Hour Existing Traffic Conditions



Lane Configurations	1	4	7	7	4	48	42	1037	80	19	3134	7
Volume (vph)	1	0	7	270	0	48	42	1037	80	19	3134	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	
Lane Util. Factor		1.00	1.00	0.95	0.95		1.00	0.91	1.00	1.00	0.91	
Frt		1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1805	1615	1698	1636		1605	4988	1615	1805	5084	
Flt Permitted		0.95	1.00	0.95	0.97		0.03	1.00	1.00	0.23	1.00	
Satd. Flow (perm)		1805	1615	1698	1636		61	4988	1615	444	5084	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	7	284	0	48	44	1092	53	20	3289	7
RTOR Reduction (vph)	0	0	7	0	10	0	0	0	17	0	0	0
Lane Group Flow (vph)	0	1	0	168	154	0	44	1092	36	20	3308	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	0%	4%	0%	0%	2%	0%
Turn Type	Split		Perm	Split			pm+pt		Perm	pm+pt		
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8				6		6		2	
Actuated Green, G (s)		2.6	2.6	23.3	23.3		129.6	123.8	123.8	125.8	121.9	
Effective Green, g (s)		2.6	2.6	23.3	23.3		129.6	123.8	123.8	125.8	121.9	
Actuated g/C Ratio		0.01	0.01	0.13	0.13		0.72	0.69	0.69	0.70	0.68	
Clearance Time (s)		6.8	6.8	6.8	6.8		6.8	6.8	6.8	6.8	6.8	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		26	23	220	212		100	3431	1111	340	3443	
v/s Ratio Prot		c0.00		c0.10	0.09		c0.01	0.22		0.00	c0.65	
v/s Ratio Perm			0.00				0.30		0.02	0.04		
v/c Ratio		0.04	0.00	0.76	0.73		0.44	0.32	0.03	0.06	0.96	
Uniform Delay, d1		87.5	87.4	75.7	75.3		45.8	11.2	9.0	8.4	26.8	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.6	0.1	14.5	11.8		3.1	0.2	0.1	0.1	8.5	
Delay (s)		88.1	87.5	90.2	87.1		48.9	11.5	9.0	8.5	35.4	
Level of Service		F	F	F	F		D	B	A	A	D	
Approach Delay (s)		87.6			88.7			12.8			35.2	
Approach LOS		F			F			B			D	

HCM Average Control Delay	33.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	28.4
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
1: Spartan Drive & US-17

7-Eleven Site  
PM Peak Hour Existing Traffic Conditions



Lane Configurations	9	2	16	103	0	39	46	2441	399	62	1462	4
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.91	1.00	1.00	1.00	1.00	0.91	1.00
Fit	1.00	0.85	1.00	0.92	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.96	1.00	0.95	0.98	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1615	1665	1598	1805	5065	1599	1770	6034			
Fit Permitted	0.96	1.00	0.95	0.98	0.15	1.00	1.00	0.04	1.00			
Satd. Flow (perm)	1825	1615	1665	1598	277	5065	1599	66	6034			
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	2	16	103	0	40	47	2516	411	64	1507	4
RTOR Reduction (vph)	0	0	16	0	24	0	0	0	74	0	0	0
Lane Group Flow (vph)	0	11	0	75	47	0	47	2516	337	64	1511	0
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	2%	1%	2%	3%	0%
Turn Type	Split		Perm	Split			pm+pt		Perm	pm+pt		
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8				6		6		2	
Actuated Green, G (s)		4.5	4.5	14.0	14.0		152.4	147.0	147.0	157.8	149.7	
Effective Green, g (s)		4.5	4.5	14.0	14.0		152.4	147.0	147.0	157.8	149.7	
Actuated g/C Ratio		0.02	0.02	0.07	0.07		0.76	0.74	0.74	0.79	0.75	
Clearance Time (s)		6.6	6.6	6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		41	36	117	112		252	3737	1175	121	3768	
v/s Ratio Prot		c0.01		c0.05	0.03		0.01	c0.49		c0.02	0.30	
v/s Ratio Perm			0.00				0.14		0.21	c0.40		
v/c Ratio		0.27	0.01	0.64	0.42		0.19	0.67	0.29	0.53	0.40	
Uniform Delay, d1		96.1	95.6	90.6	89.1		6.3	13.9	6.9	23.1	9.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.5	0.1	11.4	2.5		0.4	1.0	0.6	4.1	0.3	
Delay (s)		99.6	95.7	101.9	91.6		6.7	14.9	9.5	27.2	9.4	
Level of Service		F	F	F	F		A	B	A	C	A	
Approach Delay (s)		97.3			96.9			14.0			10.1	
Approach LOS		F			F			B			B	

HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	33.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis  
1: Spartan Drive & US-17

7-Eleven Site  
AM Peak Hour Total Traffic Conditions



Lane Configurations	1	4	7	7	4	4	7	7	7	7	7	
Volume (vph)	1	0	7	307	0	44	42	1038	51	56	3102	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor		1.00	1.00	0.95	0.95		1.00	0.91	1.00	1.00	0.91	
Fr		1.00	0.85	1.00	0.88		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00	0.95	0.88		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1805	1615	1698	1645		1805	4988	1615	1605	5084	
Flt Permitted		0.95	1.00	0.95	0.88		0.03	1.00	1.00	0.22	1.00	
Satd. Flow (perm)		1805	1615	1698	1645		64	4988	1615	424	5084	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	0	7	323	0	46	44	1083	54	59	3266	7
RTOR Reduction (vph)	0	0	7	0	8	0	0	0	18	0	0	0
Lane Group Flow (vph)	0	1	0	167	174	0	44	1083	36	59	3272	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	4%	0%	4%	0%	0%	2%	0%
Turn Type	Spk		Perm	Spk			pm+pt		Perm	pm+pt		
Protected Phases	6	6		4	4		1	6		5	2	
Permitted Phases			6				6		6	2		
Actuated Green, G (s)		2.6	2.6	25.3	25.3		124.3	118.5	118.5	127.1	119.9	
Effective Green, g (s)		2.6	2.6	25.3	25.3		124.3	118.5	118.5	127.1	119.9	
Actuated g/C Ratio		0.01	0.01	0.14	0.14		0.69	0.66	0.66	0.71	0.87	
Clearance Time (s)		6.6	6.6	6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		28	23	239	231		100	3284	1083	355	3387	
v/s Ratio Prot		c0.00		c0.11	0.11		c0.01	0.22		0.01	c0.84	
v/s Ratio Perm			0.00				0.29		0.02	0.11		
v/c Ratio		0.04	0.00	0.78	0.75		0.44	0.33	0.03	0.17	0.97	
Uniform Delay, d1		87.5	87.4	74.7	74.4		44.9	13.5	10.7	8.5	28.1	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.6	0.1	15.3	13.1		3.1	0.3	0.1	0.2	8.4	
Delay (s)		88.1	87.5	90.0	87.4		48.0	13.7	10.8	8.7	37.5	
Level of Service		F	F	F	F		D	B	B	A	D	
Approach Delay (s)		87.8			88.7			14.9			37.0	
Approach LOS		F			F			B			D	

HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.8
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis  
1: Spartan Drive & US-17

