TRAFFIC IMPACT ANALYSIS

WALMART ON US 441 (STORE # 3873-00)
CITY OF ALACHUA, FLORIDA

Prepared for

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Revised
September 2009

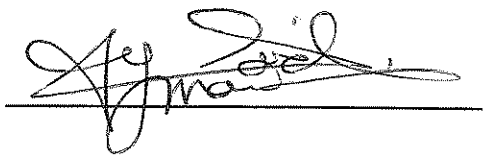
TPD № 2779

PROFESSIONAL ENGINEERING CERTIFICATION

I hereby certify that I am a Professional Engineer properly registered in the State of Florida practicing with Traffic Planning & Design, Inc., a corporation authorized to operate as an engineering business, EB-3702, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluations, findings, opinions, conclusions, or technical advice attached hereto for:

PROJECT: Walmart on US 441 (Store #3873-00)
LOCATION: City of Alachua, Florida
CLIENT: CPH Engineers, Inc.

I hereby acknowledge that the procedures and references used to develop the results contained in these computations are standard to the professional practice of Transportation Engineering as applied through professional judgment and experience.

NAME: Ayman Saidi, P.E.
P.E. No.: Florida P.E. No. 56849
DATE: September 29, 2009
SIGNATURE: 

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INTRODUCTION

Traffic Planning & Design, Inc. (TPD), was retained by CPH Engineers, Inc., to perform a traffic impact analysis for the proposed Walmart Supercenter in the City of Alachua, Florida. The proposed project includes a 154,742 square foot Walmart Supercenter. This study will examine the impacts of the proposed Walmart Supercenter on the adjacent roadways and intersections.

The site is located in the southeast quadrant of the I-75/US 441 interchange. Site access to all parcels will be provided via US 441, which is proposed to be signalized as part of this development. In addition, a second cross-access will be provided through the adjacent future development to the east, which will connect to NW 151st Boulevard and ultimately connect to SR 235. The build-out of the project is anticipated in 2010. The location of the project site is shown in Figure 1, along with the significant roadways.

Study Area

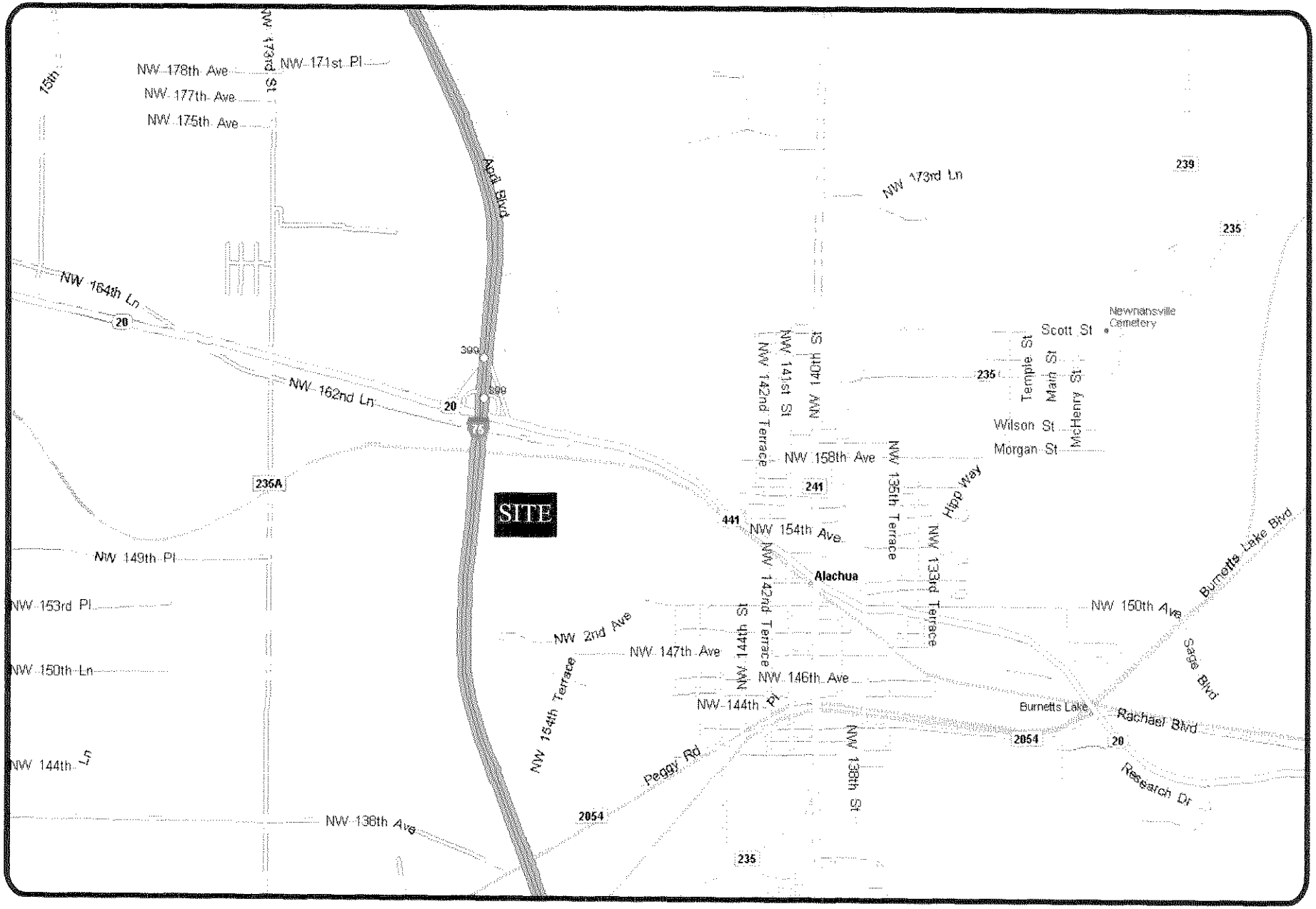
A significance analysis was performed to determine the study area to be included in the traffic impact analysis. Significance was defined, per Florida Department of Transportation (FDOT) guidelines, as project trips consuming more than 5% of the segment's adopted capacity. It should be noted that the roadway analysis for US 441 was performed using a transitioning area type with an adopted LOS "D", based on the City's designation in the Comprehensive Plan. This roadway is classified as a rural area type under FDOT District 2 designation, which was reflected in an earlier version of this traffic study performed for FDOT in 2007. A summary of the significance analysis is presented in Table 1 and the list of study roadways and intersections is presented below:

Roadways

- US 441 - NW 188th Street to Rachael Boulevard

Intersections

- US 441 and CR 235A (Signalized)
- US 441 and I-75 SB Ramps (Signalized)
- US 441 and I-75 NB Ramps (Signalized)
- US 441 and NW 147th Drive (Signalized)
- US 441 and Main Street (Signalized)
- US 441 and SR 235 (Signalized)
- US 441 and Site Access (Proposed Signal)



Walmart on US 441
Project № 2779
Figure 1

Site Location

Table 1
Roadway Significance Analysis

Roadway	Roadway Segment	Adopted LOS	*Pk Hr Capacity	Proj. Trip Dist.	Pk Hr Proj. Trips	Percent of Capacity	Project Significant?
US 441	NW 188th St to CR 235A	D	3,290	22%	110	3.34%	no
	CR 235A to I-75	D	3,290	28%	140	4.26%	no
	I-75 to SR 235 / CR 241	D	3,290	43%	215	6.53%	**YES**
	SR 235 / CR 241 to Rachael Blvd	D	3,290	28%	140	4.26%	no
SR 235	NW 134th Drive to US 441	D	1,490	8%	40	2.68%	no
	US 441 to W 140th St	D	1,490	10%	50	3.36%	no
CR 235A	NW 177th Ave to US 441	D	1,490	1%	5	0.34%	no
	US 441 to NW 138th Ave	D	1,490	5%	25	1.68%	no
I-75	CR 236 to US 441	C	8,110	5%	25	0.31%	no
	US 441 to CR 222	C	8,110	10%	50	0.62%	no

* Peak Hour Capacities were obtained using Transitioning Into Urbanized Area Designation

Study Procedures

The FDOT - District 2 Standard Traffic Impact Study (TIS) procedures were used to perform the analysis in this report. Reference data was obtained from the City of Alachua, the FDOT, and the Institute of Transportation Engineers (ITE).

Planned and Programmed Roadway Improvements

The FDOT has recently completed improvements to the US 441 interchange with I-75 (Financial Project ID 207648-2-52-01). Copies of the roadway plans were obtained from FDOT – District 2 Office. These improvements included extending the existing turn lane lengths at both the NB and SB I-75 ramps at US 441, as well as some ramp modifications. This traffic impact analysis includes these improvements in the future analysis for the interchange.

EXISTING ROADWAY CONDITIONS

Road Segment Analysis

Roadway level of service describes the operating condition determined from the number of vehicles passing over a given section of roadway during a specified time period. It is a qualitative measure of several factors which include: speed, travel time, traffic interruptions, freedom to maneuver, driver comfort, convenience, safety, and vehicle operating costs. Six levels of service have been established as standards by which to gauge roadway performance, designated by the letters A through F.

The existing roadway conditions analysis was performed for the peak hour period. The peak hour volumes were obtained by applying the peak hour factors (K factors) to the Annual Average Daily Traffic (AADT) for each segment obtained from the FDOT 2008 Traffic Report CD. The roadway capacity volumes for the study roadway segments were obtained from the FDOT Generalized Capacity Tables (Table 4-6). The resulting peak hour existing roadway analysis is shown in Table 2. As shown in Table 2, all roadway segments analyzed are currently operating at an acceptable LOS.

Table 2
Existing Peak Hour Roadway Analysis

Roadway	Segment	# Lanes	Adopted LOS	Peak Hour Capacity @ LOS	Existing Daily Volumes (1)	"K" Factor (1)	Peak Hour Traffic	LOS
US 441	NW 188th St. to CR 235A	4	D	3,290	17,500	0.1017	1,780	B
	CR 235A to I-75 Ramps	4	D	3,290	22,500	0.1017	2,288	B
	I-75 Ramps to SR 235	4	D	3,290	19400	0.1017	1,973	B
	SR 235 to Rachael Boulevard	4	D	3,290	19,800	0.1017	2,014	B

(1) Existing daily volumes and "K" Factors were obtained from the 2008 Florida Traffic Information CD

Intersection Analysis

The study intersections were analyzed in accordance with the procedures of the *2000 Highway Capacity Manual* with the use of the Synchro Software (version 6.0). The analysis was accomplished using existing P.M. peak hour volumes (seasonally adjusted using FDOT's Peak Season Conversion Factor of 1.06), existing intersection geometry, and existing signal timings (obtained in the field). Existing adjusted P.M. peak hour volumes are shown in Figure 2. The existing turning movement counts collected in the field are provided in *Appendix A*. The results of this analysis are summarized in Table 3. The Synchro printouts are included in *Appendix B*. As shown in Table 3, all study intersections are currently operating at an acceptable LOS.

Table 3
Existing Intersection P.M. Peak Hour Analysis

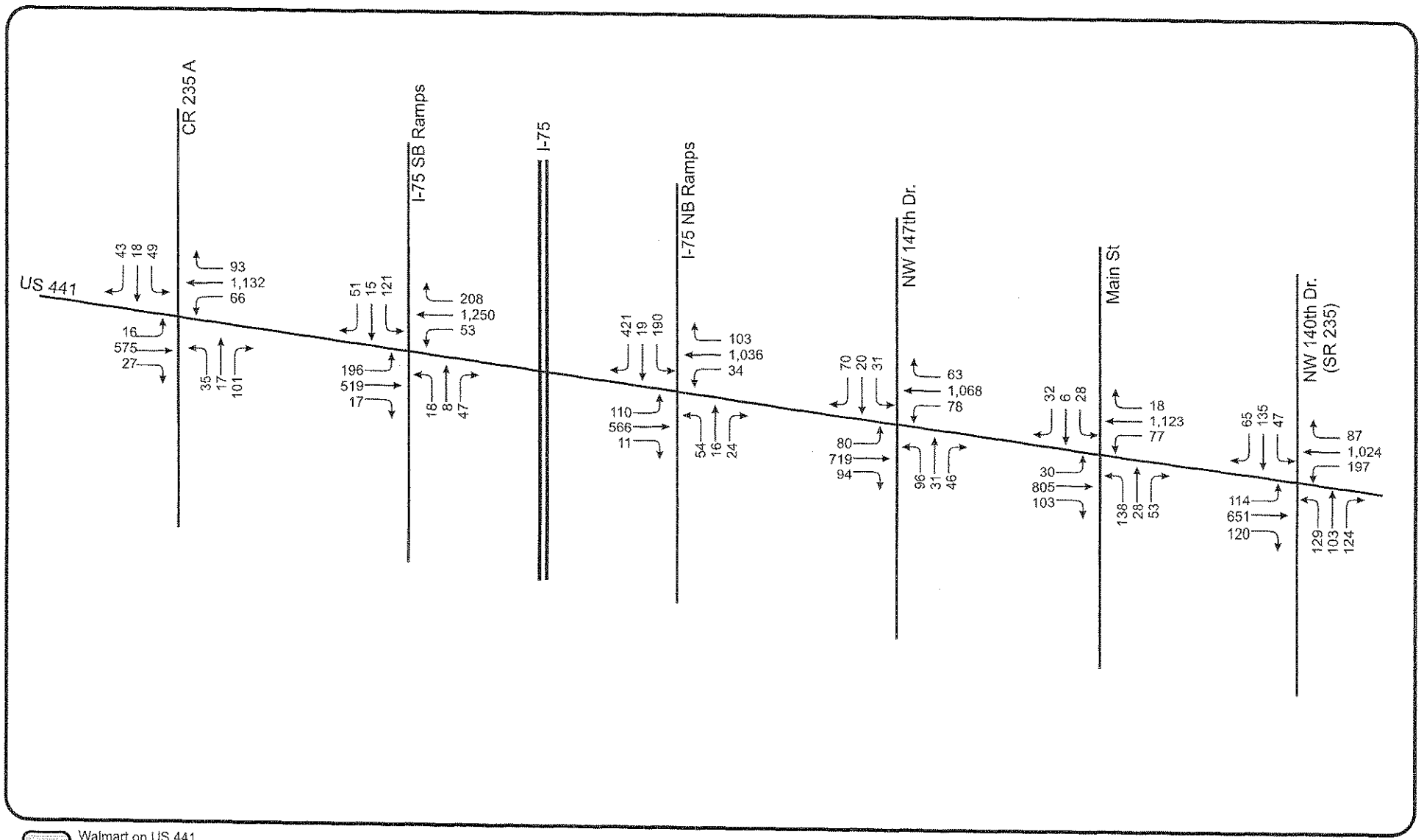
Intersection	Stop Control	Delay (sec.)	LOS
US 441 & CR 235A	Signalized	22.1	C
US 441 & I-75 SB Ramps	Signalized	22.6	C
US 441 & I-75 NB Ramps	Signalized	33.4	C
US 441 & NW 147th Drive	Signalized	13.8	B
US 441 & Main Street	Signalized	15.4	B
US 441 & SR 235	Signalized	41.7	D

Ramp Analysis

The I-75/US 441 ramps were analyzed in accordance with the procedures of the *2000 Highway Capacity Manual* with the use of the latest version of the Highway Capacity Software (HCS+). The analysis was accomplished using existing P.M. peak hour volumes and existing ramp geometry. The results of this analysis are summarized in Table 4. The HCS printouts are included in *Appendix C*. As shown in Table 4, all study ramps are currently operating at an acceptable LOS.

Table 4
Existing Ramp Peak Hour Analysis

Ramp	Ramp Type	LOS
I-75 NB Off Ramp to US 441	Diverge	C
I-75 SB Off Ramp to US 441	Diverge	B
I-75 NB On Ramp from US 441	Merge	C
I-75 SB On Ramp from US 441	Merge	B



Walmart on US 441
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Figure 2

Existing Adjusted P.M. Peak Traffic Volumes

FUTURE TRAFFIC CONDITIONS

Background Traffic Growth

Traffic on the roadway network will continue to grow due to local development approvals. The trends analysis was used with historic traffic counts to determine future projected growth rates. The growth rates were averaged for each roadway to be used in the analysis. An annual growth rate of 2.0% was assumed for roadways where historical counts were not available to perform the trends analysis. A minimum annual growth rate of 2.0% was used for roadway segments where the trends analysis resulted in a negative growth. The calculation used to obtain the growth rates is shown in Table 5.

Table 5
Background Traffic Growth Rates

Roadway segment	R^2	Annual Growth Rates
US 441 - 0.2 Mile NW of I-75	83.40%	3.27%
US 441 - 0.4 Mile NW of SR 235	53.20%	1.19% (1)
US 441 - 200 Feet NW of SR 235	66.90%	1.59%
US 441 - SE of SR 235	67.70%	1.63%
Average for US 441		*2.16%*
Annual Growth Rate Used for US 441		***2.20%***
SR 235 – 400 Feet S of CR 241	11.70%	1.03% (1)
SR 235 – 350Feet S of US 441	77.80%	1.85%
SR 235 – 200 Feet N of US 441	43.40%	1.56%
Average for SR 235		*1.71%*
Annual Growth Rate Used for SR 235		***2.00%***
I-75 Ramp – US 441 to I-75 NB	31.80%	-3.80%
I-75 Ramp – I-75 NB to US 441	77.70%	-10.07%
I-75 Ramp – US 441 to I-75 SB	96.60%	-12.28%
I-75 Ramp – I-75 SB to US 441	86.00%	-10.01%
Average for I-75 Ramps		*-9.04%*
Annual Growth Rate Used for I-75 Ramps		***2.00%***
CR 235A - 0.2 Mile S of US 441	97.80%	11.82%
Annual Growth Rate Used for CR 235A		***11.82%***

(1) These growth rates were excluded from the calculation of the average due to low R^2 values

* Trends Analysis worksheets are provided in Appendix D

Trip Generation

The Institute of Transportation Engineers' *Trip Generation Report 8th Edition* was used to calculate the Daily and P.M. peak hour trip generation of the proposed development. The results of the Daily and P.M. peak hour trip generation for the project are presented in Tables 6A and 6B, respectively. As shown in Tables 6A and 6B, the proposed Walmart Supercenter is expected to generate 6,196 new daily trips and 501 new P.M. peak hour trips.

Pass-By Capture

Due to the nature of the land use on the site, it can be expected that pass-by trip capture will occur. Based on the requirements of FDOT guidelines, the pass-by capture trip rate of 10% of the adjacent street daily and P.M. peak hour volumes was used. Based on the existing traffic volumes on US 441 adjacent to the proposed site, the daily projected (year 2010) traffic volume on US 441 was calculated to be 20,254 daily trips; therefore, 10% of that volume would be 2,025 pass-by trips per day for the development. Similarly, the P.M. peak hour trips on the adjacent street (US 441) were calculated to be 2,123 vehicles per hour. Ten percent (10%) of the P.M. peak hour volumes was then calculated to be (2,123 x 0.10 = 212 vehicles per hour), which was used as the pass-by trips for the P.M. peak hour.

Table 6A
Daily Trip Generation

Land Use	ITE Code	Land Use	Size (Sq. Ft.)	Daily		Pass-By Trips [1]	New Trips
				Rates	Trips		
Walmart Supercenter	813	Walmart Supercenter	154,742	53.13	8,221	2,025	6,196
Total New Daily Trips					**8,221**	**2,025**	**6,196**

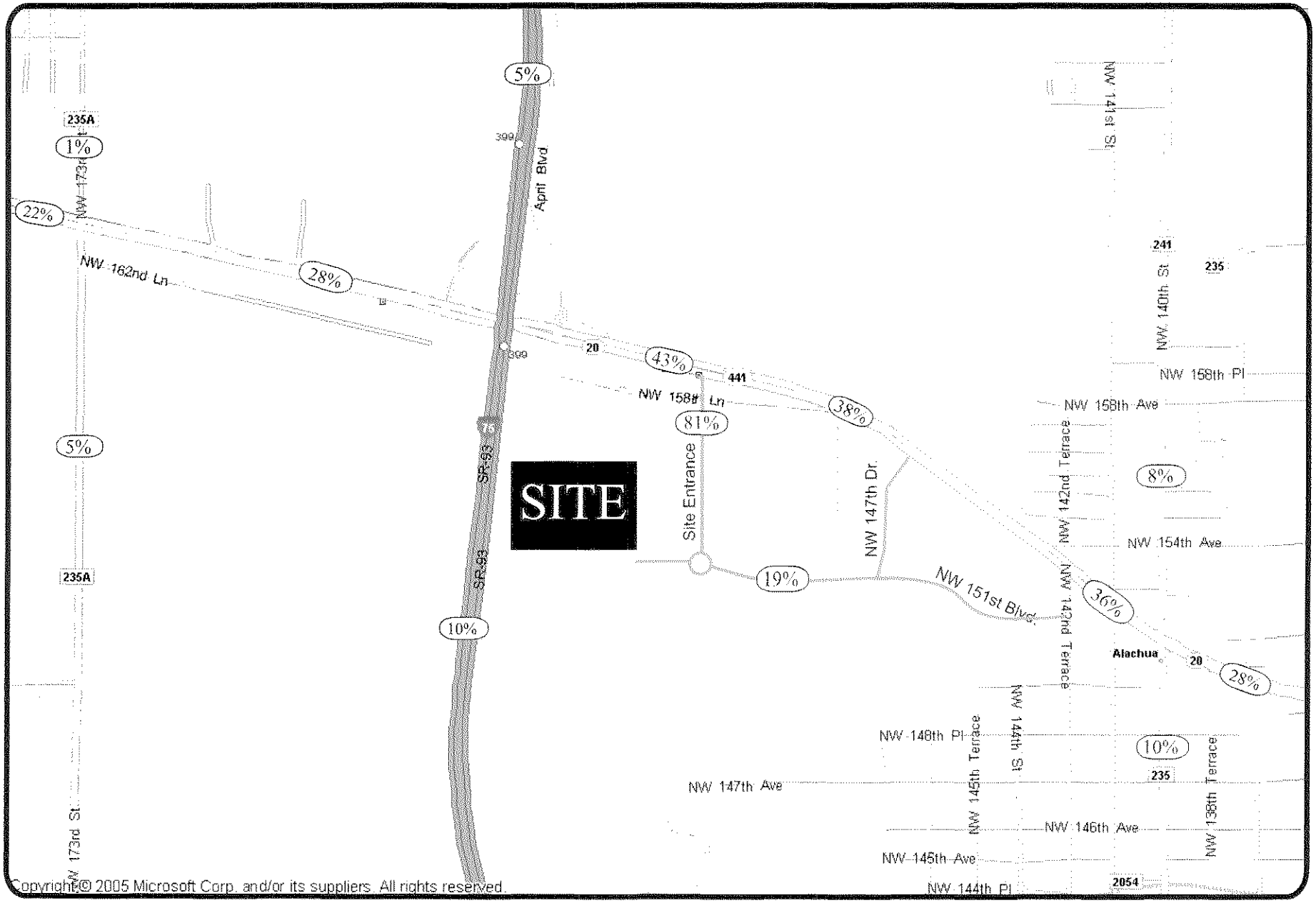
(1) Pass-By Trips are based on 10% of adjacent street (US 441) daily background projected volumes

Table 6B
P.M. Peak Hour Trip Generation

Land Use	ITE Code	Land Use	Size (Sq. Ft.) [1]	P.M. Peak Hour		In	Out
				Rates	Trips		
Walmart Supercenter	813	Wal-Mart Supercenter	154,742	4.61	713	349	364
Total Development Trips					713	349	364
Pass-By Trips (10% of adjacent street volume)					212	106	106
Total New PM Peak Hour Trips					**501**	**243**	**258**

Trip Distribution and Assignment

The trip distribution pattern was based on the latest CUBE version of the FSUTMS Transportation Demand Model for Alachua County. A Select Zone analysis was performed using the Alachua Model after coding the proposed development into the Zdata2 file for TAZ # 465 and adding the appropriate centroid connectors (copy of the model files are provided on a CD). Figure 3 depicts this distribution pattern. The model distribution plot is provided in *Appendix E*. Utilizing this trip distribution, the new project's trips were distributed and assigned to the area roadways and intersections.