7-Eleven Site  
PM Peak Hour Total Traffic Conditions



Lane Configurations	9	4	7	7	4	3	7	↑↑↑	7	7	↑↑↑	4
Volume (vph)	9	2	16	103	0	39	46	2447	401	88	1443	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6	6.6	6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Lane Util. Factor		1.00	1.00	0.95	0.95		1.00	0.91	1.00	1.00	0.91	
Flt		1.00	0.85	1.00	0.82		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1825	1615	1665	1596		1805	5085	1599	1770	5034	
Flt Permitted		0.96	1.00	0.95	0.98		0.15	1.00	1.00	0.03	1.00	
Satd. Flow (perm)		1825	1615	1665	1596		288	5085	1599	62	5034	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	9	2	16	106	0	40	47	2523	413	89	1488	4
RTOR Reduction (vph)	0	0	16	0	24	0	0	0	76	0	0	0
Lane Group Flow (vph)	0	11	0	75	47	0	47	2523	337	89	1492	0
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	2%	1%	2%	3%	0%
Turn Type	Split		Perm	Split			pm+pt		Perm	pm+pt		
Protected Phases	8	8		4	4		1	6		5	2	
Permitted Phases			8				6		6		2	
Actuated Green, G (s)		4.5	4.5	14.0	14.0		150.6	145.2	145.2	159.6	149.7	
Effective Green, g (s)		4.5	4.5	14.0	14.0		150.6	145.2	145.2	159.6	149.7	
Actuated g/C Ratio		0.02	0.02	0.07	0.07		0.75	0.73	0.73	0.80	0.75	
Clearance Time (s)		6.6	6.6	6.6	6.6		6.6	6.6	6.6	6.6	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		41	36	117	112		258	3992	1161	134	3788	
v/s Ratio Prot		c0.01		c0.05	0.03		0.00	c0.50		c0.03	c0.30	
v/s Ratio Perm			0.00				0.13		0.21	0.49		
v/c Ratio		0.27	0.01	0.64	0.42		0.18	0.88	0.29	0.66	0.40	
Uniform Delay, d1		96.1	95.8	90.6	89.1		6.6	14.9	9.5	45.4	9.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		3.5	0.1	11.4	2.5		0.3	1.0	0.6	11.7	0.3	
Delay (s)		99.6	95.7	101.9	91.6		7.0	15.9	10.1	57.2	9.3	
Level of Service		F	F	F	F		A	B	B	E	A	
Approach Delay (s)		97.3			96.9			15.0			12.0	
Approach LOS		F			F			B			B	

HCM Average Control Delay	17.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	200.0	Sum of lost time (s)	33.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# **APPENDIX G**

## **Site Access Analysis**

HCM Unsignalized Intersection Capacity Analysis  
 2: Project Driveway & US-17

7-Eleven Site  
 AM Peak Hour Total Traffic Conditions



		↑	↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Lane Configurations		↑	↑↑	↑↑↑	↑↑↑	↑↑↑	↑↑↑
Volume (veh/h)	0	15	1071	23	0	0	3185
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	16	1127	24	0	0	3332
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage (veh)							
Upstream signal (ft)			920				
pX, platoon unblocked	0.92	0.92			0.92		
vC, conflicting volume	2250	388			1152		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2050	22			853		
tC, single (s)	6.8	6.9			4.1		
tC, 2 stage (s)							
tF (s)	3.5	3.3			2.2		
p0 queue free %	100	98			100		
cM capacity (veh/h)	45	970			730		
<b>Volume Total</b>	<b>16</b>	<b>451</b>	<b>451</b>	<b>250</b>	<b>1111</b>	<b>1111</b>	<b>1111</b>
Volume Left	0	0	0	0	0	0	0
Volume Right	16	0	0	24	0	0	0
cSH	970	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.27	0.27	0.15	0.65	0.65	0.65
Queue Length 95th (ft)	1	0	0	0	0	0	0
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	8.8	0.0			0.0		
Approach LOS	A						
<b>Average Delay</b>			<b>0.0</b>				
<b>Intersection Capacity Utilization</b>			<b>64.5%</b>		<b>ICU Level of Service</b>		<b>C</b>
<b>Analysis Period (min)</b>			<b>15</b>				