Walmart on US 441
Project № 2779
Figure 3

Project Trip Distribution

FUTURE CONDITIONS ANALYSIS

The critical intersections, ramps, and roadway segments were analyzed based on the existing roadway geometry to determine potential impacts and to investigate mitigation possibilities, if necessary. The total projected traffic volumes, which consist of future background traffic and project trips, were assigned to the roadway network.

Road Segment Analysis

The traffic analysis for the road segments involves the comparison of the future peak hour volumes to available capacity. The future peak hour volumes were obtained by first applying the annual growth rates provided in Table 5 to the existing daily volumes on each of the study roadway segments. The resulting future daily volumes were then multiplied by the "K" factors to determine the future background peak hour volumes. The future roadway analysis was performed for the year 2010. Peak hour project traffic was assigned to each roadway segment using the project distribution pattern. Table 7 shows the year 2010 projected level of service for the roadways for the peak hour period. As shown in Table 7, all study roadway segments are expected to operate at an acceptable level of service at the build-out year 2010.

Table 7
Future Peak Hour Directional Roadway Analysis

Roadway	Segment	# Lanes	Adopted LOS	Capacity @ LOS	Projected 2010 Background Daily Traffic	"K" Factor	Projected 2010 Peak Hour Background Traffic	Project Trip Distribution	Peak Hour Project Traffic	2010 Total Peak Hour Traffic	LOS
US 441	NW 188th St. to CR 235A	4	D	3,290	18,270	0.1017	1,858	22%	280	2,138	B
	CR 235A to I-75 Ramps	4	D	3,290	23,490	0.1017	2,389	28%	356	2,745	C
	I-75 Ramps to Project Entrance	4	D	3,290	20,254	0.1017	2,060	43%	547	2,607	B
	Project Entrance to SR 235	4	D	3,290	20,254	0.1017	2,060	38%	483	2,543	B
	SR 235 to Rachael Boulevard	4	D	3,290	20,671	0.1017	2,102	28%	356	2,458	B

Intersection and Site Access Analysis

All study intersections were analyzed to determine whether improvements would be required to accommodate the projected traffic volumes at build-out (2010). The future intersection turning movement counts were determined by projecting the existing counts to the year 2010 using the annual growth rates used in this analysis. The operating conditions at the intersections were analyzed using the Synchro Software (version 6.0), which utilizes the procedures outlined in the *Highway Capacity Manual (2000).* The future intersection analysis was performed for the P.M. peak hour periods.

Table 8A shows the year 2010 projected levels of service for the intersections during the P.M. peak hour with the existing signal timing plans (without signal coordination and optimization). The year 2010 projected P.M. peak hour volumes are shown in Figure 4. The Synchro printouts for future conditions (without optimization and coordination) are included in *Appendix F.* As shown in Table 8A, all of the study intersections analyzed are expected to operate at acceptable LOS during the P.M. peak hour period at build-out (2010), with the exception of the intersection of US 441 and SR 235 which is expected to operate at LOS "E". In an effort to provide a better traffic flow through US 441, FDOT requested the applicant to conduct a signal re-timing study to coordinate the signals along the US 441 corridor, which will cause this intersection to operate at LOS "C". This study is underway by TPD and will be submitted to FDOT upon completion.

Table 8B shows the year 2010 projected levels of service for the intersections during the P.M. peak hours with the proposed signal coordination and optimization. The Synchro printouts for future conditions (with optimization and coordination) are included in *Appendix G.* As shown in Table 8B, all of the study intersections analyzed are expected to operate at the adopted LOS during the P.M. peak hour period at build-out (2010) with the implementation of the coordination of all the signals along US 441 using fiber optic cables. The signal system was optimized using the Synchro software and Table 8B shows the results of the optimized and coordinated signal system. All Synchro electronic files, along with the simulation files, are provided on a CD for the City's use. This CD is attached to this report.

The site access Synchro analysis was also performed for the P.M. peak hour period. Table 8B also includes the LOS results for the access driveway along US 441 during the P.M. peak hour period.

Table 8A
Future Intersection P.M. Peak Hour Analysis - Without Improvements

Intersection	Stop Control	Delay (sec.)	LOS
US 441 and CR 235A	Signalized	21.8	C
US 441 and I-75 SB Ramps	Signalized	21.6	C
US 441 and I-75 NB Ramps	Signalized	29.9	C
US 441 and NW 147th Drive	Signalized	10.6	B
US 441 and Main Street	Signalized	15.7	B
US 441 and SR 235	Signalized	58.5	E
US 441 and Site Access*	Proposed Signal	21.0	C

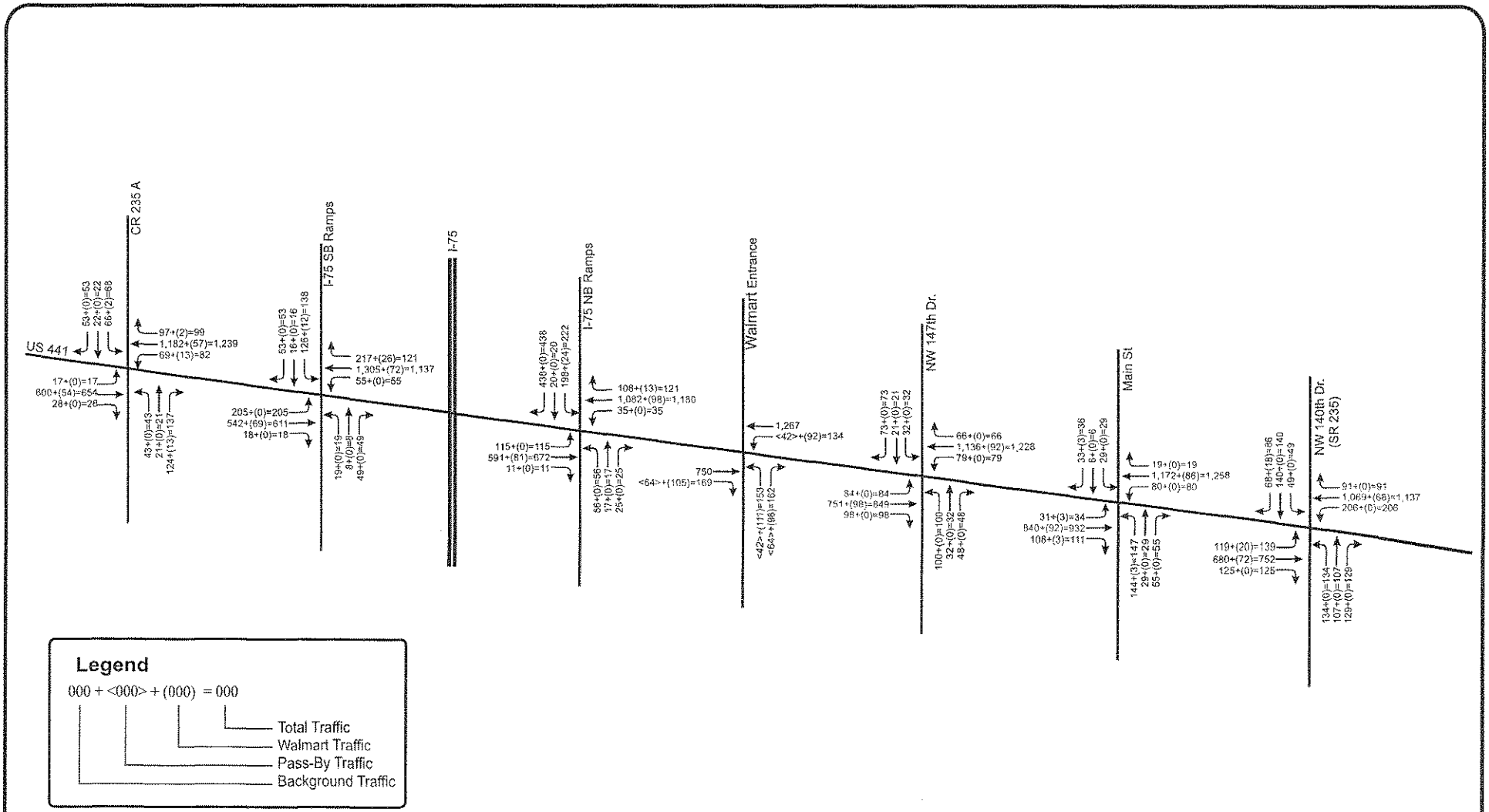
* A Signal Warrant Study was performed under a separate cover, which shows that a signal is warranted

Table 8B
Future Intersection P.M. Peak Hour Analysis - With Improvements

Intersection	Stop Control	Delay (sec.)	LOS
US 441 and CR 235A	Signalized	6.7	A
US 441 and I-75 SB Ramps	Signalized	14.0	B
US 441 and I-75 NB Ramps	Signalized	16.9	B
US 441 and NW 147th Drive	Signalized	13.7	B
US 441 and Main Street	Signalized	11.8	B
US 441 and SR 235	Signalized	31.8	C
US 441 and Site Access*	Proposed Signal	9.7	A

* A Signal Warrant Study was performed under a separate cover, which shows that a signal is warranted

As shown in Table 8B, the operation of the intersection of US 441 and SR 235 is expected to improve to an acceptable LOS "C" as a result of the signal coordination plan for the US 441 Corridor.



Walmart on US 441
Project № 2779
Figure 4

Projected P.M. Peak Traffic Volumes

Ramp Analysis

The I-75/US 441 ramps were analyzed in accordance with the procedures of the *2000 Highway Capacity Manual* with the use of the latest version of the Highway Capacity Software (HCS+). The analysis was accomplished using projected plus project peak hour volumes and existing ramp geometry. The future background ramp volumes were obtained by applying the annual growth rates to the existing ramp volumes to obtain the 2010 ramp volumes. The results of this analysis are summarized in Table 9. The HCS printouts are included in *Appendix H.* As shown in Table 9, all study ramps are currently operating at an acceptable LOS. It should be noted that FDOT requested TPD to obtain new traffic counts after the recent opening of the Walmart Distribution Center located west of I-75. The ramp analysis includes the new truck traffic from the new Distribution Center.

Table 9
Future Ramp Peak Hour Analysis

Ramp	Ramp Type	LOS
I-75 NB Off Ramp to US 441	Diverge	C
I-75 SB Off Ramp to US 441	Diverge	C
I-75 NB On Ramp from US 441	Merge	C
I-75 SB On Ramp from US 441	Merge	B

Turn Lane Analysis

The project driveway on US 441 was reviewed to determine the required turn lane lengths at each of the turn lanes. The deceleration length requirements presented in the FDOT *Index 301*, the *Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways*, and the FDOT *Plans Preparation Manual, Volume I* were used to obtain the minimum lane lengths required at the project driveways. The analysis for the required turn lane lengths was based on the full build-out of the Walmart and all the planned out-parcels to be built in the future in order to plan for the projected demand of the traffic expected to be generated by the full development of the site. The results are summarized in Table 10.

Table 10
Requirements for Exclusive Turn Lanes at Site Access Driveway

Intersection/ Access Point	Approach	Deceleration Length (ft.)[1,2]	Turning Volume (Veh./Hr.)[3]	Storage Length (ft.)[4]	Total Length Required (ft.)
US 441 & Site Access Driveway	EB Right	185	331	N/A	185
	WB Left	185	139 in 1-lane	205	290
	NB Left	145	161 in 1-lane	170	315
	NB Right	145	311	N/A	145

1 Source: FDOT Index 301- Turn Lanes
2 All deceleration distances include a 50-foot taper for single turn lanes and 100-foot taper for dual turn lanes
3 Turning volumes based on expected full build-out of the Walmart and all the planned out-parcels
4 Source: FDOT *Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways* (Storage Length = Volume x 2 x (25 / # of cycles per hour) x (1-g/c)).

It should be noted that all lane distances listed above include a standard 50-foot taper. The lane lengths calculated above present minimum required lengths. All applicable State design standards must be adhered to in the design of the project's deceleration lanes.

CONCLUSIONS AND RECOMMENDATIONS

This traffic impact study was conducted to estimate the traffic impacts for the proposed Walmart Supercenter in the City of Alachua, Florida. The results of the study documented herein are summarized below:

- The proposed 154,742 square foot Walmart Supercenter development is expected to generate 6,196 new daily trips and 501 new P.M. peak hour trips.
- All roadway segments analyzed currently operate at acceptable levels of service during the peak hour and are expected to do so at the time of the build-out of the project (2010) utilizing the City's transitioning area type designation for US 441. Previous analyses also indicate that US 441 will operate an acceptable level of service under FDOT's rural designation.
- It is recommended to implement a signal coordination system along the US 441 corridor by installing fiber optic cables between all of the study intersections to tie into the existing signal system that currently terminates at the Auto Zone building, which will extend the coordination system all the way to the I-75 interchange. Signal optimization for the system was developed by the use of the Synchro software as provided in this report. All study signalized intersections are expected to operate at an acceptable LOS during the build-out year 2010 of the project with the signal timing optimization in place.
- All I-75 ramps analyzed in this study currently operate at acceptable levels of service during the peak hour and are expected to do so at the time of the build-out of the project (2010).
- The access driveway along US 441 is expected to operate at an acceptable level of service with the proposed geometries shown on the site plan. Although it is not required based on traffic generated by the Walmart Supercenter only, it is recommended to include dual left-turn lanes into the site on US 441 and dual left-turn lanes exiting the site, in addition to exclusive right-turn lanes entering and exiting the site in order to plan for the projected demand of the traffic expected to be generated by the full development of the site.
- The site access driveway was reviewed to determine the required turn lane lengths for each approach. Recommendations based on FDOT standards were made with regards to required turn lane lengths as presented in Table 10 of this report.

APPENDICES

APPENDIX A

Existing Turning Movement Counts

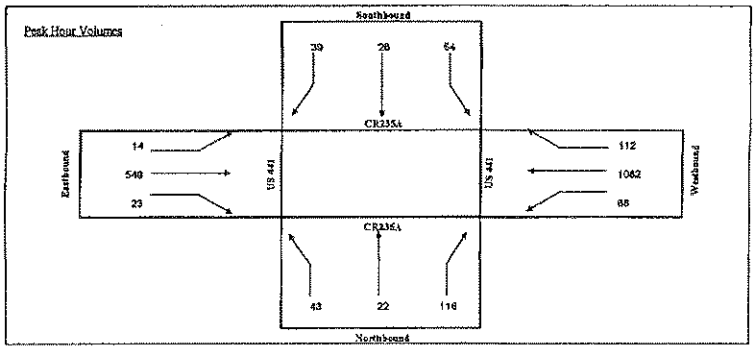
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): CR235A
Intersection (E/W): US441
Date: 1/22/2009

		CR235A NB			CR235A SB			US441 EB			US441 WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
6:00 AM	6:15 AM	0	0	1	0	0	0	0	20	2	3	22	0	48
6:15 AM	6:30 AM	2	0	5	0	0	0	0	25	0	4	34	0	70
6:30 AM	6:45 AM	1	0	1	4	1	0	2	25	3	5	36	3	81
6:45 AM	7:00 AM	1	1	7	4	1	1	0	41	3	2	40	0	101
7:00 AM	7:15 AM	5	0	12	3	3	5	4	44	2	9	51	4	142
7:15 AM	7:30 AM	5	2	9	5	2	2	1	46	1	10	53	6	142
7:30 AM	7:45 AM	9	4	10	10	3	3	0	55	6	18	51	6	175
7:45 AM	8:00 AM	9	1	9	13	1	4	3	63	8	17	60	10	196
8:00 AM	8:15 AM	12	1	9	7	2	3	6	56	3	16	48	9	172
8:15 AM	8:30 AM	12	4	13	6	4	5	5	68	10	14	59	5	206
8:30 AM	8:45 AM	16	8	10	5	6	3	8	69	6	13	60	9	210
8:45 AM	9:00 AM	19	6	11	9	5	3	8	62	12	18	53	15	247
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	3	1	5	3	1	5	1	90	5	6	69	6	196
10:15 AM	10:30 AM	1	0	3	7	1	2	1	102	6	8	82	3	216
10:30 AM	10:45 AM	0	2	10	11	0	6	1	127	4	7	88	5	261
10:45 AM	11:00 AM	2	2	18	13	3	3	3	121	7	4	101	11	286
11:00 AM	11:15 AM	4	4	10	7	1	8	4	129	6	10	95	10	288
11:15 AM	11:30 AM	1	1	16	6	1	6	3	135	5	18	107	10	313
11:30 AM	11:45 AM	3	0	9	7	3	8	0	155	0	11	115	5	316
11:45 AM	12:00 PM	6	0	6	3	5	11	5	140	8	16	133	9	343
12:00 PM	12:15 PM	6	4	4	8	2	15	1	168	4	20	126	9	367
12:15 PM	12:30 PM	6	1	11	13	1	11	2	161	10	11	108	13	348
12:30 PM	12:45 PM	8	4	4	10	0	10	2	149	3	7	129	11	337
12:45 PM	1:00 PM	4	1	11	7	1	7	0	131	5	8	133	8	317
1:00 PM	1:15 PM	7	5	7	8	4	8	1	137	6	13	111	8	317
1:15 PM	1:30 PM	2	2	7	4	2	5	1	153	5	4	147	8	341
1:30 PM	1:45 PM	2	0	5	4	2	7	2	133	9	11	92	5	272
1:45 PM	2:00 PM	2	2	8	5	2	9	1	153	9	8	96	7	276
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	3:15 PM	1	0	5	0	0	0	0	5	0	4	5	1	22
3:15 PM	3:30 PM	0	1	8	0	1	0	0	3	0	2	4	0	17
3:30 PM	3:45 PM	11	2	34	19	7	13	2	99	10	17	200	19	433
3:45 PM	4:00 PM	14	8	29	22	7	7	3	117	5	22	251	34	519
4:00 PM	4:15 PM	8	6	33	17	2	12	5	114	1	28	280	26	513
4:15 PM	4:30 PM	9	1	36	11	0	15	2	123	3	31	250	16	498
4:30 PM	4:45 PM	13	3	32	16	6	11	6	123	1	25	266	32	534
4:45 PM	5:00 PM	11	7	25	19	7	8	2	140	7	30	280	31	547
5:00 PM	5:15 PM	12	5	32	11	9	14	2	153	8	16	289	22	571
5:15 PM	5:30 PM	7	7	27	8	4	8	4	133	9	17	267	27	518
5:30 PM	5:45 PM	8	1	21	15	1	11	3	119	4	15	251	17	468
5:45 PM	6:00 PM	6	3	15	12	3	10	6	137	8	14	281	22	499
6:00 PM	6:15 PM	5	2	11	18	1	6	4	132	7	19	251	30	486
6:15 PM	6:30 PM	7	1	17	19	2	12	8	124	9	27	253	27	504
6:30 PM	6:45 PM	4	0	9	16	0	8	3	134	5	21	238	20	458
6:45 PM	7:00 PM	5	0	4	8	1	6	5	115	5	12	198	15	377
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	1	1	7	3	0	3	3	91	5	11	122	10	257
8:15 PM	8:30 PM	1	0	5	1	1	2	4	78	2	8	117	8	227
8:30 PM	8:45 PM	0	0	5	3	1	0	0	59	3	12	97	8	185
8:45 PM	9:00 PM	2	0	8	5	2	5	2	35	4	9	90	6	169

Total for:	4:00 PM	5:00 PM	41	17	126	63	16	46	16	500	12	114	1038	107	2092
Total for:	5:00 PM	6:00 PM	33	16	85	48	17	41	15	542	25	82	1060	68	2048
Total Peak Hour:	4:30 PM	5:30 PM	43	22	116	64	26	39	14	549	23	88	1062	112	2168
Overall PHF:	0.95														



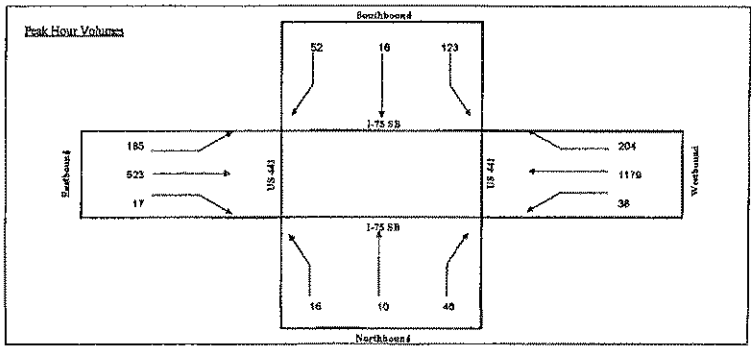
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): I-75 SB
Intersection (E/W): US-441
Date: 1/22/2009

		I-75 SB			I-75 SB			US-441			US-441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
6:00 AM	6:15 AM	1	2	3	6	2	5	9	27	8	1	22	10	94
6:15 AM	6:30 AM	2	2	2	3	1	5	13	34	3	1	29	7	102
6:30 AM	6:45 AM	4	3	0	8	3	8	9	32	4	1	31	10	109
6:45 AM	7:00 AM	2	4	5	8	3	8	16	43	5	4	35	15	146
7:00 AM	7:15 AM	3	4	3	14	2	14	24	45	6	2	51	21	189
7:15 AM	7:30 AM	3	6	8	13	7	22	19	58	7	2	51	24	218
7:30 AM	7:45 AM	7	4	3	16	5	23	31	75	2	5	65	30	284
7:45 AM	8:00 AM	5	5	4	21	9	35	40	66	4	3	57	39	288
8:00 AM	8:15 AM	3	9	10	28	10	40	37	87	6	6	79	44	359
8:15 AM	8:30 AM	9	7	9	25	9	28	41	99	7	7	91	44	376
8:30 AM	8:45 AM	8	8	8	32	6	34	32	113	4	9	85	37	372
8:45 AM	9:00 AM	12	7	8	27	6	33	36	102	10	10	108	41	401
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	4	3	2	13	6	7	44	116	6	5	114	39	359
10:15 AM	10:30 AM	3	2	9	20	3	9	46	104	3	7	122	31	359
10:30 AM	10:45 AM	3	2	7	20	3	8	37	120	6	11	140	36	393
10:45 AM	11:00 AM	3	5	7	22	2	18	35	122	9	9	150	31	413
11:00 AM	11:15 AM	4	6	7	22	5	12	46	140	6	8	178	43	473
11:15 AM	11:30 AM	6	5	10	25	3	11	60	132	10	12	165	36	475
11:30 AM	11:45 AM	5	2	14	19	2	11	56	136	6	15	147	30	443
11:45 AM	12:00 PM	10	1	7	40	0	8	57	170	5	11	161	31	501
12:00 PM	12:15 PM	10	1	9	31	5	3	67	152	2	19	190	38	547
12:15 PM	12:30 PM	8	3	11	19	0	8	81	152	6	10	191	49	519
12:30 PM	12:45 PM	9	4	9	22	1	9	55	136	3	13	176	51	487
12:45 PM	1:00 PM	2	5	6	20	2	9	47	139	8	9	181	39	448
1:00 PM	1:15 PM	3	5	5	20	4	7	42	124	7	6	127	33	383
1:15 PM	1:30 PM	2	0	3	12	1	12	32	125	3	9	140	31	370
1:30 PM	1:45 PM	3	2	7	13	3	7	35	108	6	4	134	25	347
1:45 PM	2:00 PM	3	2	3	16	2	11	31	94	8	5	120	33	328
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	3:15 PM	3	2	3	18	3	10	36	108	5	3	143	27	355
3:15 PM	3:30 PM	3	2	3	23	3	7	36	104	1	6	126	21	335
3:30 PM	3:45 PM	0	3	8	24	2	12	32	118	7	10	157	30	403
3:45 PM	4:00 PM	1	3	5	29	4	17	30	131	3	7	165	23	441
4:00 PM	4:15 PM	9	1	3	37	2	20	37	122	2	12	213	23	476
4:15 PM	4:30 PM	8	2	5	39	3	18	28	152	2	9	213	30	509
4:30 PM	4:45 PM	5	5	8	38	2	19	38	173	1	8	244	39	580
4:45 PM	5:00 PM	3	4	12	36	6	17	45	148	4	8	258	51	595
5:00 PM	5:15 PM	7	2	12	28	7	7	48	138	5	11	283	57	603
5:15 PM	5:30 PM	3	2	13	29	1	12	44	111	3	9	343	47	617
5:30 PM	5:45 PM	3	2	9	27	3	16	50	126	5	10	294	46	594
5:45 PM	6:00 PM	4	2	10	30	5	13	45	115	3	13	242	43	523
6:00 PM	6:15 PM	1	3	6	23	6	7	38	112	0	8	257	35	497
6:15 PM	6:30 PM	5	1	4	17	3	14	29	112	5	8	214	39	451
6:30 PM	6:45 PM	2	1	2	14	7	9	32	91	4	6	184	31	383
6:45 PM	7:00 PM	1	4	1	15	3	11	28	90	1	9	175	28	366
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	2	1	2	6	1	7	13	90	1	1	107	13	244
8:15 PM	8:30 PM	0	2	5	4	0	7	8	86	0	8	81	8	187
8:30 PM	8:45 PM	1	0	2	2	0	7	10	58	0	2	69	5	149
8:45 PM	9:00 PM	0	1	1	5	0	5	4	51	0	0	57	4	128

Total for:	4:00 PM	5:00 PM	25	12	28	153	12	74	143	595	9	37	929	143	2160
Total for:	5:00 PM	6:00 PM	17	8	44	114	14	48	185	490	16	43	1162	196	2337
Tota Peak Hour:	4:45 PM	5:45 PM	16	10	48	123	16	52	186	523	17	36	1179	204	2409
Overall PHF:	0.98														



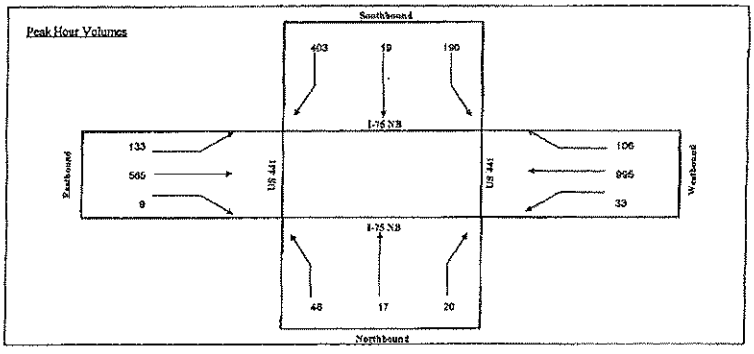
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): I-75 NB
Intersection (E/W): US 441
Date: 1/21/2009

		I-75 NB			I-75 NB			US 441			US 441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
6:00 AM	6:15 AM	0	1	0	1	2	4	3	32	3	1	30	3	80
6:15 AM	6:30 AM	1	2	1	5	2	7	2	35	5	0	31	1	92
6:30 AM	6:45 AM	3	3	2	5	5	11	5	39	1	0	29	6	107
6:45 AM	7:00 AM	1	6	3	7	1	13	9	48	5	6	40	11	148
7:00 AM	7:15 AM	7	1	1	12	4	12	17	50	3	3	59	11	180
7:15 AM	7:30 AM	3	6	5	13	4	26	21	54	5	5	48	15	206
7:30 AM	7:45 AM	2	2	6	17	6	38	19	71	6	12	63	26	268
7:45 AM	8:00 AM	6	6	3	18	3	40	24	66	2	11	54	25	258
8:00 AM	8:15 AM	7	1	2	29	6	41	36	89	6	15	64	31	349
8:15 AM	8:30 AM	7	6	5	32	8	47	40	94	6	17	91	31	384
8:30 AM	8:45 AM	4	2	9	32	6	39	36	112	8	18	93	31	388
8:45 AM	9:00 AM	8	5	7	34	8	41	24	109	6	19	115	40	416
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	4	1	3	14	3	36	8	117	3	3	118	13	323
10:15 AM	10:30 AM	3	3	5	18	5	38	11	128	2	6	127	9	355
10:30 AM	10:45 AM	8	4	3	16	8	45	13	140	1	8	139	12	396
10:45 AM	11:00 AM	8	2	5	23	8	44	7	135	5	8	143	14	402
11:00 AM	11:15 AM	10	4	8	21	8	53	14	162	8	10	172	22	486
11:15 AM	11:30 AM	12	8	5	30	10	46	12	155	5	17	160	18	478
11:30 AM	11:45 AM	8	4	3	34	11	39	11	144	3	23	151	21	452
11:45 AM	12:00 PM	9	2	8	28	3	38	13	166	5	22	159	18	467
12:00 PM	12:15 PM	18	2	7	24	2	38	8	162	3	32	196	20	512
12:15 PM	12:30 PM	13	3	7	28	5	47	11	152	4	15	195	12	490
12:30 PM	12:45 PM	15	3	10	25	6	56	7	162	1	10	171	17	485
12:45 PM	1:00 PM	13	6	9	20	5	50	6	154	1	15	148	22	451
1:00 PM	1:15 PM	16	8	8	18	12	40	4	145	3	9	112	13	368
1:15 PM	1:30 PM	14	5	8	20	10	46	6	144	2	6	123	16	400
1:30 PM	1:45 PM	12	4	6	20	11	43	6	124	3	6	111	19	365
1:45 PM	2:00 PM	9	6	7	17	8	48	6	106	3	7	105	20	342
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	3:15 PM	3	3	3	18	3	49	21	112	0	8	122	17	359
3:15 PM	3:30 PM	1	0	2	20	5	53	25	106	2	2	101	9	326
3:30 PM	3:45 PM	3	5	5	24	2	52	19	129	2	6	145	15	407
3:45 PM	4:00 PM	5	3	3	30	6	60	26	144	0	3	154	21	455
4:00 PM	4:15 PM	6	3	10	38	3	74	34	150	5	8	171	28	513
4:15 PM	4:30 PM	3	1	0	39	2	76	40	153	3	8	174	37	536
4:30 PM	4:45 PM	8	3	7	34	5	71	47	175	2	9	216	34	611
4:45 PM	5:00 PM	10	5	7	50	4	90	46	156	2	12	220	31	632
5:00 PM	5:15 PM	12	4	1	45	5	106	35	147	2	7	244	32	635
5:15 PM	5:30 PM	11	2	3	51	2	117	21	125	2	6	277	19	639
5:30 PM	5:45 PM	13	6	9	44	7	96	31	135	3	6	254	24	630
5:45 PM	6:00 PM	15	3	10	39	3	84	18	131	3	11	202	22	542
6:00 PM	6:15 PM	10	5	11	39	8	71	19	123	1	7	223	23	536
6:15 PM	6:30 PM	7	2	8	31	6	61	17	110	4	8	195	16	467
6:30 PM	6:45 PM	6	4	7	25	5	51	13	91	5	11	164	17	399
6:45 PM	7:00 PM	8	3	7	19	2	48	17	84	2	9	160	11	368
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	6	1	2	8	1	52	9	66	1	8	107	22	301
8:15 PM	8:30 PM	5	2	6	13	2	42	5	71	2	9	78	13	248
8:30 PM	8:45 PM	5	0	0	8	2	41	6	52	1	5	64	16	200
8:45 PM	9:00 PM	3	0	2	8	0	33	2	52	0	3	50	11	164

Total for:	4:00 PM	5:00 PM	27	12	24	158	14	311	171	613	12	37	781	131	2292
Total for:	5:00 PM	6:00 PM	51	15	23	179	18	387	106	541	10	32	977	97	2446
Tota Peak Hour:	4:45 PM	5:45 PM	46	17	20	190	19	403	133	566	9	33	995	106	2538
Overall PHF:	0.99														



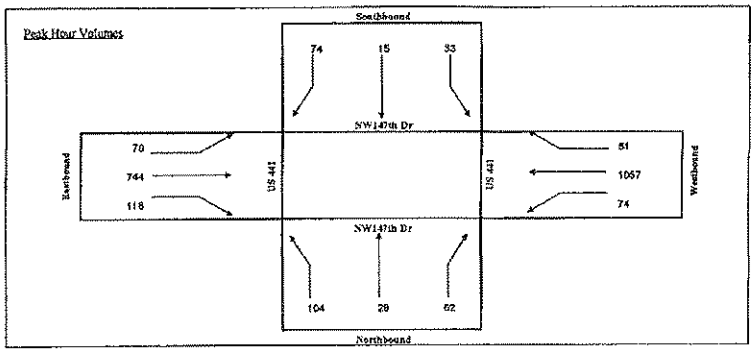
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): NW147th Dr
Intersection (E/W): US 441
Date: 6/23/2009

		NW147th Dr			NW147th Dr			US 441			US 441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
5:00 AM	5:15 AM	1	0	1	1	0	2	0	37	0	0	31	0	73
5:15 AM	5:30 AM	0	0	0	3	0	0	0	33	0	1	38	0	75
5:30 AM	5:45 AM	0	1	2	1	1	0	2	48	2	2	33	1	93
5:45 AM	6:00 AM	4	0	0	0	0	3	0	47	1	4	44	3	106
6:00 AM	6:15 AM	6	0	3	5	0	5	0	55	3	10	53	3	145
6:15 AM	6:30 AM	11	3	7	6	2	6	0	68	5	16	61	7	182
6:30 AM	6:45 AM	10	2	6	6	1	9	4	50	8	18	59	9	194
6:45 AM	7:00 AM	6	2	13	5	1	11	5	84	6	14	77	15	219
7:00 AM	7:15 AM	17	2	16	10	3	13	2	67	8	22	73	16	249
7:15 AM	7:30 AM	19	6	16	11	6	21	6	74	9	18	84	17	287
7:30 AM	7:45 AM	17	6	11	15	8	20	8	84	9	13	80	17	287
7:45 AM	8:00 AM	19	7	15	19	8	26	10	77	11	21	88	17	318
8:00 AM	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	7	4	7	7	3	7	4	107	4	8	127	7	290
10:15 AM	10:30 AM	9	2	3	3	3	7	3	112	3	10	119	7	281
10:30 AM	10:45 AM	10	2	9	8	3	3	3	105	12	12	123	6	296
10:45 AM	11:00 AM	9	7	13	7	5	2	5	124	9	6	111	10	308
11:00 AM	11:15 AM	11	8	11	11	2	6	3	126	8	8	139	3	334
11:15 AM	11:30 AM	3	1	9	13	6	3	6	144	13	12	164	6	381
11:30 AM	11:45 AM	9	6	16	16	1	10	3	153	11	7	160	7	420
11:45 AM	12:00 PM	17	5	18	20	2	9	12	164	16	11	156	10	482
12:00 PM	12:15 PM	15	5	21	15	7	6	9	154	23	11	152	9	427
12:15 PM	12:30 PM	20	5	26	11	4	14	11	172	19	8	138	7	433
12:30 PM	12:45 PM	25	4	19	8	2	14	13	159	16	12	122	6	400
12:45 PM	1:00 PM	26	7	23	9	4	13	12	136	24	15	107	7	379
1:00 PM	1:15 PM	15	2	17	8	2	9	12	118	19	7	94	3	306
1:15 PM	1:30 PM	12	4	10	6	5	10	10	99	15	10	99	3	283
1:30 PM	1:45 PM	6	4	13	5	1	7	9	110	13	7	84	5	264
1:45 PM	2:00 PM	9	6	10	8	4	11	18	94	12	5	88	6	259
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	1
3:00 PM	3:15 PM	28	7	16	13	4	19	17	125	21	8	183	13	448
3:15 PM	3:30 PM	22	7	8	8	2	13	9	151	24	3	220	6	473
3:30 PM	3:45 PM	14	2	5	11	1	12	6	126	18	9	208	4	416
3:45 PM	4:00 PM	13	2	8	8	0	6	6	123	21	5	202	4	398
4:00 PM	4:15 PM	19	5	14	13	5	13	5	137	26	11	227	8	483
4:15 PM	4:30 PM	23	9	15	14	3	15	14	164	22	9	250	11	546
4:30 PM	4:45 PM	21	4	20	8	3	28	10	185	32	19	271	17	618
4:45 PM	5:00 PM	30	8	17	9	5	19	16	206	30	24	290	23	648
5:00 PM	5:15 PM	25	11	8	10	1	12	24	174	27	16	271	24	604
5:15 PM	5:30 PM	27	5	17	8	6	17	20	180	27	15	255	17	592
5:30 PM	5:45 PM	17	10	13	8	9	20	16	159	16	19	257	10	552
5:45 PM	6:00 PM	21	3	5	7	3	17	15	165	19	22	243	8	528
6:00 PM	6:15 PM	15	6	8	10	6	23	9	136	22	14	197	8	452
6:15 PM	6:30 PM	16	3	2	10	6	19	9	137	16	14	158	3	364
6:30 PM	6:45 PM	27	6	6	4	7	16	4	85	10	9	130	0	304
6:45 PM	7:00 PM	27	2	8	7	3	9	2	99	20	14	132	5	328
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	11	0	7	8	2	8	5	82	9	12	93	6	241
8:15 PM	8:30 PM	15	1	5	2	0	9	4	98	9	8	69	6	210
8:30 PM	8:45 PM	12	0	5	3	1	3	1	81	6	4	82	2	180
8:45 PM	9:00 PM	8	2	7	3	0	3	4	58	7	6	70	3	171

Total for:	4:00 PM	5:00 PM	93	28	60	44	16	73	45	691	110	83	1008	59	2291
Total for:	5:00 PM	6:00 PM	91	29	43	29	19	66	75	678	89	72	1028	58	2276
Tota Peak Hour:	4:30 PM	5:30 PM	104	28	62	33	15	74	70	744	116	74	1057	61	2458
Overall PHF:	0.95														



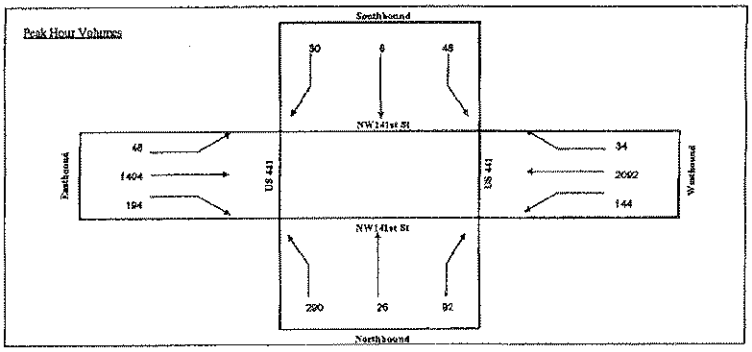
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): NW141st St
Intersection (E/W): US 441
Date: 1/22/2009

		NW141st St			NW141st St			US 441			US 441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
6:00 AM	6:15 AM	2	0	2	8	0	2	0	74	2	2	54	0	144
6:15 AM	6:30 AM	0	0	0	0	0	0	0	66	0	4	62	0	132
6:30 AM	6:45 AM	0	0	2	2	0	4	0	76	4	8	76	2	172
6:45 AM	7:00 AM	0	4	4	0	0	4	2	98	0	16	88	2	218
7:00 AM	7:15 AM	6	2	8	6	2	0	0	112	6	24	106	0	272
7:15 AM	7:30 AM	2	0	12	4	0	6	2	134	10	18	130	6	322
7:30 AM	7:45 AM	4	6	12	10	4	12	0	112	10	22	160	2	364
7:45 AM	8:00 AM	10	2	6	18	2	10	2	136	20	30	164	6	406
8:00 AM	8:15 AM	4	8	14	24	0	14	4	140	12	20	174	8	420
8:15 AM	8:30 AM	8	4	18	20	6	12	4	146	18	30	208	4	474
8:30 AM	8:45 AM	12	2	14	30	2	12	0	184	28	32	214	12	540
8:45 AM	9:00 AM	12	8	22	28	4	18	6	178	32	28	238	10	572
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	6	4	0	2	2	10	6	212	12	12	260	4	532
10:15 AM	10:30 AM	4	2	6	2	0	8	2	234	12	16	262	2	548
10:30 AM	10:45 AM	12	0	4	0	0	10	4	248	12	10	266	0	566
10:45 AM	11:00 AM	4	2	10	0	2	4	12	280	18	10	288	2	632
11:00 AM	11:15 AM	18	14	6	6	4	4	12	268	14	12	344	0	702
11:15 AM	11:30 AM	26	4	12	4	0	12	30	326	28	20	358	2	822
11:30 AM	11:45 AM	44	12	20	10	2	16	24	338	30	24	394	10	926
11:45 AM	12:00 PM	44	16	24	6	6	28	18	324	12	34	372	10	896
12:00 PM	12:15 PM	34	8	10	2	4	26	10	308	16	26	360	4	810
12:15 PM	12:30 PM	22	4	14	0	6	16	12	332	36	16	308	4	772
12:30 PM	12:45 PM	32	2	6	4	6	24	14	304	22	12	296	6	722
12:45 PM	1:00 PM	26	6	12	2	2	16	6	302	32	6	248	0	660
1:00 PM	1:15 PM	38	4	26	2	2	16	12	270	16	20	250	2	652
1:15 PM	1:30 PM	30	6	16	6	6	24	16	232	36	26	334	8	744
1:30 PM	1:45 PM	54	4	30	12	0	36	10	308	26	16	304	8	812
1:45 PM	2:00 PM	36	16	34	4	0	26	26	268	30	34	318	26	824
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	3:15 PM	38	6	20	4	2	16	12	258	0	18	364	0	730
3:15 PM	3:30 PM	32	2	16	2	0	16	14	282	0	14	340	0	712
3:30 PM	3:45 PM	20	6	24	0	2	10	6	284	20	12	384	2	770
3:45 PM	4:00 PM	32	4	26	6	0	12	12	236	18	24	414	4	790
4:00 PM	4:15 PM	44	16	20	10	8	4	4	340	32	24	440	4	944
4:15 PM	4:30 PM	28	12	30	12	4	12	14	384	22	30	460	0	1008
4:30 PM	4:45 PM	40	12	36	6	0	8	8	368	48	18	474	0	1006
4:45 PM	5:00 PM	50	2	34	18	2	6	12	314	48	24	466	2	1002
5:00 PM	5:15 PM	62	6	28	12	4	6	14	350	52	34	506	6	1078
5:15 PM	5:30 PM	72	10	22	8	2	10	16	406	54	32	516	10	1158
5:30 PM	5:45 PM	60	8	16	10	0	6	8	334	52	36	554	14	1118
5:45 PM	6:00 PM	76	2	28	16	0	8	10	314	36	42	536	4	1054
6:00 PM	6:15 PM	40	8	18	4	2	4	4	260	22	28	528	12	916
6:15 PM	6:30 PM	48	10	12	12	0	10	12	242	26	26	504	6	902
6:30 PM	6:45 PM	38	4	18	12	4	2	14	234	30	24	414	10	804
6:45 PM	7:00 PM	30	8	32	6	2	8	18	194	20	20	434	14	786
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	30	8	12	2	4	2	2	178	12	20	254	8	514
8:15 PM	8:30 PM	20	4	16	10	0	6	6	160	16	16	194	12	460
8:30 PM	8:45 PM	10	0	6	4	0	8	4	120	18	24	144	0	348
8:45 PM	9:00 PM	16	2	10	0	2	2	4	140	12	12	154	8	362

Total for:	4:00 PM	5:00 PM	160	42	120	48	12	30	36	1388	142	96	1882	8	3958
Total for:	5:00 PM	6:00 PM	290	26	92	48	6	30	48	1404	194	144	2092	34	4408
Tota Peak Hours:	5:00 PM	6:00 PM	290	26	92	48	6	30	48	1404	194	144	2092	34	4408
Overall PHF:	0.95														