**HCM Unsignalized Intersection Capacity Analysis**  
**3: Spartan Drive & Project Driveway**

**7-Eleven Site**  
**AM Peak Hour Total Traffic Conditions**



Lane Configurations		↑	↑	↘	↙	
Volume (veh/h)	34	62	309	8	8	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	65	325	8	8	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		690				
pX, platoon unblocked						
vC, conflicting volume	334			466	329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334			466	329	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	87			98	94	
cM capacity (veh/h)	1237			542	717	
<b>Volume Total</b>	<b>101</b>	<b>334</b>	<b>63</b>			
Volume Left	36	0	8			
Volume Right	0	8	44			
cSH	1237	1700	682			
Volume to Capacity	0.03	0.20	0.08			
Queue Length 95th (ft)	2	0	6			
Control Delay (s)	3.0	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	3.0	0.0	10.7			
Approach LOS			B			
<b>Average Delay</b>			<b>1.8</b>			
<b>Intersection Capacity Utilization</b>			<b>35.2%</b>	<b>ICU Level of Service</b>		<b>A</b>
<b>Analysis Period (min)</b>			<b>15</b>			

HCM Unsignalized Intersection Capacity Analysis  
 2: Project Driveway & US-17

7-Eleven Site  
 PM Peak Hour Total Traffic Conditions



Lane Configurations		T	↑↑↑			↑↑↑
Volume (veh/h)	0	50	2447	49	0	1533
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	52	2523	51	0	1580
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			820			
pX, platoon unblocked	0.70	0.70			0.70	
vC, conflicting volume	3075	866			2573	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2466	0			1751	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	18	765			254	

Volume Total	52	1009	1009	555	527	527	527
Volume Left	0	0	0	0	0	0	0
Volume Right	52	0	0	51	0	0	0
cSH	765	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.59	0.59	0.33	0.31	0.31	0.31
Queue Length 95th (ft)	5	0	0	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B						
Approach Delay (s)	10.0	0.0			0.0		
Approach LOS	B						

Average Delay		0.1					
Intersection Capacity Utilization		58.4%		ICU Level of Service		B	
Analysis Period (min)		15					

HCM Unsignalized Intersection Capacity Analysis  
3: Spartan Drive & Project Driveway

7-Eleven Site  
PM Peak Hour Total Traffic Conditions



Lane Configurations		4	2		2	
Volume (veh/h)	28	454	139	11	11	27
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	28	468	137	11	11	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		680				
pX, platoon unblocked						
vC, conflicting volume	148			689	143	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	148			689	143	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	98			97	97	
cM capacity (veh/h)	1445			418	910	

Volume Total	497	148	30
Volume Left	29	0	11
Volume Right	0	11	28
cSH	1445	1700	679
Volume to Capacity	0.02	0.09	0.06
Queue Length 95th (ft)	2	0	5
Control Delay (s)	0.6	0.0	10.6
Lane LOS	A		B
Approach Delay (s)	0.6	0.0	10.6
Approach LOS			B

Average Delay		1.1	
Intersection Capacity Utilization		48.4%	ICU Level of Service
Analysis Period (min)		15	A

# **APPENDIX H**

## **Turn Lane Warrant Evaluation**

**7-ELEVEN SITE (US-17 at Spartan)**

**Left-Turn Lane Warrant Evaluation**

**Location: Eastbound Spartan Drive at Project Driveway**

**AM Peak Hour**

Advancing Volume: 96 vph

Opposing Volume: 317 vph

Left-Turn Volume: 34 vph (35%)