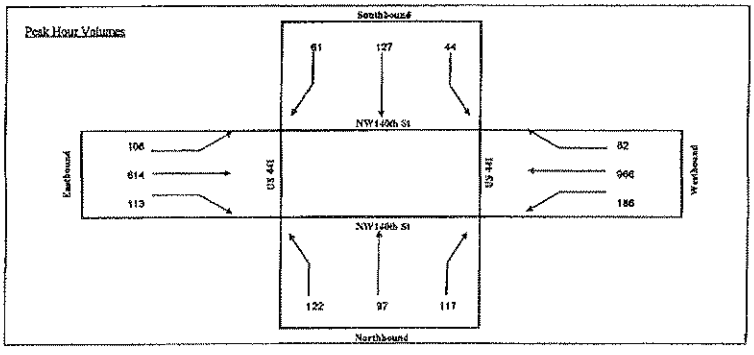
TURNING MOVEMENT COUNT ANALYSIS

AUTOS & TRUCKS

Intersection (N/S): NW140th St
Intersection (E/W): US 441
Date: 1/23/2009

		NW140th St			NW140th St			US 441			US 441			
		NB			SB			EB			WB			
Start	End	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
6:00 AM	6:15 AM	5	3	1	2	9	5	2	38	4	2	20	2	93
6:15 AM	6:30 AM	5	2	0	5	11	7	1	32	1	3	21	2	90
6:30 AM	6:45 AM	6	5	1	8	14	11	0	35	5	5	26	1	117
6:45 AM	7:00 AM	8	7	5	11	16	9	4	44	11	3	38	2	158
7:00 AM	7:15 AM	14	14	10	15	26	11	5	52	12	10	44	9	222
7:15 AM	7:30 AM	20	17	10	18	28	13	3	63	16	8	52	11	259
7:30 AM	7:45 AM	21	20	11	23	27	16	8	51	10	13	59	18	278
7:45 AM	8:00 AM	28	23	10	30	40	20	5	70	15	11	80	12	324
8:00 AM	8:15 AM	29	23	17	26	41	25	8	72	15	19	58	13	346
8:15 AM	8:30 AM	34	21	11	25	44	29	8	84	14	17	68	13	368
8:30 AM	8:45 AM	29	20	11	28	38	35	10	94	20	16	70	9	380
8:45 AM	9:00 AM	31	24	16	37	41	36	10	94	22	18	81	15	428
9:00 AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	10:15 AM	16	25	20	7	20	15	8	96	8	20	112	7	353
10:15 AM	10:30 AM	13	22	18	8	20	15	8	106	11	22	113	9	365
10:30 AM	10:45 AM	15	21	20	14	13	10	12	109	11	17	128	8	378
10:45 AM	11:00 AM	18	23	16	16	22	18	17	124	12	19	120	10	416
11:00 AM	11:15 AM	22	32	19	18	17	25	13	120	13	20	134	15	448
11:15 AM	11:30 AM	20	33	18	15	26	24	15	139	22	20	141	18	500
11:30 AM	11:45 AM	35	44	17	11	38	32	21	151	25	38	164	16	582
11:45 AM	12:00 PM	35	35	16	16	42	40	26	131	28	34	140	26	567
12:00 PM	12:15 PM	26	32	25	10	39	33	29	117	23	29	142	20	522
12:15 PM	12:30 PM	19	29	27	11	27	27	21	136	24	25	130	16	492
12:30 PM	12:45 PM	21	28	26	13	21	28	16	126	20	19	113	11	442
12:45 PM	1:00 PM	17	23	26	13	28	23	11	132	25	16	96	9	419
1:00 PM	1:15 PM	19	25	20	7	28	13	16	114	32	27	108	10	419
1:15 PM	1:30 PM	28	28	31	8	29	16	11	106	19	25	151	18	476
1:30 PM	1:45 PM	25	32	36	7	29	16	28	120	40	29	136	28	519
1:45 PM	2:00 PM	13	41	31	10	33	18	29	120	17	39	167	32	550
2:00 PM	2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	3:15 PM	12	12	11	10	9	9	12	115	16	11	177	9	403
3:15 PM	3:30 PM	10	10	12	7	14	7	12	123	20	8	164	7	394
3:30 PM	3:45 PM	8	17	10	7	11	10	14	124	22	7	188	7	425
3:45 PM	4:00 PM	10	13	14	10	16	7	15	101	21	11	210	17	447
4:00 PM	4:15 PM	13	22	21	9	17	9	23	148	24	18	222	12	535
4:15 PM	4:30 PM	20	26	16	10	20	11	20	165	23	24	231	10	575
4:30 PM	4:45 PM	25	29	27	12	21	14	24	191	23	37	214	14	631
4:45 PM	5:00 PM	29	28	27	10	24	9	30	166	27	51	222	24	647
5:00 PM	5:15 PM	34	18	31	13	30	12	31	139	27	51	230	28	644
5:15 PM	5:30 PM	28	25	33	13	29	14	26	168	28	46	241	15	666
5:30 PM	5:45 PM	24	25	27	10	32	14	21	158	29	47	265	22	674
5:45 PM	6:00 PM	38	29	28	8	36	21	30	149	29	42	230	17	653
6:00 PM	6:15 PM	29	23	27	8	28	15	19	102	16	33	242	24	566
6:15 PM	6:30 PM	20	19	19	6	21	19	19	107	11	30	230	18	519
6:30 PM	6:45 PM	16	18	16	6	16	14	21	97	17	22	198	13	464
6:45 PM	7:00 PM	20	18	12	8	20	14	16	85	18	22	202	14	447
7:00 PM	7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	8:15 PM	10	13	13	13	8	13	15	85	19	6	105	6	288
8:15 PM	8:30 PM	5	8	12	8	6	13	11	72	14	2	81	3	235
8:30 PM	8:45 PM	7	5	9	11	7	9	11	53	8	8	59	4	189
8:45 PM	9:00 PM	2	11	8	9	5	9	11	56	9	4	67	5	196

Total for:	4:00 PM	5:00 PM	87	105	91	41	82	42	97	670	97	128	889	60	2389
Total for:	5:00 PM	6:00 PM	122	97	117	44	127	61	108	614	113	186	966	82	2637
Tote Peak Hours:	5:00 PM	6:00 PM	122	97	117	44	127	61	108	614	113	186	966	82	2637
Overall PHF:	0.98														



2008 Peak Season Factor Category Report - Report Type: ALL
Category: 2601 GAINESVILLE URBAN

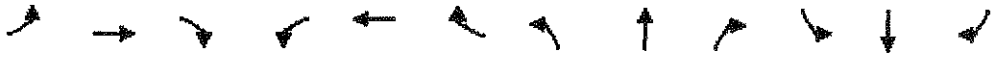
MOCF: 0.96

Week	Dates	SF	PSCF
1	01/01/2008 - 01/05/2008	1.05	1.09
2	01/06/2008 - 01/12/2008	1.04	1.08
3	01/13/2008 - 01/19/2008	1.04	1.08
4	01/20/2008 - 01/26/2008	1.02	1.06
5	01/27/2008 - 02/02/2008	1.00	1.04
* 6	02/03/2008 - 02/09/2008	0.98	1.02
* 7	02/10/2008 - 02/16/2008	0.97	1.01
* 8	02/17/2008 - 02/23/2008	0.97	1.01
* 9	02/24/2008 - 03/01/2008	0.97	1.01
*10	03/02/2008 - 03/08/2008	0.97	1.01
*11	03/09/2008 - 03/15/2008	0.97	1.01
*12	03/16/2008 - 03/22/2008	0.96	1.00
*13	03/23/2008 - 03/29/2008	0.95	0.99
*14	03/30/2008 - 04/05/2008	0.95	0.99
*15	04/06/2008 - 04/12/2008	0.94	0.98
*16	04/13/2008 - 04/19/2008	0.94	0.98
*17	04/20/2008 - 04/26/2008	0.95	0.99
*18	04/27/2008 - 05/03/2008	0.98	1.02
19	05/04/2008 - 05/10/2008	1.00	1.04
20	05/11/2008 - 05/17/2008	1.01	1.05
21	05/18/2008 - 05/24/2008	1.02	1.06
22	05/25/2008 - 05/31/2008	1.03	1.07
23	06/01/2008 - 06/07/2008	1.04	1.08
24	06/08/2008 - 06/14/2008	1.04	1.08
25	06/15/2008 - 06/21/2008	1.05	1.09
26	06/22/2008 - 06/28/2008	1.05	1.09
27	06/29/2008 - 07/05/2008	1.05	1.09
28	07/06/2008 - 07/12/2008	1.05	1.09
29	07/13/2008 - 07/19/2008	1.06	1.10
30	07/20/2008 - 07/26/2008	1.05	1.09
31	07/27/2008 - 08/02/2008	1.05	1.09
32	08/03/2008 - 08/09/2008	1.04	1.08
33	08/10/2008 - 08/16/2008	1.04	1.08
34	08/17/2008 - 08/23/2008	1.03	1.07
35	08/24/2008 - 08/30/2008	1.01	1.05
36	08/31/2008 - 09/06/2008	1.00	1.04
37	09/07/2008 - 09/13/2008	0.99	1.03
38	09/14/2008 - 09/20/2008	0.98	1.02
39	09/21/2008 - 09/27/2008	0.97	1.01
40	09/28/2008 - 10/04/2008	0.97	1.01
41	10/05/2008 - 10/11/2008	0.97	1.01
42	10/12/2008 - 10/18/2008	0.97	1.01
43	10/19/2008 - 10/25/2008	0.97	1.01
44	10/26/2008 - 11/01/2008	0.98	1.02
45	11/02/2008 - 11/08/2008	0.99	1.03
46	11/09/2008 - 11/15/2008	1.00	1.04
47	11/16/2008 - 11/22/2008	1.01	1.05
48	11/23/2008 - 11/29/2008	1.02	1.06
49	11/30/2008 - 12/06/2008	1.03	1.07
50	12/07/2008 - 12/13/2008	1.04	1.08
51	12/14/2008 - 12/20/2008	1.05	1.09
52	12/21/2008 - 12/27/2008	1.04	1.08
53	12/28/2008 - 12/31/2008	1.04	1.08

* Peak Season

APPENDIX B

Existing Synchro Printouts



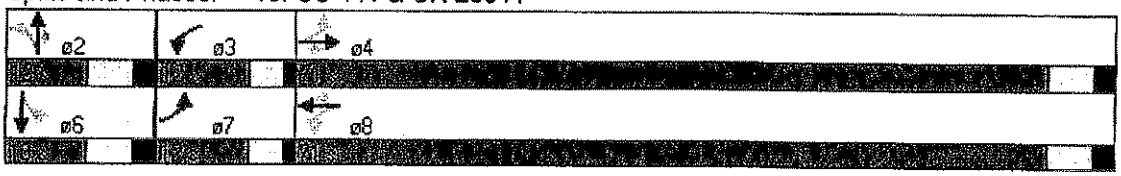
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		150	300		150	200		150	200		0
Storage Lanes	1		1	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.895	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3343	1495	1671	3343	1495	1671	1759	1495	1671	1575	0
Flt Permitted	0.186			0.399			0.713			0.746		
Satd. Flow (perm)	327	3343	1495	702	3343	1495	1254	1759	1495	1312	1575	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			29			101			110		47	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		522			2834			1009			973	
Travel Time (s)		7.9			42.9			15.3			14.7	
Volume (vph)	16	575	27	66	1132	93	35	17	101	49	18	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	17	625	29	72	1230	101	38	18	110	53	20	47
Lane Group Flow (vph)	17	625	29	72	1230	101	38	18	110	53	67	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phases	7	4	4	3	8	8	2	2	2	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	12.0	71.0	71.0	12.0	71.0	71.0	13.0	13.0	13.0	13.0	13.0	0.0
Total Split (%)	12.5%	74.0%	74.0%	12.5%	74.0%	74.0%	13.5%	13.5%	13.5%	13.5%	13.5%	0.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	
Act Effct Green (s)	41.7	36.6	36.6	44.8	41.7	41.7	42.0	42.0	42.0	42.0	42.0	
Actuated g/C Ratio	0.43	0.38	0.38	0.47	0.43	0.43	0.44	0.44	0.44	0.44	0.44	
v/c Ratio	0.07	0.49	0.05	0.18	0.85	0.14	0.07	0.02	0.15	0.09	0.09	
Control Delay	9.5	23.3	4.5	11.6	30.1	2.9	22.5	22.6	6.0	22.4	11.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	9.5	23.3	4.5	11.6	30.1	2.9	22.5	22.6	6.0	22.4	11.1	
LOS	A	C	A	B	C	A	C	C	A	C	B	
Approach Delay		22.1			27.2			11.6			16.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	6	170	0	25	345	0	12	6	0	17	6	
Queue Length 95th (ft)	10	145	13	29	343	23	44	26	40	56	42	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		442			2754			929			893	
Turn Bay Length (ft)	300		150	300		150	200		150	200		
Base Capacity (vph)	258	2333	1052	409	2333	1074	549	770	716	574	716	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.27	0.03	0.18	0.53	0.09	0.07	0.02	0.15	0.09	0.09	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 22 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 24.1 Intersection LOS: C
Intersection Capacity Utilization 54.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: US 441 & CR 235 A



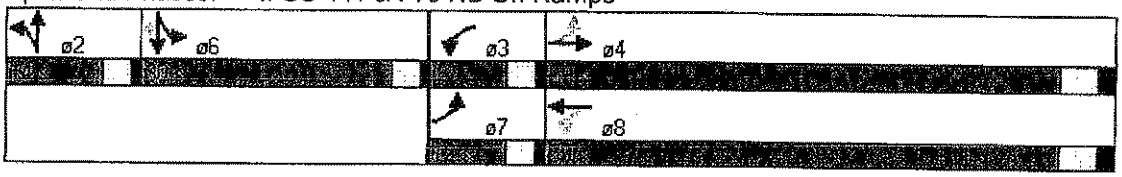
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	230		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.997						0.966				0.850
Flt Protected	0.950			0.950				0.972			0.957	
Satd. Flow (prot)	1671	3333	0	1671	3343	0	0	1749	0	0	1684	2632
Flt Permitted	0.136			0.343				0.972			0.957	
Satd. Flow (perm)	239	3333	0	603	3343	0	0	1749	0	0	1684	2632
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						12				390
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		451			396			153			219	
Travel Time (s)		6.8			6.0			3.0			4.3	
Volume (vph)	110	566	11	34	1036	0	54	16	24	190	19	421
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	2%	2%	2%	8%	8%	8%
Adj. Flow (vph)	120	615	12	37	1126	0	59	17	26	207	21	458
Lane Group Flow (vph)	120	627	0	37	1126	0	0	102	0	0	228	458
Turn Type	pm+pt			pm+pt			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phases	7	4		3	8		2	2		6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	20.0		8.5	20.0		10.0	10.0		20.0	20.0	20.0
Total Split (s)	12.0	59.0	0.0	12.0	59.0	0.0	14.0	14.0	0.0	30.0	30.0	30.0
Total Split (%)	10.4%	51.3%	0.0%	10.4%	51.3%	0.0%	12.2%	12.2%	0.0%	26.1%	26.1%	26.1%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effct Green (s)	57.9	52.4		52.4	45.7			23.6			20.3	20.3
Actuated g/C Ratio	0.50	0.46		0.46	0.40			0.21			0.18	0.18
v/c Ratio	0.51	0.41		0.11	0.85			0.28			0.77	0.58
Control Delay	24.3	15.0		12.7	37.7			41.4			61.5	10.3
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	24.3	15.0		12.7	37.7			41.4			61.5	10.3
LOS	C	B		B	D			D			E	B
Approach Delay		16.5			36.9			41.4			27.3	
Approach LOS		B			D			D			C	
Queue Length 50th (ft)	31	112		13	390			57			161	24
Queue Length 95th (ft)	75	117		26	415			#137			237	72

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		371			316			73			139	
Turn Bay Length (ft)	350			230								
Base Capacity (vph)	238	1608		356	1599			368			381	897
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.39		0.10	0.70			0.28			0.60	0.51

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 58 (50%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 29.0 Intersection LOS: C
Intersection Capacity Utilization 61.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: US 441 & I-75 NB On Ramps



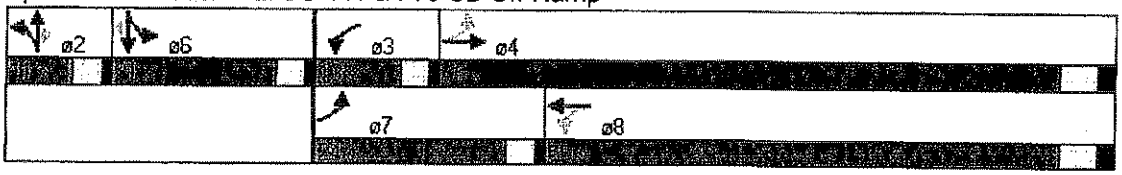
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	540		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995							0.850			0.850
Flt Protected	0.950			0.950				0.967			0.957	
Satd. Flow (prot)	1671	3326	0	1671	3343	0	0	1801	1583	0	1684	1495
Flt Permitted	0.068			0.433				0.967			0.957	
Satd. Flow (perm)	120	3326	0	762	3343	0	0	1801	1583	0	1684	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5							51			55
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		791			327			169			130	
Travel Time (s)		12.0			5.0			3.8			3.0	
Volume (vph)	196	519	17	53	1250	0	18	8	47	121	15	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	2%	2%	2%	8%	8%	8%
Adj. Flow (vph)	213	564	18	58	1359	0	20	9	51	132	16	55
Lane Group Flow (vph)	213	582	0	58	1359	0	0	29	51	0	148	55
Turn Type	pm+pt			pm+pt			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			6
Detector Phases	7	4		3	8		2	2	2	6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		10.0	10.0	10.0	20.0	20.0	20.0
Total Split (s)	24.0	70.0	0.0	13.0	59.0	0.0	11.0	11.0	11.0	21.0	21.0	21.0
Total Split (%)	20.9%	60.9%	0.0%	11.3%	51.3%	0.0%	9.6%	9.6%	9.6%	18.3%	18.3%	18.3%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	75.7	67.4		60.8	54.5			10.3	10.3		17.0	17.0
Actuated g/C Ratio	0.66	0.59		0.53	0.47			0.09	0.09		0.15	0.15
v/c Ratio	0.68	0.30		0.13	0.86			0.18	0.27		0.59	0.21
Control Delay	36.5	12.2		4.0	14.0			54.6	18.3		56.6	13.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	36.5	12.2		4.0	14.0			54.6	18.3		56.6	13.5
LOS	D	B		A	B			D	B		E	B
Approach Delay		18.7			13.6			31.4			44.9	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	96	102		5	117			21	0		104	0
Queue Length 95th (ft)	177	138		m10	203			52	40		174	37

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		711			247			89			50	
Turn Bay Length (ft)				540								
Base Capacity (vph)	349	1970		492	1634		161	187		249	268	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.61	0.30		0.12	0.83		0.18	0.27		0.59	0.21	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 62 (54%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 18.3 Intersection LOS: B
Intersection Capacity Utilization 69.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 441 & I-75 SB Off Ramp



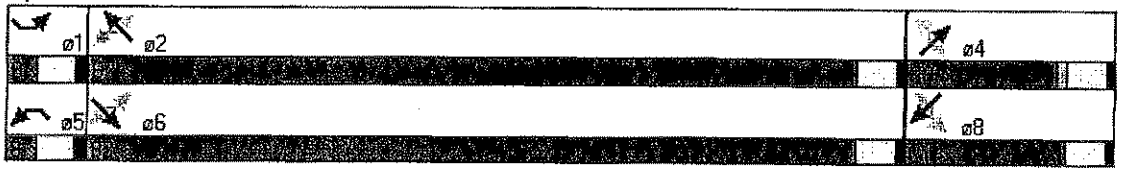
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		260	250		265	0		140	100		100
Storage Lanes	1		1	1		1	0		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.964		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1796	1583	1770	1863	1583
Flt Permitted	0.204			0.329				0.765		0.519		
Satd. Flow (perm)	380	3539	1583	613	3539	1583	0	1425	1583	967	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			102			68			50			76
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		435			1574			349			308	
Travel Time (s)		6.6			23.8			7.9			7.0	
Volume (vph)	80	719	94	78	1068	63	96	31	46	31	20	70
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	782	102	85	1161	68	104	34	50	34	22	76
Lane Group Flow (vph)	87	782	102	85	1161	68	0	138	50	34	22	76
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		8
Detector Phases	1	6	6	5	2	2	4	4	4	8	8	8
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	1.0	1.0	1.0	4.0	4.0	4.0
Minimum Split (s)	6.0	21.0	21.0	6.0	21.0	21.0	10.0	10.0	10.0	21.0	21.0	21.0
Total Split (s)	8.0	82.0	82.0	8.0	82.0	82.0	20.0	20.0	20.0	21.0	21.0	21.0
Total Split (%)	7.2%	73.9%	73.9%	7.2%	73.9%	73.9%	18.0%	18.0%	18.0%	18.9%	18.9%	18.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	81.2	78.2	78.2	81.2	78.2	78.2		14.2	14.2	14.2	14.2	14.2
Actuated g/C Ratio	0.75	0.73	0.73	0.75	0.73	0.73		0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.26	0.30	0.09	0.17	0.45	0.06		0.73	0.20	0.26	0.09	0.27
Control Delay	4.7	5.7	1.1	3.6	6.8	1.3		67.0	13.7	47.6	41.8	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	5.7	1.1	3.6	6.8	1.3		67.0	13.7	47.6	41.8	12.4
LOS	A	A	A	A	A	A		E	B	D	D	B
Approach Delay		5.1			6.3			52.8			26.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	11	95	0	11	164	0		93	0	22	14	0
Queue Length 95th (ft)	22	122	14	21	203	12		#177	35	53	37	42
Internal Link Dist (ft)		355			1494			269			228	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Turn Bay Length (ft)	200		260	250		265			140	100		100
Base Capacity (vph)	336	2594	1187	502	2594	1178		221	289	150	289	311
Starvation Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.26	0.30	0.09	0.17	0.45	0.06		0.62	0.17	0.23	0.08	0.24

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 106.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 10.3 Intersection LOS: B
Intersection Capacity Utilization 57.6% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 32: US 441 & NW 147th Dr.



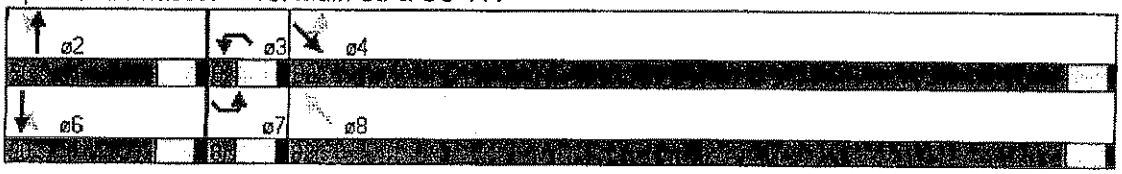
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	170		0	160		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.901			0.934			0.983			0.998	
Flt Protected	0.950				0.980		0.950			0.950		
Satd. Flow (prot)	1770	1678	0	0	1705	0	1770	3479	0	1770	3532	0
Flt Permitted	0.701				0.854		0.184			0.950		
Satd. Flow (perm)	1306	1678	0	0	1486	0	343	3479	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			35			31			4	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		15			15			45			45	
Link Distance (ft)		264			548			1574			535	
Travel Time (s)		12.0			24.9			23.8			8.1	
Volume (vph)	138	28	53	28	6	32	30	805	103	77	1123	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	150	30	58	30	7	35	33	875	112	84	1221	20
Lane Group Flow (vph)	150	88	0	0	72	0	33	987	0	84	1241	0
Turn Type	Perm			Perm			pm+pt			Prot		
Protected Phases		2			6		7	4		3		
Permitted Phases	2			6			4				8	
Detector Phases	2	2		6	6		7	4		3	8	
Minimum Initial (s)	4.0	4.0		4.0	4.0		1.0	4.0		3.0	4.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		6.0	10.0		8.0	10.0	
Total Split (s)	20.0	20.0	0.0	20.0	20.0	0.0	8.0	82.0	0.0	8.0	82.0	0.0
Total Split (%)	18.2%	18.2%	0.0%	18.2%	18.2%	0.0%	7.3%	74.5%	0.0%	7.3%	74.5%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	16.4	16.4			16.4		28.9	24.6		4.1	30.1	
Actuated g/C Ratio	0.29	0.29			0.29		0.46	0.43		0.07	0.52	
v/c Ratio	0.40	0.17			0.16		0.13	0.65		0.66	0.67	
Control Delay	24.1	10.8			13.4		6.5	14.1		59.0	12.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	24.1	10.8			13.4		6.5	14.1		59.0	12.3	
LOS	C	B			B		A	B		E	B	
Approach Delay		19.2			13.4			13.9			15.3	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	38	7			8		4	126		27	125	
Queue Length 95th (ft)	114	44			45		12	172		#115	243	
Internal Link Dist (ft)		184			468			1494			455	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Turn Bay Length (ft)	100						170			160		
Base Capacity (vph)	373	521		450			251	2476		127	2624	
Starvation Cap Reductn	0	0		0			0	0		0	27	
Spillback Cap Reductn	0	0		0			0	0		0	0	
Storage Cap Reductn	0	0		0			0	0		0	0	
Reduced v/c Ratio	0.40	0.17		0.16			0.13	0.40		0.66	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 57.5
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 15.0 Intersection LOS: B
Intersection Capacity Utilization 59.3% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Main St. & US 441



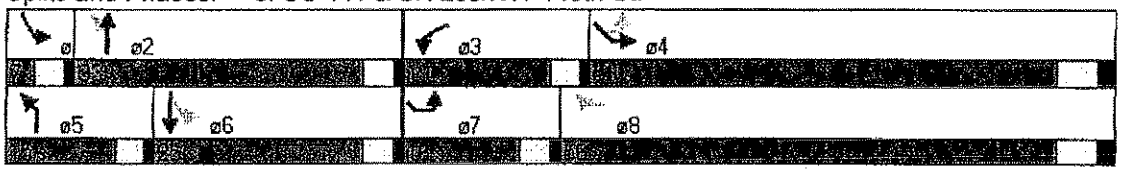
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0		150		0	150		0		300	0
Storage Lanes	1	0		1		0	1		0		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95
Frt		0.850			0.918			0.951			0.977	
Flt Protected	0.950			0.950			0.950			0.950	0.959	
Satd. Flow (prot)	1671	2632	0	1671	1615	0	1671	1673	0	1671	3198	0
Flt Permitted	0.950			0.310			0.571			0.082	0.959	
Satd. Flow (perm)	1671	2632	0	545	1615	0	1005	1673	0	144	3198	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			52			19			25	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	45				30			30			45	
Link Distance (ft)	898				1137			636			535	
Travel Time (s)	13.6				25.8			14.5			8.1	
Volume (vph)	197	1024	87	129	103	124	47	135	65	114	651	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	214	1113	95	140	112	135	51	147	71	124	708	130
Lane Group Flow (vph)	214	1208	0	140	247	0	51	218	0	124	838	0
Turn Type	Prot			pm+pt			pm+pt			pm+pt		
Protected Phases	3			5	2		1	6		7	4	
Permitted Phases		8		2			6			4		
Detector Phases	3	8		5	2		1	6		7	4	
Minimum Initial (s)	3.0	1.0		3.0	3.0		3.0	3.0		3.0	1.0	
Minimum Split (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Total Split (s)	19.0	56.0	0.0	15.0	33.0	0.0	7.0	25.0	0.0	16.0	53.0	0.0
Total Split (%)	17.0%	50.0%	0.0%	13.4%	29.5%	0.0%	6.3%	22.3%	0.0%	14.3%	47.3%	0.0%
Yellow Time (s)	3.0	4.0		3.0	3.0		3.0	3.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	1.0		1.0	1.0		1.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	Max		None	Max		None	None	
Act Effct Green (s)	15.0	52.0		35.4	29.8		24.1	21.2		57.2	47.1	
Actuated g/C Ratio	0.14	0.47		0.32	0.27		0.22	0.19		0.52	0.43	
v/c Ratio	0.93	0.96		0.50	0.52		0.22	0.64		0.57	0.60	
Control Delay	93.0	46.4		34.4	31.7		31.3	47.4		28.6	25.4	
Queue Delay	0.0	0.9		0.2	0.0		0.0	0.1		0.0	0.0	
Total Delay	93.0	47.3		34.6	31.7		31.3	47.5		28.6	25.4	
LOS	F	D		C	C		C	D		C	C	
Approach Delay	54.2				32.8			44.4			25.9	
Approach LOS	D				C			D			C	
Queue Length 50th (ft)	153	460		73	118		25	132		36	224	
Queue Length 95th (ft)	#305	#652		126	205		55	219		97	287	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Internal Link Dist (ft)	818				1057			556			455	
Turn Bay Length (ft)	300			150			150			300	300	
Base Capacity (vph)	229	1256		287	478		237	339		241	1421	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	9		12	0		0	2		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.93	0.97		0.51	0.52		0.22	0.65		0.51	0.59	

Intersection Summary

Area Type: Other
Cycle Length: 112
Actuated Cycle Length: 109.5
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 41.6 — Intersection LOS: D
Intersection Capacity Utilization 67.1% — ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: US 441 & SR 235/NW 140th St.



APPENDIX C

Existing HCS Ramp Analysis

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 NB
Agency or Company	TPD	Junction	US 441
Date Performed	06/29/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	EXISTING 2008

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3036	0.90	Level	23	5	0.889	1.00	3795
Ramp	229	0.90	Level	23	2	0.894	1.00	285
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2245 pc/h

V_3 or V_{av34} = 1550 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4080	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2530	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 21.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.335 (Exibit 25-19)

S_R = 57.3 mph (Exhibit 25-19)

S_0 = 61.2 mph (Exhibit 25-19)

S = 58.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R) P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 NB
Agency or Company	TPD	Junction	US 441
Date Performed	06/29/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	EXISTING 2008

Project Description WALMART on US 441

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3036	0.90	Level	23	5	0.889	1.00	3795
Ramp	630	0.90	Level	23	2	0.894	1.00	783
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.629 using Equation (Exhibit 25-12)
V_{12} = 2678 pc/h
V_3 or V_{av34} 1117 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3795	Exhibit 25-14	7050	No
$V_{FO} = V_F - V_R$	3012	Exhibit 25-14	7050	No
V_R	783	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2678	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.498 (Exhibit 25-19)
S_R = 53.5 mph (Exhibit 25-19)
S_0 = 70.8 mph (Exhibit 25-19)
S = 57.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 SB
Agency or Company	TPD	Junction	US 441
Date Performed	06/29/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	EXISTING 2008

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2771	0.90	Level	23	5	0.889	1.00	3464
Ramp	187	0.90	Level	23	2	0.894	1.00	233
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.663 using Equation (Exhibit 25-12)

V_{12} = 2374 pc/h

V_3 or V_{av34} 1090 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3464	Exhibit 25-14	7050	No
$V_{FO} = V_F - V_R$	3231	Exhibit 25-14	7050	No
V_R	233	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2374	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 19.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Determination

D_s = 0.449 (Exhibit 25-19)

S_R = 54.7 mph (Exhibit 25-19)

S_0 = 71.0 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 SB
Agency or Company	TPD	Junction	US 441
Date Performed	06/29/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	EXISTING 2008

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2712	0.90	Level	25	5	0.881	1.00	3420
Ramp	404	0.90	Level	8	2	0.958	1.00	469
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.617 using Equation (Exhibit 25-5)

V_{12} = 2109 pc/h

V_3 or V_{av34} = 1311 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3889	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2578	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.274 (Exibit 25-19)

S_R = 58.7 mph (Exhibit 25-19)

S_0 = 62.1 mph (Exhibit 25-19)

S = 59.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

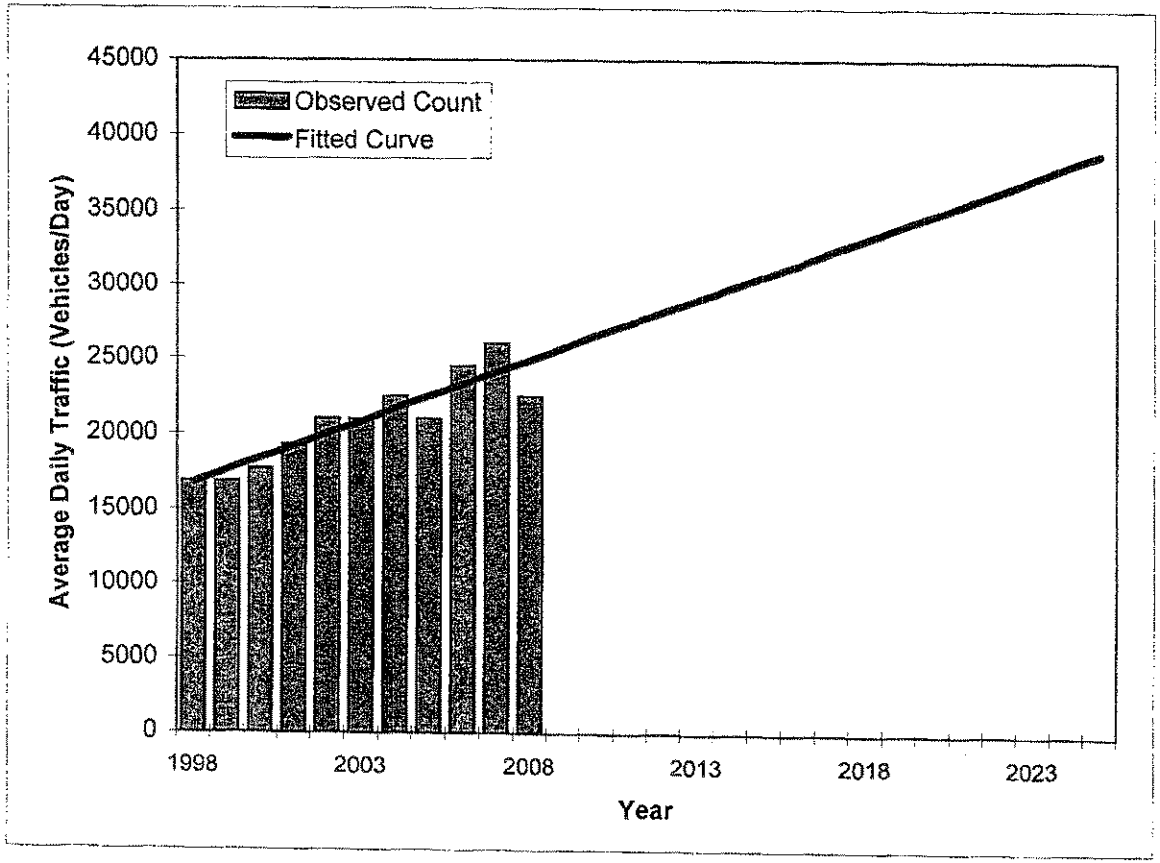
APPENDIX D

Trends Analysis

TRAFFIC TRENDS

SR 20 (US 441) -- 0.2 Mile NW of SR 93 (I-75)

County:	Alachua
Station #:	461
Highway:	SR 20 (US 441)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	16900	16800
1999	16900	17600
2000	17700	18400
2001	19300	19200
2002	21000	20000
2003	21000	20800
2004	22500	21700
2005	21000	22500
2006	24500	23300
2007	26000	24100
2008	22500	24900
2019 Opening Year Trend		
2019	N/A	33900
2020 Mid-Year Trend		
2020	N/A	34700
2021 Design Year Trend		
2021	N/A	35500
TRANPLAN Forecasts/Trends		

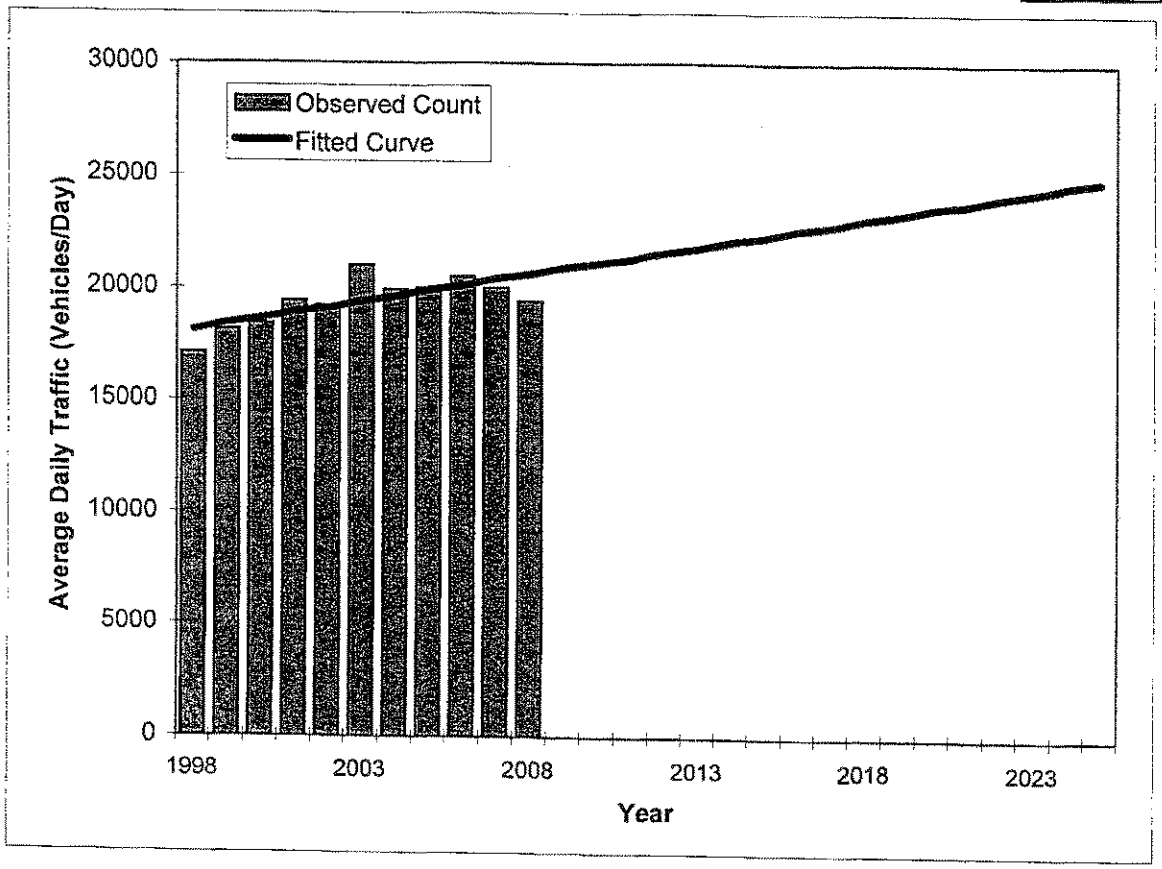
*Axle-Adjusted

** Annual Trend Increase:	815
Trend R-squared:	82.3%
Trend Annual Historic Growth Rate:	4.82%
Trend Growth Rate (2008 to Design Year):	3.27%
Printed:	22-Jun-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 20 (US 441) -- 0.4 Mile NW of SR 235

County:	Alachua
Station #:	5106
Highway:	SR 20 (US 441)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	17100	18100
1999	18100	18400
2000	18400	18600
2001	19400	18900
2002	19200	19100
2003	21000	19400
2004	19900	19600
2005	20000	19900
2006	20500	20100
2007	20000	20400
2008	19400	20600
2019 Opening Year Trend		
2019	N/A	23300
2020 Mid-Year Trend		
2020	N/A	23600
2021 Design Year Trend		
2021	N/A	23800
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

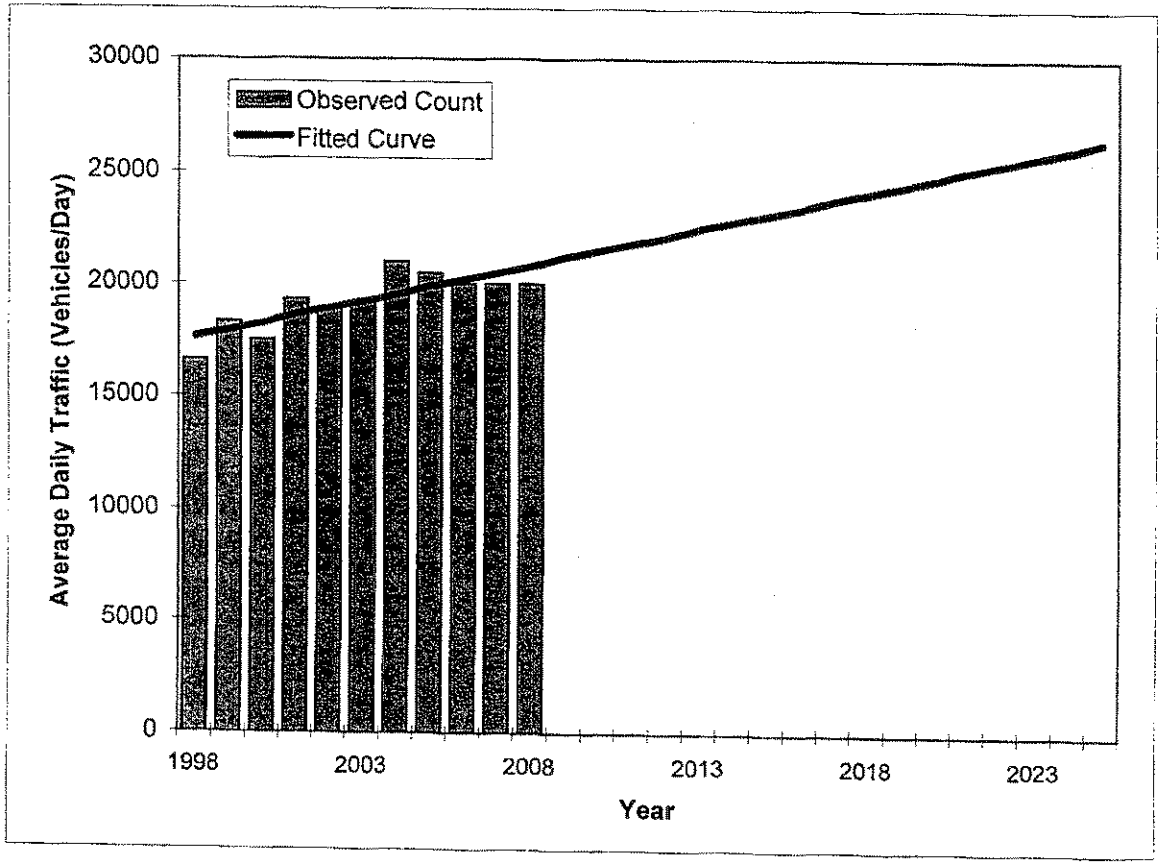
** Annual Trend Increase:	248
Trend R-squared:	53.2%
Trend Annual Historic Growth Rate:	1.38%
Trend Growth Rate (2008 to Design Year):	1.19%
Printed:	22-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

SR 20 (US 441) -- 200 Feet NW of SR 235

County:	Alachua
Station #:	5022
Highway:	SR 20 (US 441)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	16600	17600
1999	18300	17900
2000	17500	18200
2001	19300	18600
2002	18900	18900
2003	19200	19200
2004	21000	19500
2005	20500	19900
2006	20000	20200
2007	20000	20500
2008	20000	20800
2019 Opening Year Trend		
2019	N/A	24400
2020 Mid-Year Trend		
2020	N/A	24700
2021 Design Year Trend		
2021	N/A	25100
TRANPLAN Forecasts/Trends		

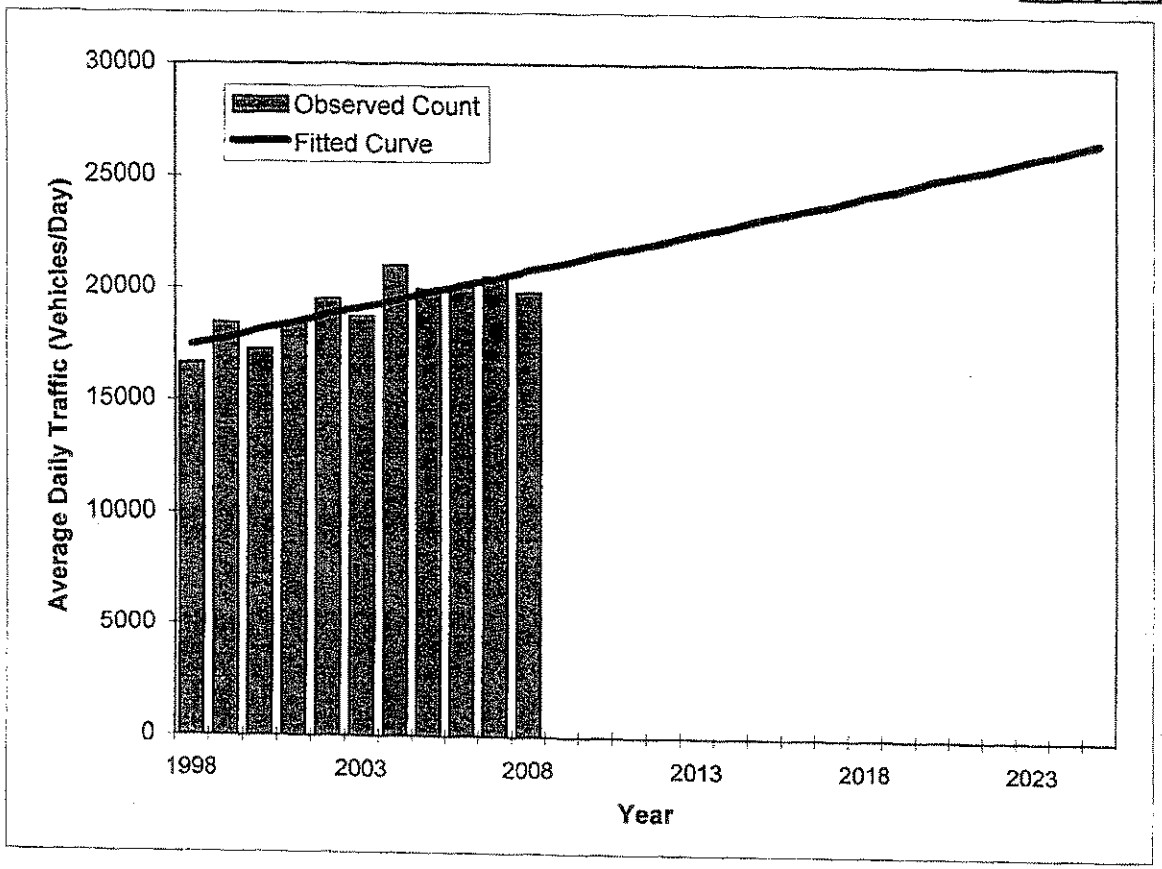
*Axle-Adjusted

** Annual Trend Increase:	325
Trend R-squared:	66.9%
Trend Annual Historic Growth Rate:	1.82%
Trend Growth Rate (2008 to Design Year):	1.59%
Printed:	22-Jun-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 20 (US 441) -- SE of SR 235