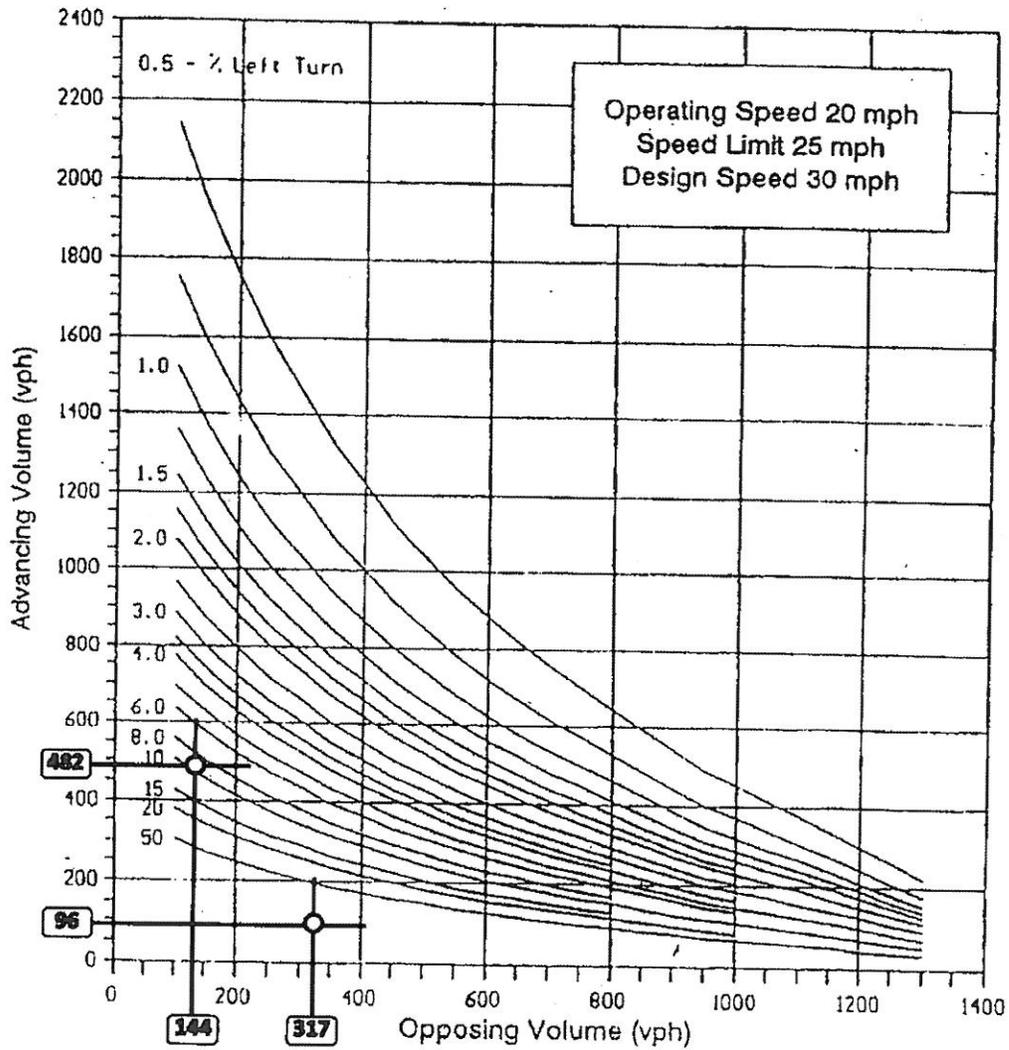
**PM Peak Hour**

Advancing Volume: 482 vph

Opposing Volume: 144 vph

Left-Turn Volume: 28 vph (6%)

**RESULT >>> NOT WARRANTED**



SOURCE: Institute of Transportation Engineers' report Guidelines for Left-Turn Lanes (ITE, August 2000)

**7-ELEVEN SITE (US-17 at Spartan)**

**Right-Turn Lane Warrant Evaluation**

**Location: Northbound U.S. Highway 17 at Project Driveway**

**AM Peak Hour**

**Right-Turn Volume: 23 vph**

**Warrant Threshold: 125 vph**

**PM Peak Hour**

**Right-Turn Volume: 49 vph**

**Warrant Threshold: 125 vph**

**RESULT >>> NOT WARRANTED**

Chapter 7 Right Turn Lanes

**7.2**

**WHEN SHOULD WE  
BUILD RIGHT TURN  
LANES?**

Exhibit 44  
**RECOMMENDED  
GUIDELINES FOR  
EXCLUSIVE RIGHT  
TURN LANES TO  
UNSIGNALIZED\*  
DRIVEWAY**

Roadway Posted Speed Limit	Number of Right Turns Per Hour
45 mph or less	80-125 <sup>1</sup>
Over 45 mph	35-55 <sup>2</sup>

\*May not be appropriate for signalized locations where signal phasing plays an important role in determining the need for right turn lanes.

1. The lower threshold of 80 right turn vehicles per hour would be most used for higher volume (greater than 600 vehicles per hour, per lane in one direction on the major roadway) or two-lane roads where lateral movement is restricted. The 125 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with a large entry radius (50 feet or greater).
2. The lower threshold of 35 right turn vehicles per hour would be most appropriately used on higher volume two-lane roadways where lateral movement is restricted. The 55 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with large entry radius (50 feet or greater).

*Note:* A posted speed limit of 45 mph may be used with these thresholds if the operating speeds are known to be over 45 mph during the time of peak right turn demand.

*Note on Traffic projections:* Projecting turn volumes is at best a knowledgeable guess. Keep this in mind especially if the projections of right turns are close to meeting the guidelines. In that case you may want to require construction.

**7-ELEVEN SITE (US-17 at Spartan)**

**Right-Turn Lane Warrant Evaluation**

**Location: Westbound Spartan Drive at Project Driveway**

**AM Peak Hour**

**Right-Turn Volume: 8 vph**

**Warrant Threshold: 80 vph**

**PM Peak Hour**

**Right-Turn Volume: 11 vph**

**Warrant Threshold: 80 vph**

**RESULT >>> NOT WARRANTED**

Chapter 7 Right Turn Lanes

**7.2**

**WHEN SHOULD WE  
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**RECOMMENDED  
GUIDELINES FOR  
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2. The lower threshold of 35 right turn vehicles per hour would be most appropriately used on higher volume two-lane roadways where lateral movement is restricted. The 55 right turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with large entry radius (50 feet or greater).

*Notes:* A posted speed limit of 45 mph may be used with these thresholds if the operating speeds are known to be over 45 mph during the time of peak right turn demand.

*Note on Traffic projections:* Projecting turn volumes is at best a knowledgeable guess. Keep this in mind especially if the projections of right turns are close to meeting the guidelines. In that case you may want to require construction.

**Nelson, Anthony**

---

**From:** Forte, Jami  
**Sent:** Tuesday, September 10, 2013 1:57 PM  
**To:** Nelson, Anthony  
**Subject:** Please review following 2 ePlan projects

Hi Tony,

Please log into E Plan to review 13-06000051, Bloom Laurel Horse Boarding/Training Facility and 13-06000050, 7-11 Spartan (17-92) replacing the Mobil Station. The concurrency applications are attached. Please let me know if you need anything else.

Thank you & have a wonderful day,

*Jami*

Jami Forte  
Planning Coordinator for Impact Fee's & Impact Analysis (Concurrency)  
Seminole County Development Services Dept., Business Office/Building Division  
1101 East 1st Street, Room 1020  
Sanford, Florida 32771

phone 407-665-7356

[jforte@seminolecountyfl.gov](mailto:jforte@seminolecountyfl.gov)



Where Customer Service is our top priority.  
[www.seminolecountyfl.gov/gm/survey.asp](http://www.seminolecountyfl.gov/gm/survey.asp)

*Good afternoon,*

*Below is a copy of the concurrency review application for 7-Eleven #36690, I don't think this project has been submitted as of yet, the fee for review will be \$800.00 and 2 copies of a sealed Impact Analysis should also be submitted, please let me know if you have any questions.*

*Thanks,  
Jami*

**From:** [is\\_web@seminolecountyfl.gov](mailto:is_web@seminolecountyfl.gov) [mailto:[is\\_web@seminolecountyfl.gov](mailto:is_web@seminolecountyfl.gov)]  
**Sent:** Thursday, August 29, 2013 1:07 PM  
**To:** Forte, Jami; Riley, Sandra  
**Subject:** Application for Concurrency Review

A new Application for Concurrency Review was submitted online:

**APPLICANT INFORMATION**

\* **Applicant Name:** TGray Frazier, Harrison French & Associates  
\* **Mailing Address:** 137 E Crystal Lake Ave  
\* **City:** Lake Mary  
\* **State:** FL  
\* **Zip:** 32746  
\* **Phone Number:** 407-808-4018  
**Fax Number:**  
**Email:** [tgray.frazier@hfa-ae.com](mailto:tgray.frazier@hfa-ae.com)

**OWNER INFORMATION**

\* **Owner Name:** Spartan / 17-92, LLC  
\* **Mailing Address:** 3920 Edgewater Dr, Suite 101  
\* **City:** Orlando  
\* **State:** FL  
\* **Zip:** 32804  
\* **Phone Number:** 407-380-8633  
**Fax Number:**  
**Email:** [sdewitt@shorecrestretail.com](mailto:sdewitt@shorecrestretail.com)

**PROJECT INFORMATION**

\* **Project/Subdivision Name:** 7-Eleven #36690  
\* **Property Address:** 9495 S 17-92  
\* **City:** Fern Park  
\* **State:** FL  
\* **Zip:** 32751

*Please list all Tax Parcel ID numbers for all properties included in this proposal/request.*

**Tax Parcel L.D. #1: 19-21-30-300-0630-0000**

**Tax Parcel L.D. #2:**

**Tax Parcel L.D. #3:**

**Tax Parcel L.D. #4:**

#### **APPLICATION INFORMATION**

**\* This application: is submitted in conjunction with a development plan.**

**If submitted with a development application, select the type of development order applied for below:**

#### **TYPES OF FINAL DEVELOPMENT ORDERS**

**Concurrency Review is: Required**

**Unless Applicant provides an Affidavit of Prior Vesting / Concurrency Certificate Site Plan**

#### **FOR SEMINOLE COUNTY SCHOOLBOARD USE ONLY**

**[ ] PROVISION OF PUBLIC FACILITIES / SERVICE TO SCHOOL SITE**

**This proposal:**

**Replaces a past use of a Mobil Gas Station**

**A Signed and Sealed Traffic Impact Study is:**

**EMAILED: study prepared pursuant to previous methodology review meeting with**

**Utility Service Provision:**

**a) Water Service (Utility Provider): Served by City of Casselberry**

**b) Sewer Service (Utility Provider): Served by City of Casselberry**

**c) Landscape Irrigation System:**

**Will this project use Potable Water for Landscape Irrigation?**

**Yes over an irrigated landscape area of 11,897 square feet at an applicable rate of 16 inches/week, and 9662 gpd.**

**A water and Sewer Demand Estimate Prepared By a Certified Engineer is:**

**NOT INCLUDED: I understand that Seminole County will make an estimate of water and sewer demand based upon the information in this application, but that I am solely responsible for assuring the accuracy of demand calculations for the purpose of paying connection fees. If sufficient data to perform an accurate demand calculation is not provided, applicants engineer**

will need to meet with the County Environmental Services Division prior to completing a utility agreement and payment of fees to determine a final demand calculation.

**PROJECT SIZE AND PHASING:** Below, clearly identify past or existing uses or structures, if applicable, and proposed new development/construction. Credit for prior uses can only be given if the information is clear and complete. (Note: Sizes, types, and number of units as filled out below and as indicated on the plans will be assumed as maximums for estimating project demand and the Certificate of Concurrence will be conditioned upon and only valid for such maximums provided on this application)

PHASE Number of Phases (if applicable)	NUMBER OF ACRES	SPECIFIC USE (S)	BUILDING GROSS SQUARE FEET or NUMBER OF UNITS / LOTS
<i>Example: Phase I</i>	<i>15</i>	<i>Single Family</i>	<i>15 Units</i>
1	1.03	Retail	2940 SF

**CERTIFICATION**

I hereby certify that the information contained herein is true and correct and that I am either the true and sole owner of the subject property, or am authorized to act on behalf of the true owner(s) in all regards on this matter, pursuant to proof and authorization submitted with the corresponding development application or attached hereto. I hereby represent that I have the lawful right and authority to file this application.