County:	Alachua
Station #:	5027
Highway:	SR 20 (US 441)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	16600	17400
1999	18400	17700
2000	17200	18100
2001	18400	18400
2002	19500	18800
2003	18700	19100
2004	21000	19400
2005	19900	19800
2006	20000	20100
2007	20500	20400
2008	19800	20800
2019 Opening Year Trend		
2019	N/A	24500
2020 Mid-Year Trend		
2020	N/A	24900
2021 Design Year Trend		
2021	N/A	25200
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

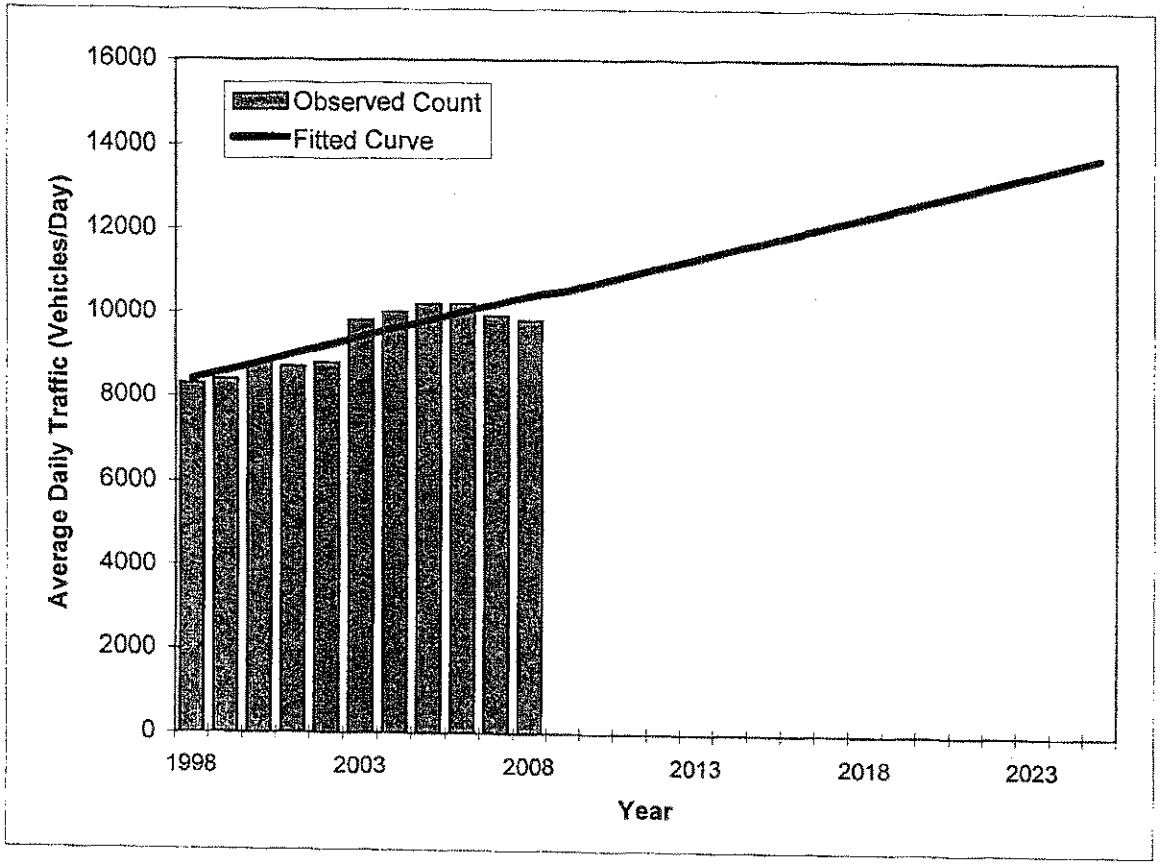
** Annual Trend Increase:	339
Trend R-squared:	67.7%
Trend Annual Historic Growth Rate:	1.95%
Trend Growth Rate (2008 to Design Year):	1.63%
Printed:	22-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

SR 235 -- 350 Feet S. of SR 20 (US 441)

County:	Alachua
Station #:	5023
Highway:	SR 235



Year	Traffic (ADT/AADT) Count*	Trend**
1998	8300	8400
1999	8400	8600
2000	8800	8800
2001	8700	9000
2002	8800	9200
2003	9800	9400
2004	10000	9600
2005	10200	9800
2006	10200	10000
2007	9900	10200
2008	9800	10400
2019 Opening Year Trend		
2019	N/A	12500
2020 Mid-Year Trend		
2020	N/A	12700
2021 Design Year Trend		
2021	N/A	12900
TRANPLAN Forecasts/Trends		

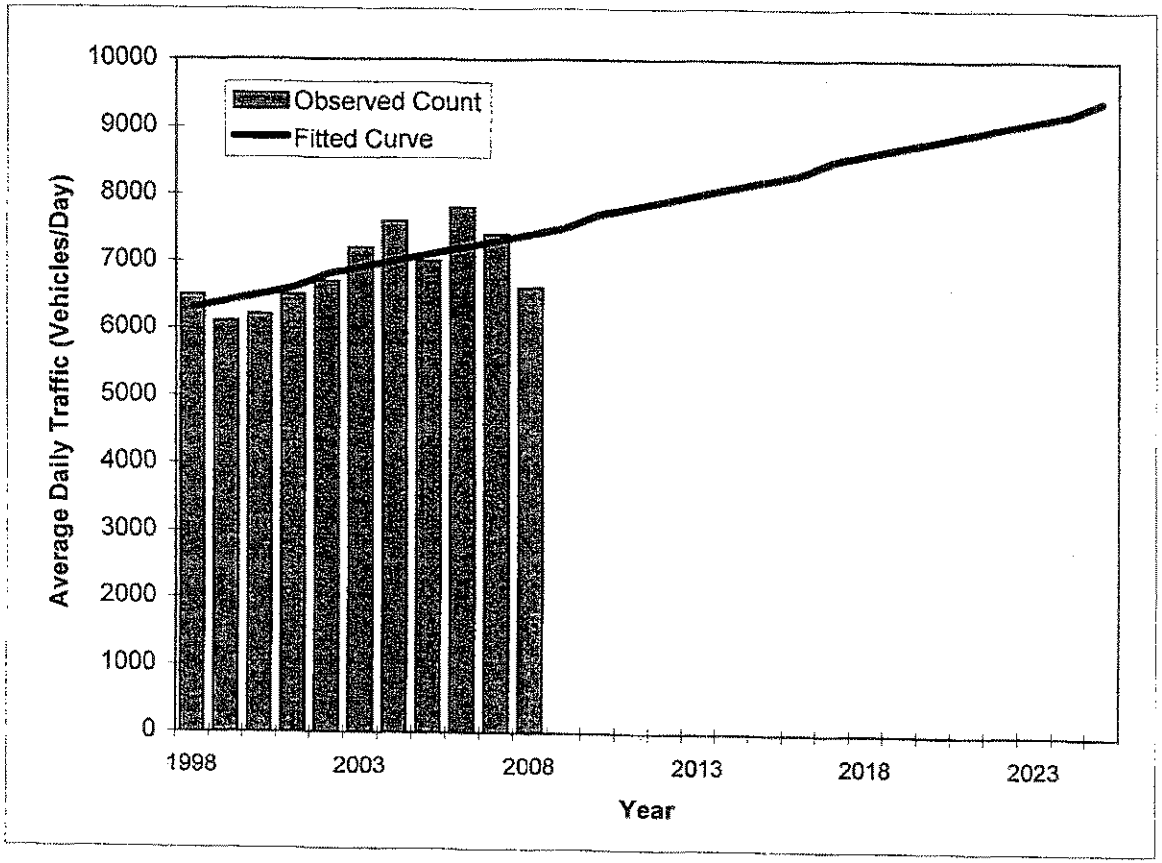
*Axle-Adjusted

** Annual Trend Increase:	199
Trend R-squared:	77.8%
Trend Annual Historic Growth Rate:	2.38%
Trend Growth Rate (2008 to Design Year):	1.85%
Printed:	22-Jun-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 235 -- 200 Feet N. of SR 20 (US 441)

County:	Alachua
Station #:	5026
Highway:	SR 235



Year	Traffic (ADT/AADT) Count*	Trend**
1998	6500	6300
1999	6100	6400
2000	6200	6500
2001	6500	6600
2002	6700	6800
2003	7200	6900
2004	7600	7000
2005	7000	7100
2006	7800	7200
2007	7400	7300
2008	6600	7400
2019 Opening Year Trend		
2019	N/A	8700
2020 Mid-Year Trend		
2020	N/A	8800
2021 Design Year Trend		
2021	N/A	8900
TRANPLAN Forecasts/Trends		

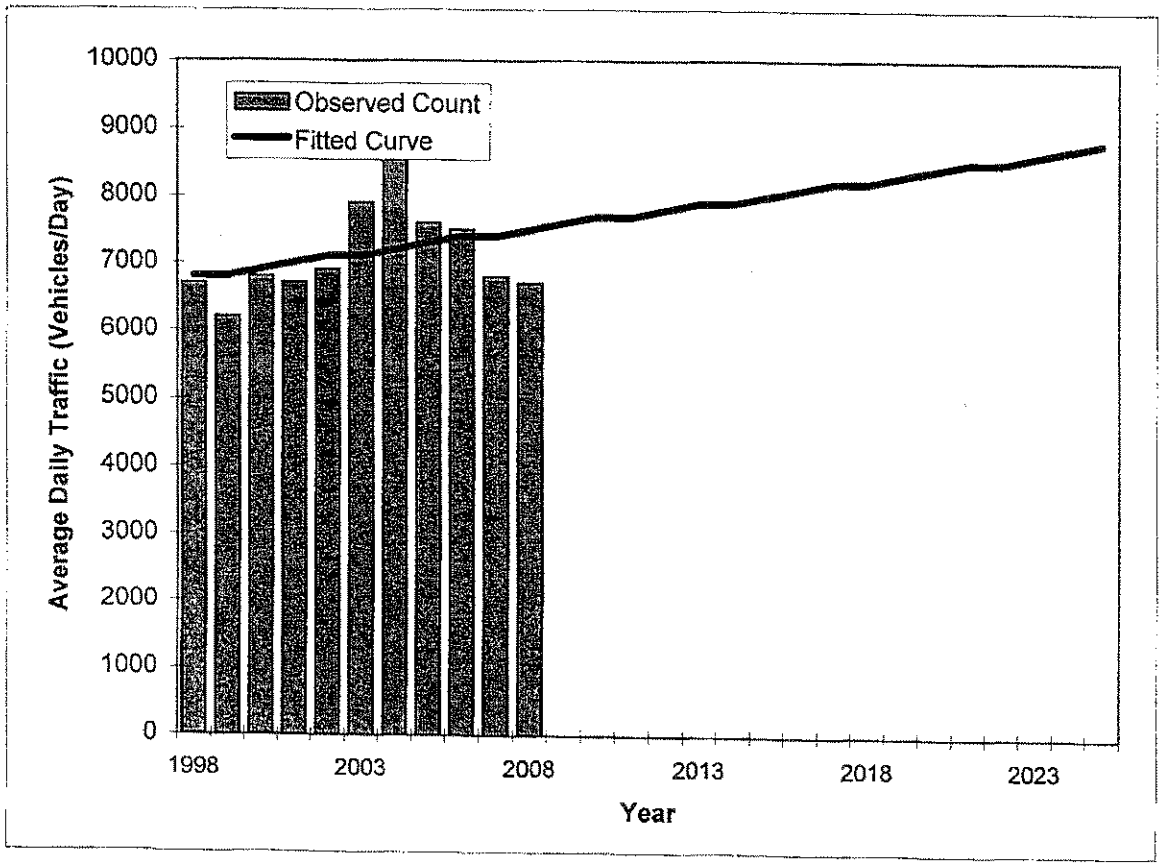
*Axle-Adjusted

** Annual Trend Increase:	113
Trend R-squared:	43.4%
Trend Annual Historic Growth Rate:	1.75%
Trend Growth Rate (2008 to Design Year):	1.56%
Printed:	22-Jun-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 235 -- 400 Feet S. of SR 241

County:	Alachua
Station #:	5040
Highway:	SR 235



Year	Traffic (ADT/AADT) Count*	Trend**
1998	6700	6800
1999	6200	6800
2000	6800	6900
2001	6700	7000
2002	6900	7100
2003	7900	7100
2004	8700	7200
2005	7600	7300
2006	7500	7400
2007	6800	7400
2008	6700	7500
2019 Opening Year Trend		
2019	N/A	8300
2020 Mid-Year Trend		
2020	N/A	8400
2021 Design Year Trend		
2021	N/A	8500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

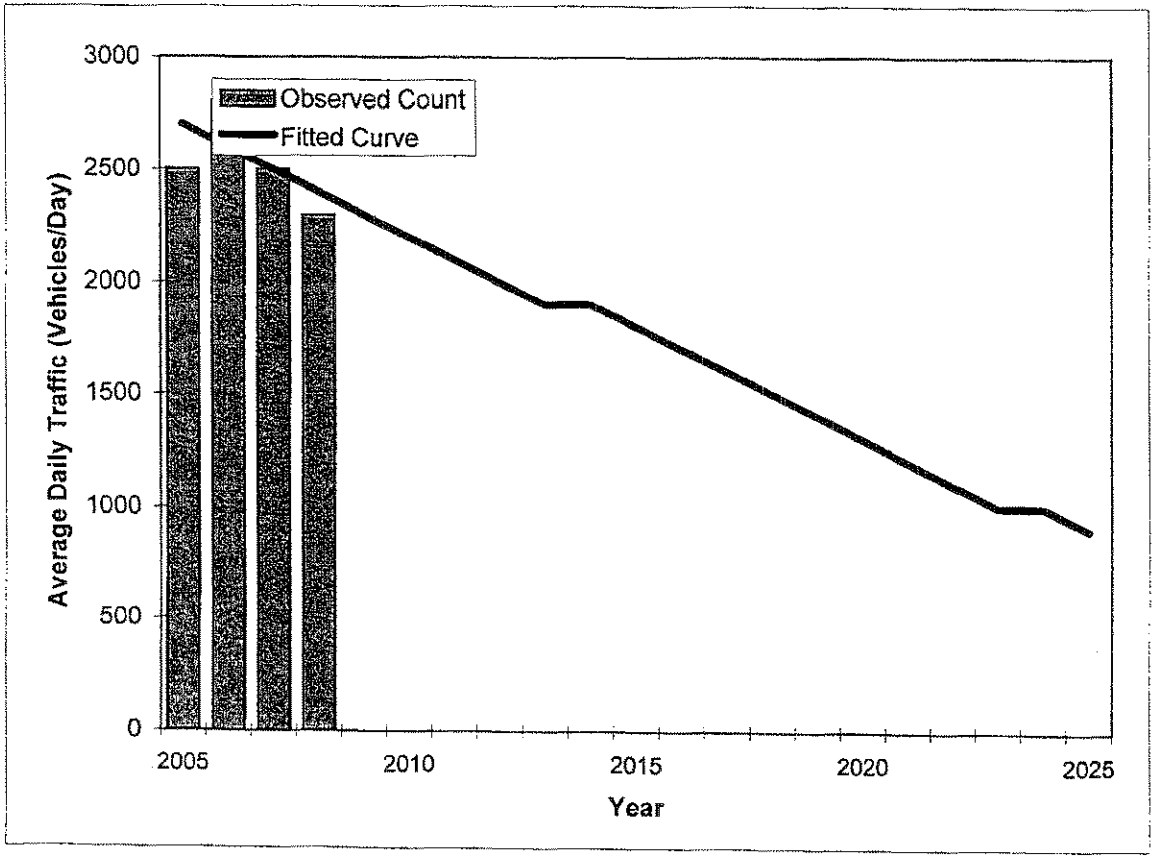
** Annual Trend Increase:	74
Trend R-squared:	11.7%
Trend Annual Historic Growth Rate:	1.03%
Trend Growth Rate (2008 to Design Year):	1.03%
Printed:	22-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

I-75 Ramp -- US 441 to I-75 NB

County:	Alachua
Station #:	4020
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT) Count*	Trend**
2005	2500	2700
2006	2800	2600
2007	2500	2500
2008	2300	2400
2019 Opening Year Trend		
2019	N/A	1400
2020 Mid-Year Trend		
2020	N/A	1300
2021 Design Year Trend		
2021	N/A	1200
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

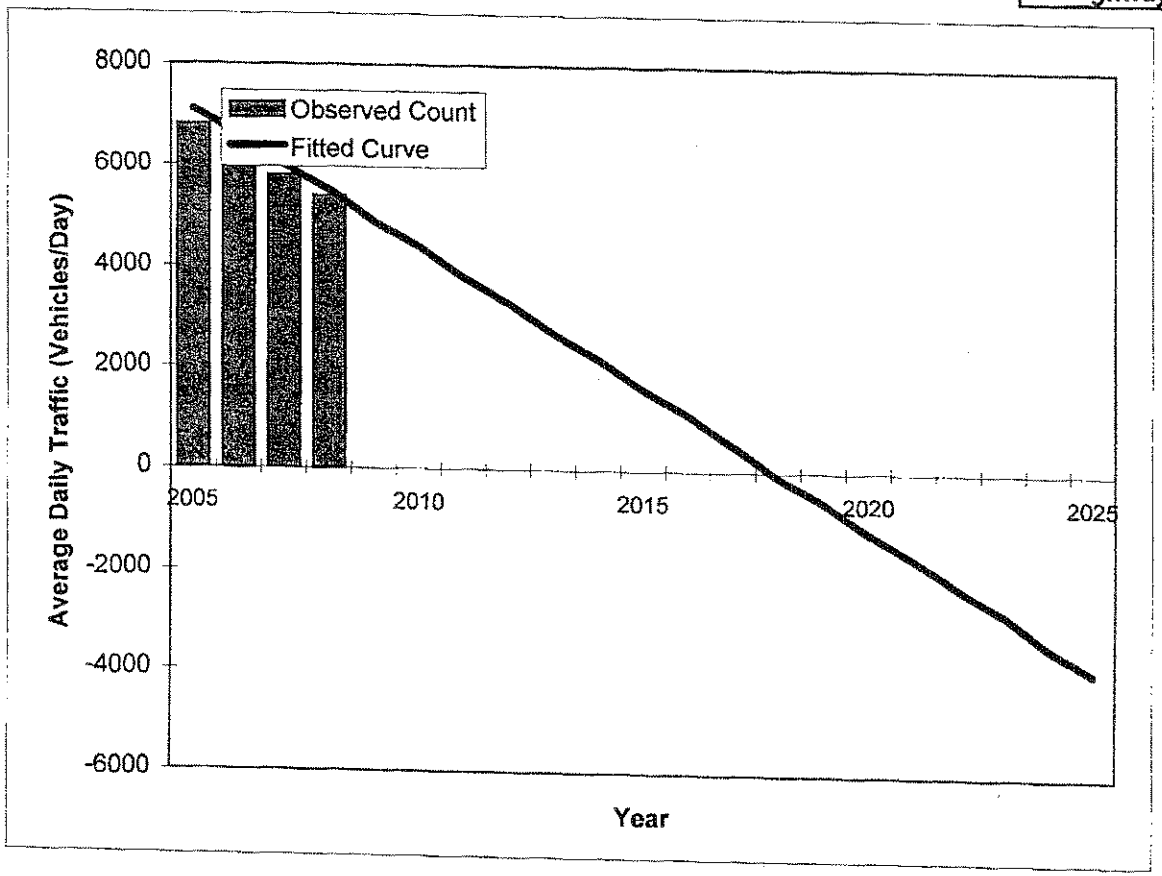
** Annual Trend Increase:	-90
Trend R-squared:	31.8%
Trend Annual Historic Growth Rate:	-3.70%
Trend Growth Rate (2008 to Design Year):	-3.85%
Printed:	25-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

I-75 Ramp -- I-75 NB to US 441

County:	Alachua
Station #:	4021
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT) Count*	Trend**
2005	6800	7100
2006	7100	6600
2007	5800	6000
2008	5400	5500
2019 Opening Year Trend		
2019	N/A	-600
2020 Mid-Year Trend		
2020	N/A	-1200
2021 Design Year Trend		
2021	N/A	-1700
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

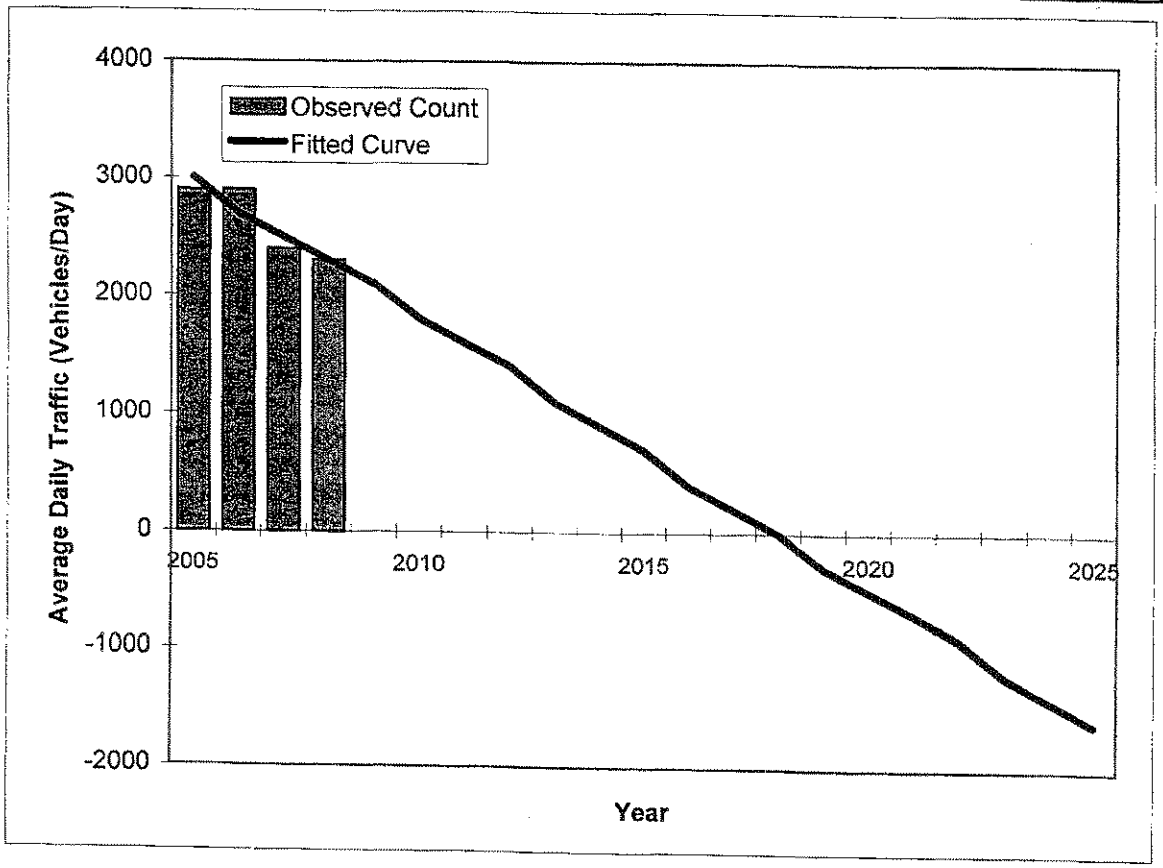
** Annual Trend Increase:	-550
Trend R-squared:	77.7%
Trend Annual Historic Growth Rate:	-7.51%
Trend Growth Rate (2008 to Design Year):	-10.07%
Printed:	25-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