I understand that submission of the form initiates a process and does not imply approval by Seminole County. I further understand that issuance of a Certificate of Concurrence will require successful completion of Development Review and payment of Facility Reservation Fees, and that likewise no final development order will be issued except upon successful completion of this Concurrence Review. I further understand that "Inquiry Only" Review will result in no Certificate of Concurrence being issued, and therefore no binding assurance of future capacity, and that a new Concurrence Review application will be required in conjunction with the first final development order applies for on this property.

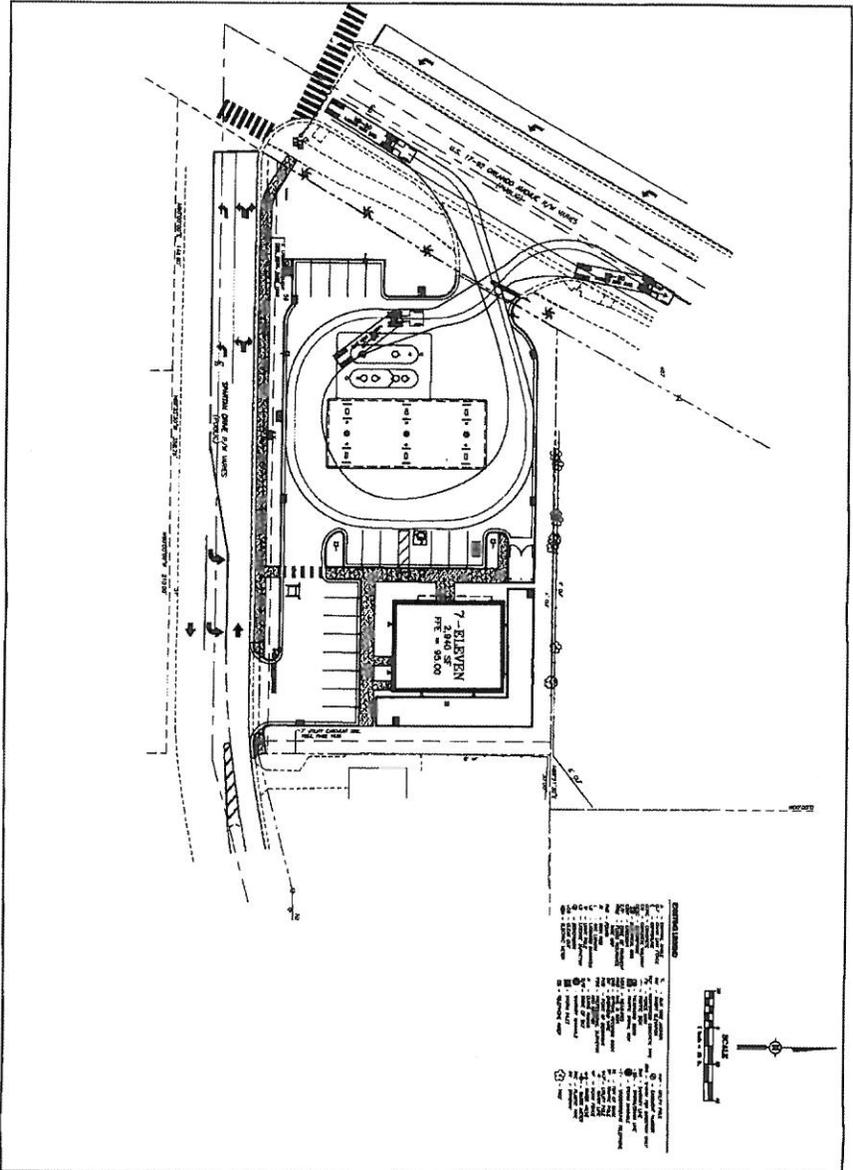
I have read and agree with the statements above.



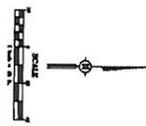




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