I-75 Ramp -- I-75 SB to US 441

County:	Alachua
Station #:	4022
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT) Count*	Trend**
2005	2900	3000
2006	2900	2700
2007	2400	2500
2008	2300	2300
2019 Opening Year Trend		
2019	N/A	-300
2020 Mid-Year Trend		
2020	N/A	-500
2021 Design Year Trend		
2021	N/A	-700
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

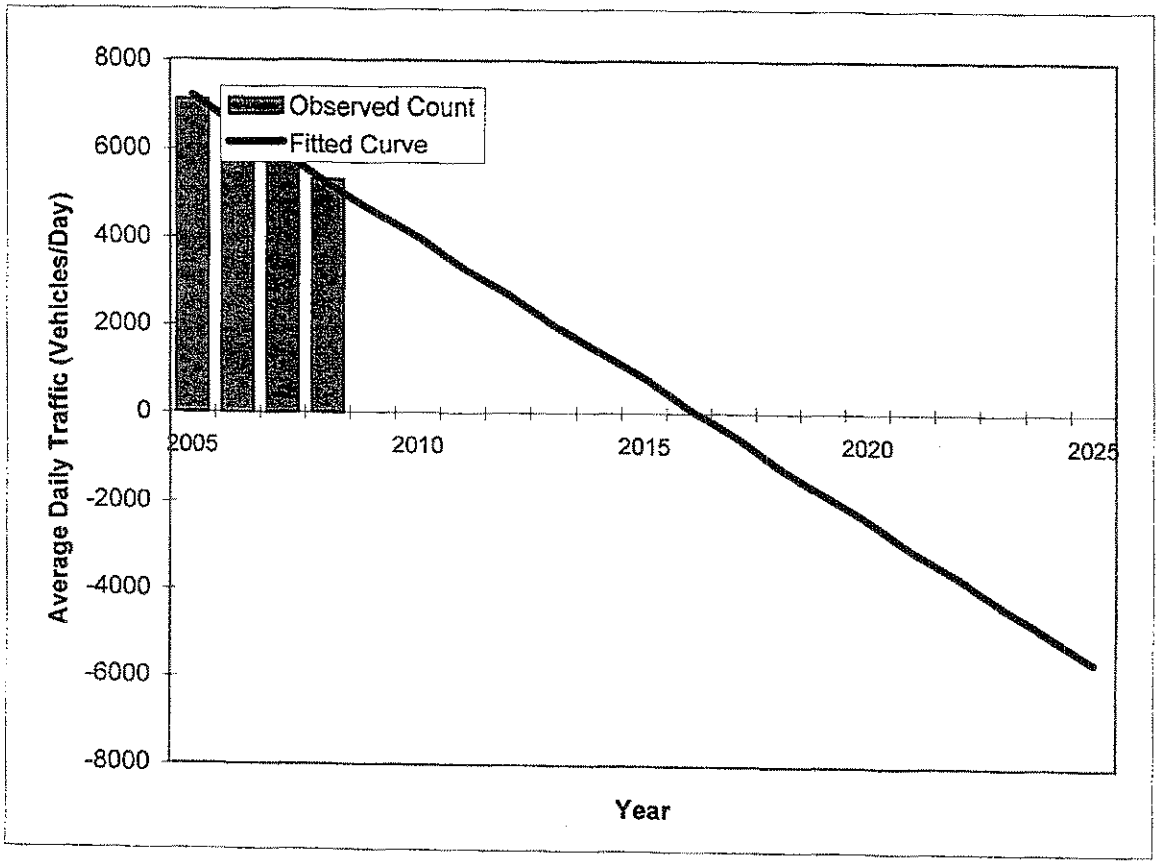
** Annual Trend Increase:	-230
Trend R-squared:	86.0%
Trend Annual Historic Growth Rate:	-7.78%
Trend Growth Rate (2008 to Design Year):	-10.03%
Printed:	25-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

I-75 Ramp -- US 441 to I-75 SB

County:	Alachua
Station #:	4023
Highway:	I-75 Ramp



Year	Traffic (ADT/AADT) Count*	Trend**
2005	7100	7200
2006	6700	6500
2007	5700	5900
2008	5300	5200
2019 Opening Year Trend		
2019	N/A	-1800
2020 Mid-Year Trend		
2020	N/A	-2400
2021 Design Year Trend		
2021	N/A	-3100
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

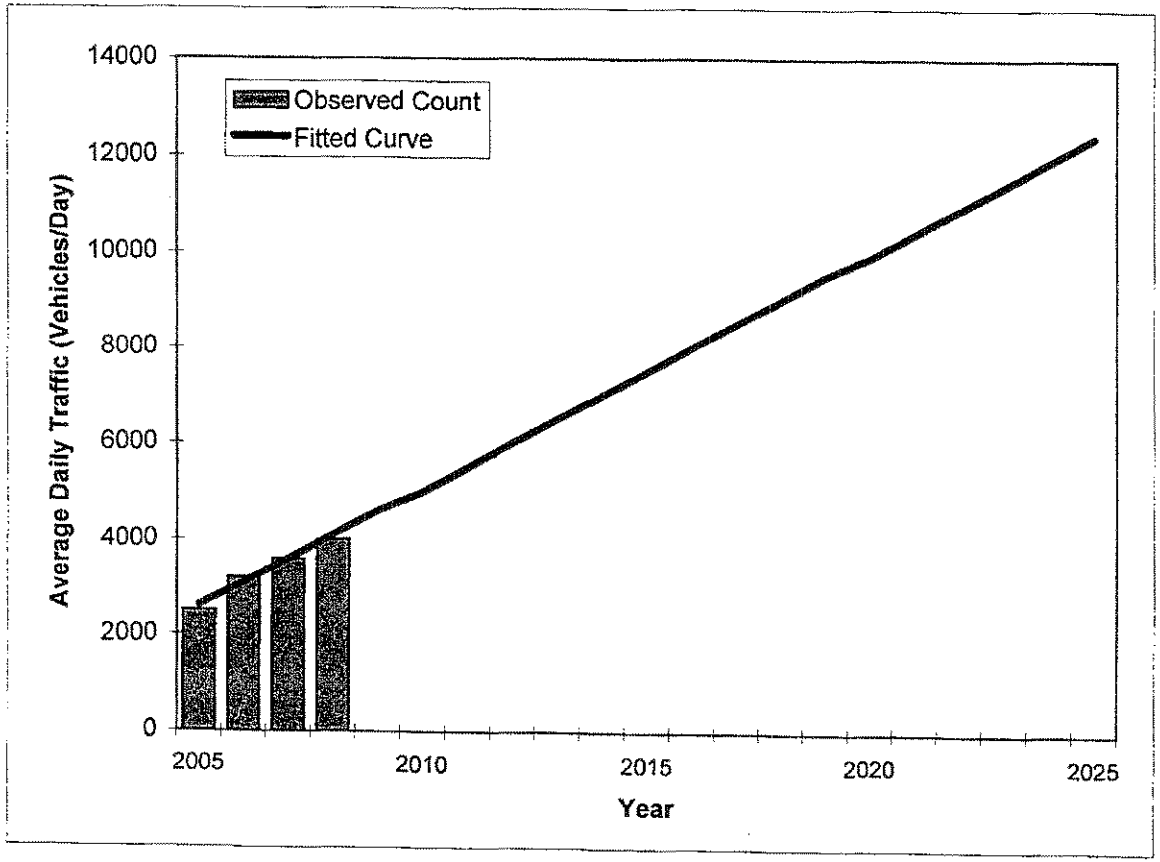
** Annual Trend Increase:	-640
Trend R-squared:	96.6%
Trend Annual Historic Growth Rate:	-9.26%
Trend Growth Rate (2008 to Design Year):	-12.28%
Printed:	25-Jun-09

Straight Line Growth Option

TRAFFIC TRENDS

CR 235A -- 0.2 Miles South of US 441

County:	Alachua
Station #:	435
Highway:	CR 235A



Year	Traffic (ADT/AADT) Count*	Trend**
2005	2500	2600
2006	3200	3100
2007	3600	3600
2008	4000	4100
2019 Opening Year Trend		
2019	N/A	9500
2020 Mid-Year Trend		
2020	N/A	9900
2021 Design Year Trend		
2021	N/A	10400
TRANPLAN Forecasts/Trends		

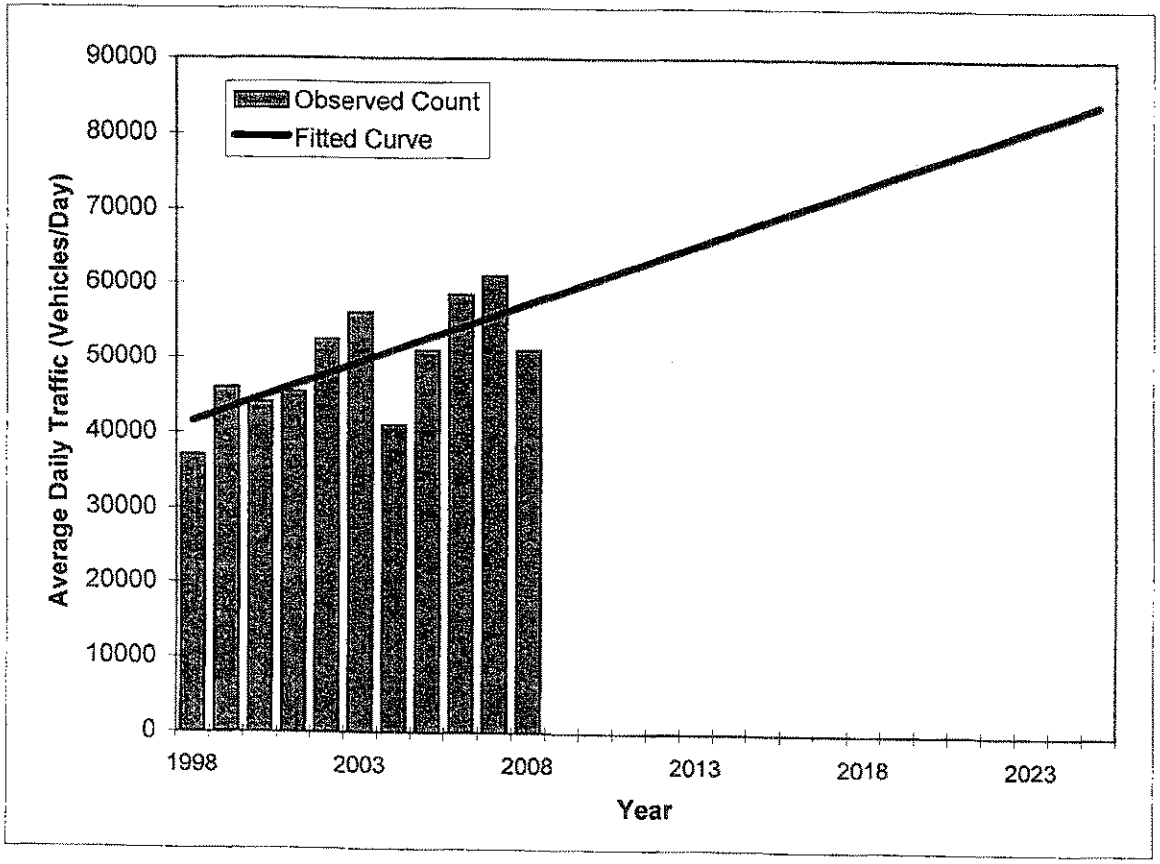
*Axle-Adjusted

** Annual Trend Increase:	490
Trend R-squared:	97.8%
Trend Annual Historic Growth Rate:	19.23%
Trend Growth Rate (2008 to Design Year):	11.82%
Printed:	25-Jun-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 93 (I-75) -- 0.3 Mile S. of SR 20

County:	Alachua
Station #:	454
Highway:	SR 93 (I-75)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	37000	41500
1999	46000	43100
2000	44000	44700
2001	45500	46300
2002	52500	47800
2003	56000	49400
2004	41000	51000
2005	51000	52600
2006	58500	54100
2007	61000	55700
2008	51000	57300
2019 Opening Year Trend		
2019	N/A	74600
2020 Mid-Year Trend		
2020	N/A	76100
2021 Design Year Trend		
2021	N/A	77700
TRANPLAN Forecasts/Trends		

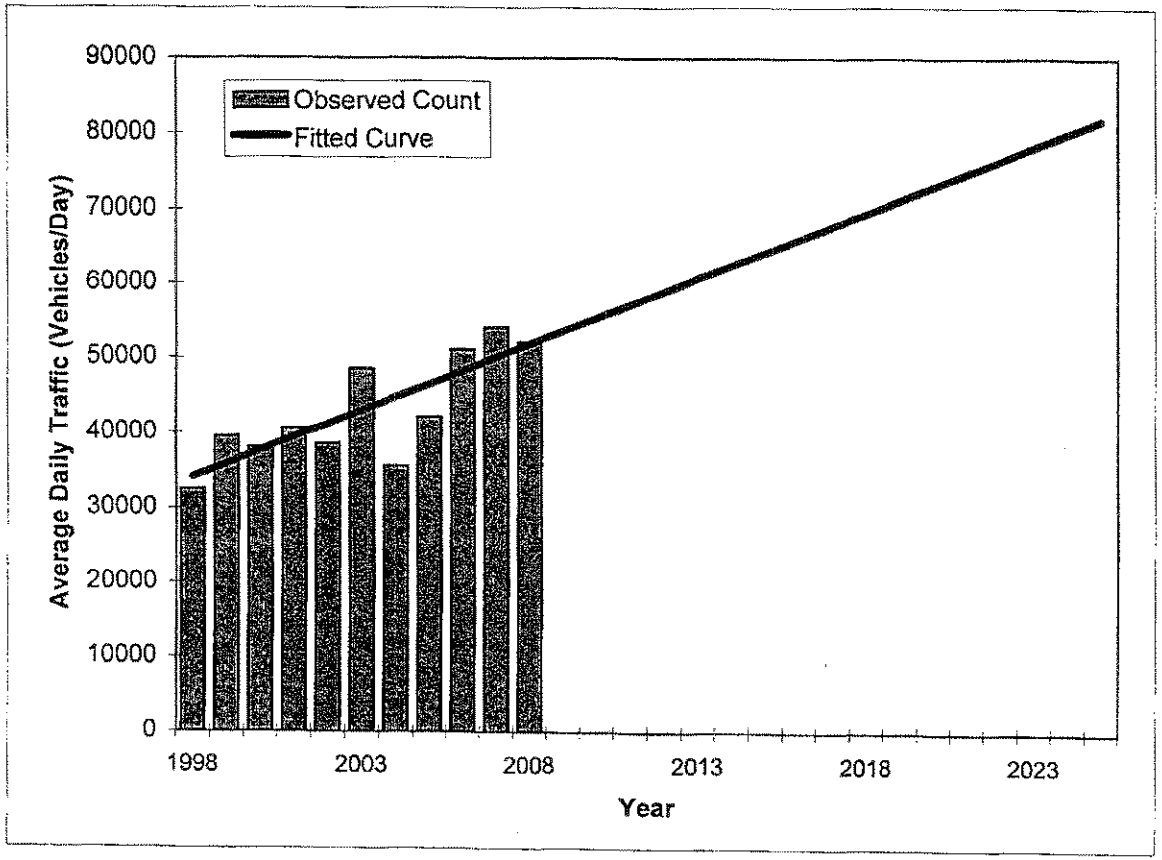
*Axle-Adjusted

** Annual Trend Increase:	1,573
Trend R-squared:	48.9%
Trend Annual Historic Growth Rate:	3.81%
Trend Growth Rate (2008 to Design Year):	2.74%
Printed:	13-Jul-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 93 (I-75) -- 0.7 Mile NW of SR 20

County:	Alachua
Station #:	453
Highway:	SR 93 (I-75)



Year	Traffic (ADT/AADT) Count*	Trend**
1998	32500	34100
1999	39500	35800
2000	38000	37600
2001	40500	39400
2002	38500	41100
2003	48500	42900
2004	35500	44700
2005	42000	46400
2006	51000	48200
2007	54000	50000
2008	52000	51800
2019 Opening Year Trend		
2019	N/A	71200
2020 Mid-Year Trend		
2020	N/A	73000
2021 Design Year Trend		
2021	N/A	74700
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	1,768
Trend R-squared:	65.2%
Trend Annual Historic Growth Rate:	5.19%
Trend Growth Rate (2008 to Design Year):	3.40%
Printed:	13-Jul-09
Straight Line Growth Option	

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 0461 - SR 20, 0.2 MILE NW OF SR 93

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	22500 C	N 11000	S 11500	10.17	57.73	7.30
2007	26000 C	N 13000	S 13000	10.22	58.44	5.70
2006	24500 C	N 12000	S 12500	9.98	59.05	6.70
2005	21000 C	N 10500	S 10500	10.10	58.20	19.60
2004	22500 C	N 11500	S 11000	10.20	62.30	9.10
2003	21000 C	N 10500	S 10500	10.20	59.50	12.10
2002	21000 C	N 10500	S 10500	10.00	56.10	11.80
2001	19300 C	N 9700	S 9600	10.50	61.30	8.70
2000	17700 C	N 8900	S 8800	10.30	61.40	7.50
1999	16900 C	N 8000	S 8900	10.70	59.50	6.80
1998	16900 C	N 8900	S 8000	10.40	62.30	6.50
1997	18000 C	N 8900	S 9100	10.60	59.90	5.70
1996	16300 C	N 8100	S 8200	10.50	63.30	6.90
1995	16500 C	N 8200	S 8300	10.20	62.60	5.60
1994	15700 C	N 7800	S 7900	10.80	53.90	6.00
1993	16100 C	N 8100	S 8000	0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5106 - SR 20, 0.4 MILE NW OF SR 235

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	19400 C	N 9800	S 9600	10.17	57.73	7.30
2007	20000 C	N 10000	S 10000	10.22	58.44	5.70
2006	20500 C	N 10000	S 10500	9.98	59.05	6.70
2005	20000 C	N 10000	S 10000	10.10	58.20	19.60
2004	19900 C	N 10000	S 9900	10.20	62.30	9.10
2003	21000 C	N 10500	S 10500	10.20	59.50	12.10
2002	19200 C	N 9400	S 9800	10.00	56.10	11.80
2001	19400 C	N 9700	S 9700	10.50	61.30	8.70
2000	18400 C	N 9200	S 9200	10.30	61.40	7.50
1999	18100 C	N 8700	S 9400	10.70	59.50	6.80
1998	17100 C	N 8500	S 8600	10.40	62.30	6.50
1997	17100 C	N 8400	S 8700	10.60	59.90	5.70
1996	16600 C	N 8300	S 8300	10.50	63.30	6.90
1995	15300 C	N 7600	S 7700	10.20	62.60	5.60
1994	16200 C	N 7600	S 8600	10.80	53.90	6.00
1993	15600 C	N 7800	S 7800	0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5022 - SR 20 200' NW OF SR 235 IN ALACHUA

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	20000 C	N 10000	S 10000	10.17	57.73	7.30
2007	20000 C	N 10000	S 10000	10.22	58.44	5.70
2006	20000 C	N 10000	S 10000	9.98	59.05	6.70
2005	20500 C	N 10000	S 10500	10.10	58.20	19.60
2004	21000 C	N 10000	S 11000	10.20	62.30	9.10
2003	19200 C	N 9700	S 9500	10.20	59.50	12.10
2002	18900 C	N 9300	S 9600	10.00	56.10	11.80
2001	19300 C	N 9600	S 9700	10.50	61.30	8.70
2000	17500 C	N 8800	S 8700	10.30	61.40	7.50
1999	18300 C	N 9300	S 9000	10.70	59.50	6.80
1998	16600 C	N 8300	S 8300	10.40	62.30	6.50
1997	17300 C	N 8600	S 8700	10.60	59.90	5.70
1996	16800 C	N 8700	S 8100	10.50	63.30	6.90
1995	23300 C	N 9300	S 14000	10.20	62.60	5.60
1994	18000 C	N 9200	S 8800	10.80	53.90	6.00
1993	16400 C	N 8200	S 8200	0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5027 - SR 20, SE OF SR 235

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	19800 C	N 9800	S 10000	10.17	57.73	7.30
2007	20500 C	N 10000	S 10500	10.22	58.44	5.70
2006	20000 C	N 10000	S 10000	9.98	59.05	6.70
2005	19900 C	N 9900	S 10000	10.10	58.20	19.60
2004	21000 C	N 10500	S 10500	10.20	62.30	9.10
2003	18700 C	N 9400	S 9300	10.20	59.50	12.10
2002	19500 C	N 9700	S 9800	10.00	56.10	11.80
2001	18400 C	N 9400	S 9000	10.50	61.30	8.70
2000	17200 C	N 8600	S 8600	10.30	61.40	7.50
1999	18400 C	N 9200	S 9200	10.70	59.50	6.80
1998	16600 C	N 8300	S 8300	10.40	62.30	6.50
1997	17000 C	N 8600	S 8400	10.60	59.90	5.70
1996	15700 C	N 7700	S 8000	10.50	63.30	6.90
1995	17400 C	N 8400	S 9000	10.20	62.60	5.60
1994	17000 C	N 8500	S 8500	10.80	53.90	6.00
1993	16000 C	N 8200	S 7800	0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5023 - SR 235 350' S OF SR 20 IN ALACHUA

Year	AADT	Direction 1		Direction 2		K Factor	D Factor	T Factor
2008	9800 C	N	5000	S	4800	10.17	57.73	12.10
2007	9900 C	N	4900	S	5000	10.22	58.44	9.70
2006	10200 C	N	5100	S	5100	9.98	59.05	13.20
2005	10200 F	N	5100	S	5100	10.10	58.20	17.70
2004	10000 C	N	5000	S	5000	10.20	62.30	17.70
2003	9800 C	N	4900	S	4900	10.20	59.50	13.60
2002	8800 C	N	4500	S	4300	10.00	56.10	10.60
2001	8700 C	N	4400	S	4300	10.50	61.30	11.40
2000	8800 C	N	4400	S	4400	10.30	61.40	11.00
1999	8400 C	N	4200	S	4200	10.70	59.50	14.50
1998	8300 C	N	4300	S	4000	10.40	62.30	10.80
1997	7900 C	N	4000	S	3900	10.60	59.90	11.60
1996	8000 C	N	4100	S	3900	10.50	63.30	10.80
1995	7400 C	N	3800	S	3600	10.20	62.60	8.90
1994	7200 C	N	3700	S	3500	10.80	53.90	7.80
1993	7300 C	N	3600	S	3700	10.90	59.30	11.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5026 - SR 235, 200' N. OF SR 20

Year	AADT	Direction 1		Direction 2		K Factor	D Factor	T Factor
2008	6600 C	E	0	W	0	10.17	57.73	12.10
2007	7400 C	E	0	W	0	10.22	58.44	9.70
2006	7800 C	E	0	W	0	9.98	59.05	13.20
2005	7000 C	E		W		10.10	58.20	14.90
2004	7600 C	E		W		10.20	62.30	17.70
2003	7200 C	E		W		10.20	59.50	13.60
2002	6700 C	E		W		10.00	56.10	10.60
2001	6500 C	E		W		10.50	61.30	11.40
2000	6200 C	E		W		10.30	61.40	11.00
1999	6100 C	E		W		10.70	59.50	14.50
1998	6500 C	E		W		10.40	62.30	10.80
1997	6600 C	E		W		10.60	59.90	11.60
1996	6400 C	E		W		10.50	63.30	10.80
1995	6300 C	E		W		10.20	62.60	8.90
1994	5400 C	E		W		10.80	53.90	7.80
1993	6700 C	E		W		0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 5040 - SR 235, 400' S. OF SR 241

Year	AADT	Direction 1		Direction 2		K Factor	D Factor	T Factor
2008	6700 C	E	0	W	0	10.17	57.73	12.10
2007	6800 C	E	0	W	0	10.22	58.44	9.70
2006	7500 C	E	0	W	0	9.98	59.05	13.20
2005	7600 C	E		W		10.10	58.20	14.90
2004	8700 C	E		W		10.20	62.30	17.70
2003	7900 C	E		W		10.20	59.50	13.60
2002	6900 C	E		W		10.00	56.10	10.60
2001	6700 C	E		W		10.50	61.30	11.40
2000	6800 C	E		W		10.30	61.40	11.00
1999	6200 C	E		W		10.70	59.50	14.50
1998	6700 C	E		W		10.40	62.30	10.80
1997	5900 C	E		W		10.60	59.90	11.60
1996	6300 C	E		W		10.50	63.30	10.80
1995	6100 C	E		W		10.20	62.60	8.90
1994	6600 C	E		W		10.80	53.90	7.80
1993	5400 C	E		W		0.00	0.00	0.00

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 4020 - RAMP U.S.441 I-75 N.B.

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	2300 C	N 2300	0	13.38	99.99	22.00
2007	2500 C	N 2500	0	11.99	99.99	23.50
2006	2800 C	N 2800	0	13.35	99.99	12.80
2005	2500 C	N 2500		13.20	99.90	14.90
2000	2100 C	N 2100		14.40	53.90	15.60

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 4021 - RAMP I-75 N.B. TO U.S. 441

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	5400 C	N 5400	0	13.38	99.99	22.00
2007	5800 C	N 5800	0	11.99	99.99	23.50
2006	7100 C	N 7100	0	13.35	99.99	12.80
2005	6800 C	N 6800		13.20	99.90	14.90
2000	5300 C	N 5300		14.40	53.90	15.60

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 4022 - RAMP I-75 S.B. TO U.S.441

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	2300 C	S 2300	0	13.38	99.99	22.00
2007	2400 C	S 2400	0	11.99	99.99	23.50
2006	2900 C	S 2900	0	13.35	99.99	12.80
2005	2900 C	S 2900		13.20	99.90	14.90
2000	2100 C	S 2100	0	14.40	53.90	15.60

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 4023 - RAMP FROM U.S.441 TO I-75 S.B.

Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	5300 C	S 5300	0	13.38	99.99	22.00
2007	5700 C	S 5700	0	11.99	99.99	23.50
2006	6700 C	S 6700	0	13.35	99.99	12.80
2005	7100 C	S 7100		13.20	99.90	14.90
2000	5200 C	S 5200	0	14.40	53.90	15.60

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

Florida Department of Transportation
Transportation Statistics Office
2008 Historical AADT Report

County: 26 - ALACHUA

Site: 0435 - S-235-A, 0.2 MILE SOUTH OF SR 25/US 441

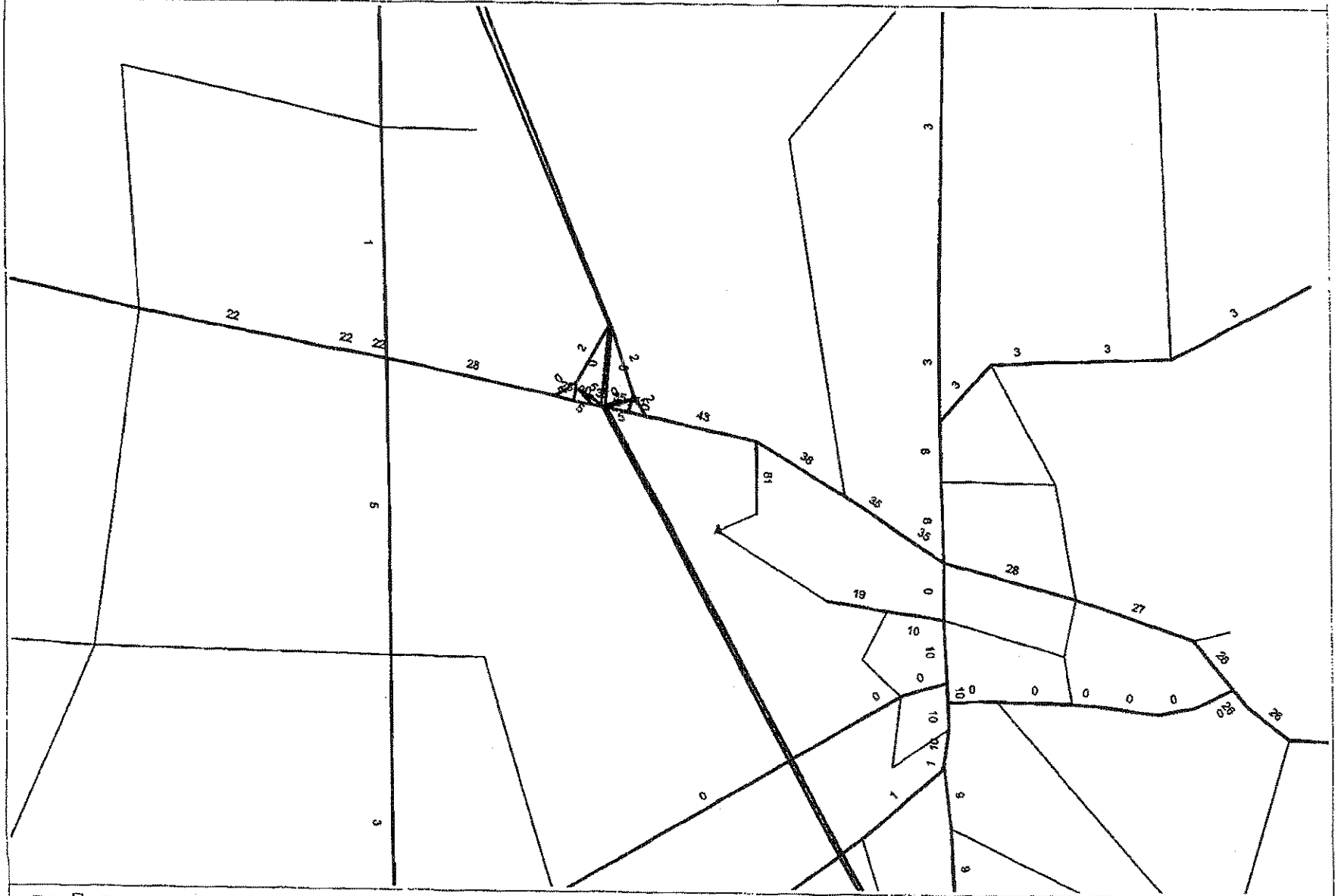
Year	AADT	Direction 1	Direction 2	K Factor	D Factor	T Factor
2008	4000 C	N 2000	S 2000	10.17	57.73	23.00
2007	3600 C	N 1800	S 1800	10.22	58.44	21.40
2006	3200 C	N 1600	S 1600	9.98	59.05	17.00
2005	2500 C	N 1300	S 1200	10.10	58.20	11.80

AADT Flags: C = Computed; E = Manual Estimate; F = First Year Estimate
S = Second Year Estimate; T = Third Year Estimate; X = Unknown

APPENDIX E

Model Distribution Plot

Alachua Model
Project Distribution Map



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APPENDIX F

Future Synchro Printouts (Without Improvements)

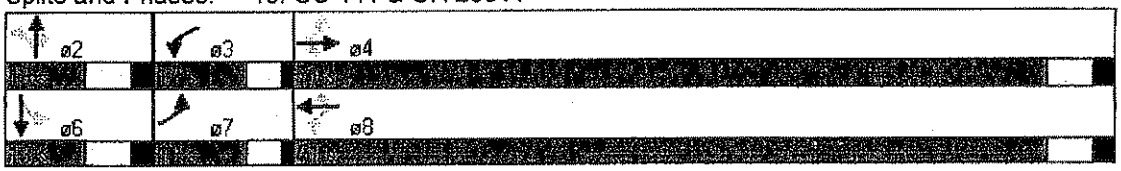
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		150	300		150	200		150	200		0
Storage Lanes	1		1	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.894	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3343	1495	1671	3343	1495	1671	1759	1495	1671	1573	0
Flt Permitted	0.158			0.361			0.692			0.742		
Satd. Flow (perm)	278	3343	1495	635	3343	1495	1217	1759	1495	1305	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			108			149		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		522			2834			1009			973	
Travel Time (s)		7.9			42.9			15.3			14.7	
Volume (vph)	17	654	28	82	1239	99	43	21	137	68	22	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	18	711	30	89	1347	108	47	23	149	74	24	58
Lane Group Flow (vph)	18	711	30	89	1347	108	47	23	149	74	82	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phases	7	4	4	3	8	8	2	2	2	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	20.0	20.0	10.0	20.0	20.0	10.0	10.0	10.0	10.0	10.0	
Total Split (s)	12.0	71.0	71.0	12.0	71.0	71.0	13.0	13.0	13.0	13.0	13.0	0.0
Total Split (%)	12.5%	74.0%	74.0%	12.5%	74.0%	74.0%	13.5%	13.5%	13.5%	13.5%	13.5%	0.0%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	
Act Effct Green (s)	45.8	40.7	40.7	49.0	45.8	45.8	37.8	37.8	37.8	37.8	37.8	
Actuated g/C Ratio	0.48	0.42	0.42	0.51	0.48	0.48	0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.08	0.50	0.05	0.22	0.84	0.14	0.10	0.03	0.22	0.14	0.13	
Control Delay	7.8	20.9	3.7	10.3	27.0	2.3	26.0	25.6	6.2	25.9	12.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	7.8	20.9	3.7	10.3	27.0	2.3	26.0	25.6	6.2	25.9	12.0	
LOS	A	C	A	B	C	A	C	C	A	C	B	
Approach Delay		19.9			24.3			12.5			18.6	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	6	185	0	29	364	0	16	8	0	26	8	
Queue Length 95th (ft)	9	148	12	28	347	21	55	32	50	79	51	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		442			2754			929			893	
Turn Bay Length (ft)	300		150	300		150	200		150	200		
Base Capacity (vph)	252	2333	1052	411	2333	1076	480	693	679	514	655	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.30	0.03	0.22	0.58	0.10	0.10	0.03	0.22	0.14	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 96
Actuated Cycle Length: 96
Offset: 22 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 21.8 Intersection LOS: C
Intersection Capacity Utilization 58.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 15: US 441 & CR 235 A



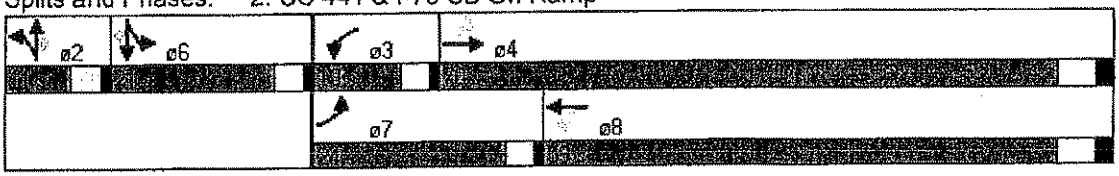
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	540		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996							0.850			0.850
Flt Protected	0.950			0.950				0.966			0.957	
Satd. Flow (prot)	1671	3329	0	1671	3343	0	0	1799	1583	0	1684	1495
Flt Permitted	0.068			0.392				0.966			0.957	
Satd. Flow (perm)	120	3329	0	690	3343	0	0	1799	1583	0	1684	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4							53			58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		791			327			169			130	
Travel Time (s)		12.0			5.0			3.8			3.0	
Volume (vph)	205	611	18	55	1377	0	19	8	49	138	16	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	2%	2%	2%	8%	8%	8%
Adj. Flow (vph)	223	664	20	60	1497	0	21	9	53	150	17	58
Lane Group Flow (vph)	223	684	0	60	1497	0	0	30	53	0	167	58
Turn Type	pm+pt			pm+pt			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			6
Detector Phases	7	4		3	8		2	2	2	6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0		8.0	20.0		10.0	10.0	10.0	20.0	20.0	20.0
Total Split (s)	24.0	70.0	0.0	13.0	59.0	0.0	11.0	11.0	11.0	21.0	21.0	21.0
Total Split (%)	20.9%	60.9%	0.0%	11.3%	51.3%	0.0%	9.6%	9.6%	9.6%	18.3%	18.3%	18.3%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	Max	Max	Max
Act Effct Green (s)	77.4	68.9		62.4	56.0			8.6	8.6		17.0	17.0
Actuated g/C Ratio	0.67	0.60		0.54	0.49			0.07	0.07		0.15	0.15
v/c Ratio	0.71	0.34		0.14	0.92			0.22	0.32		0.67	0.21
Control Delay	37.8	12.3		5.2	19.5			56.0	19.3		60.7	13.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	37.8	12.3		5.2	19.5			56.0	19.3		60.7	13.3
LOS	D	B		A	B			E	B		E	B
Approach Delay		18.6			19.0			32.6			48.5	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	103	126		7	166			22	0		118	0
Queue Length 95th (ft)	187	168		m13	#689			53	40		#204	38

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		711			247			89			50	
Turn Bay Length (ft)				540								
Base Capacity (vph)	350	1996		467	1630			135	167		249	270
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.64	0.34		0.13	0.92			0.22	0.32		0.67	0.21

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 62 (54%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 74.6% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 441 & I-75 SB Off Ramp



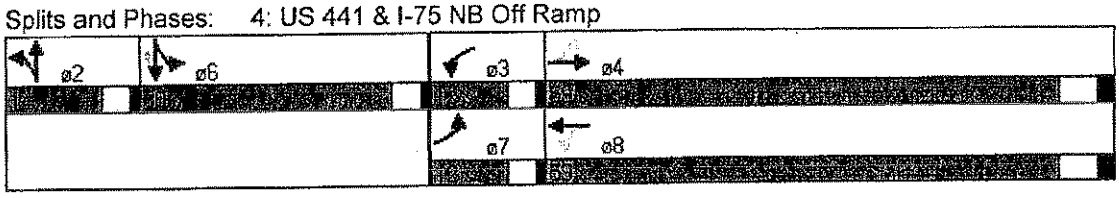
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	230		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	50
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.998						0.966				0.850
Flt Protected	0.950			0.950				0.972			0.956	
Satd. Flow (prot)	1671	3336	0	1671	3343	0	0	1749	0	0	1682	2632
Flt Permitted	0.090			0.285				0.972			0.956	
Satd. Flow (perm)	158	3336	0	501	3343	0	0	1749	0	0	1682	2632
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						12				364
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		451			396			153			219	
Travel Time (s)		6.8			6.0			3.5			5.0	
Volume (vph)	115	672	11	35	1180	0	56	17	25	222	20	438
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	2%	2%	2%	8%	8%	8%
Adj. Flow (vph)	125	730	12	38	1283	0	61	18	27	241	22	476
Lane Group Flow (vph)	125	742	0	38	1283	0	0	106	0	0	263	476
Turn Type	pm+pt			pm+pt			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phases	7	4		3	8		2	2		6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	20.0		8.5	20.0		10.0	10.0		20.0	20.0	20.0
Total Split (s)	12.0	59.0	0.0	12.0	59.0	0.0	14.0	14.0	0.0	30.0	30.0	30.0
Total Split (%)	10.4%	51.3%	0.0%	10.4%	51.3%	0.0%	12.2%	12.2%	0.0%	26.1%	26.1%	26.1%
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	1.0		1.0	1.0	1.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	None		None	None		C-Max	C-Max		None	None	None
Act Effct Green (s)	62.1	56.8		57.0	50.4			17.4			22.1	22.1
Actuated g/C Ratio	0.54	0.49		0.50	0.44			0.15			0.19	0.19
v/c Ratio	0.61	0.45		0.12	0.88			0.39			0.81	0.59
Control Delay	39.6	13.5		11.5	36.8			47.5			63.8	13.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	39.6	13.5		11.5	36.8			47.5			63.8	13.0
LOS	D	B		B	D			D			E	B
Approach Delay		17.2			36.1			47.5			31.1	
Approach LOS		B			D			D			C	
Queue Length 50th (ft)	44	112		12	434			66			185	39
Queue Length 95th (ft)	m#116	133		27	506			#145			274	93

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		371			316			73			139	
Turn Bay Length (ft)	350			230								
Base Capacity (vph)	206	1656		336	1599			274			380	877
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.61	0.45		0.11	0.80			0.39			0.69	0.54

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Offset: 58 (50%), Referenced to phase 2:NBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 29.9 Intersection LOS: C
Intersection Capacity Utilization 69.0% ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 441 & I-75 NB Off Ramp



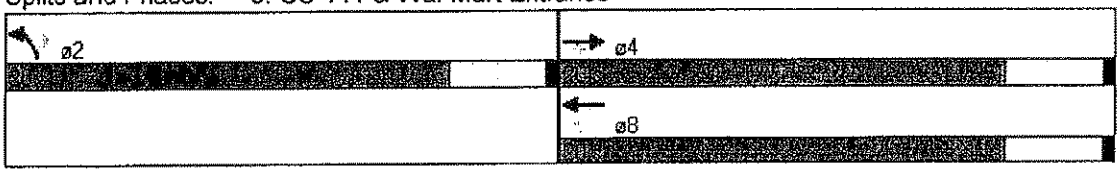
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰↰	↑↑	↰↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		185	435		0	145
Storage Lanes		1	2		2	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3539	1583	3433	3539	3433	1583
Flt Permitted			0.269		0.950	
Satd. Flow (perm)	3539	1583	972	3539	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		184				72
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	45			45	30	
Link Distance (ft)	1172			1140	798	
Travel Time (s)	17.8			17.3	18.1	
Volume (vph)	750	169	134	1267	153	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	815	184	146	1377	166	176
Lane Group Flow (vph)	815	184	146	1377	166	176
Turn Type		Perm	Perm			Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lead/Lag						
Lead-Lag Optimize?						
Act Effct Green (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
v/c Ratio	0.58	0.25	0.38	0.97	0.12	0.26
Control Delay	11.4	2.8	12.1	33.5	7.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	2.8	12.1	33.5	7.9	6.4
LOS	B	A	B	C	A	A
Approach Delay	9.8			31.5	7.1	
Approach LOS	A			C	A	
Queue Length 50th (ft)	69	0	11	148	11	14
Queue Length 95th (ft)	110	24	28	#277	23	41
Internal Link Dist (ft)	1092			1060	718	
Turn Bay Length (ft)		185	435			145
Base Capacity (vph)	1416	744	389	1416	1373	676
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.58	0.25	0.38	0.97	0.12	0.26

Intersection Summary

Area Type: Other
Cycle Length: 40
Actuated Cycle Length: 40
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green
Natural Cycle: 50
Control Type: Pretimed
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 21.0 — Intersection LOS: C
Intersection Capacity Utilization 46.1% — ICU Level of Service A
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: US 441 & Wal-Mart Entrance



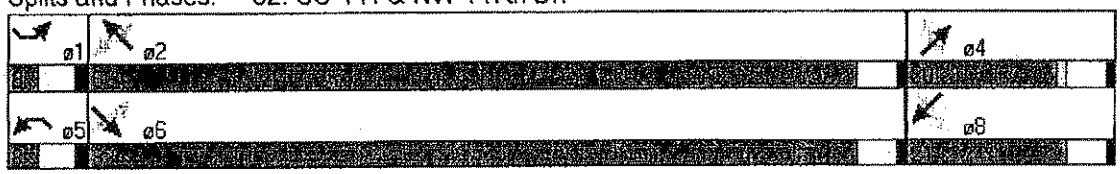
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		260	250		265	0		140	100		100
Storage Lanes	1		1	1		1	0		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50	50	50	50	50	50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.964		0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	0	1796	1583	1770	1863	1583
Flt Permitted	0.160			0.277				0.763		0.502		
Satd. Flow (perm)	298	3539	1583	516	3539	1583	0	1421	1583	935	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107			72			52			79
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		435			1574			349			308	
Travel Time (s)		6.6			23.8			7.9			7.0	
Volume (vph)	84	849	98	79	1228	66	100	32	48	32	21	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	923	107	86	1335	72	109	35	52	35	23	79
Lane Group Flow (vph)	91	923	107	86	1335	72	0	144	52	35	23	79
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		8
Detector Phases	1	6	6	5	2	2	4	4	4	8	8	8
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	1.0	1.0	1.0	4.0	4.0	4.0
Minimum Split (s)	6.0	21.0	21.0	6.0	21.0	21.0	10.0	10.0	10.0	21.0	21.0	21.0
Total Split (s)	8.0	82.0	82.0	8.0	82.0	82.0	20.0	20.0	20.0	21.0	21.0	21.0
Total Split (%)	7.2%	73.9%	73.9%	7.2%	73.9%	73.9%	18.0%	18.0%	18.0%	18.9%	18.9%	18.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	81.2	78.3	78.3	81.2	78.3	78.3		14.5	14.5	14.5	14.5	14.5
Actuated g/C Ratio	0.75	0.73	0.73	0.75	0.73	0.73		0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.33	0.36	0.09	0.20	0.52	0.06		0.75	0.20	0.28	0.09	0.28
Control Delay	6.1	6.1	1.1	3.9	7.6	1.3		68.9	13.6	48.2	41.9	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	6.1	1.1	3.9	7.6	1.3		68.9	13.6	48.2	41.9	12.3
LOS	A	A	A	A	A	A		E	B	D	D	B
Approach Delay		5.7			7.1			54.2			26.4	
Approach LOS		A			A			D			C	
Queue Length 50th (ft)	12	118	0	11	203	0		98	0	22	14	0
Queue Length 95th (ft)	23	149	15	21	251	12		#188	36	55	39	43
Internal Link Dist (ft)		355			1494			269			228	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Turn Bay Length (ft)	200		260	250		265			140	100		100
Base Capacity (vph)	277	2588	1187	432	2588	1177		221	290	145	289	313
Starvation Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0		0	0	0	0	0
Reduced v/c Ratio	0.33	0.36	0.09	0.20	0.52	0.06		0.65	0.18	0.24	0.08	0.25

Intersection Summary

Area Type: Other
Cycle Length: 111
Actuated Cycle Length: 107
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 62.5% ICU Level of Service B
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 32: US 441 & NW 147th Dr.



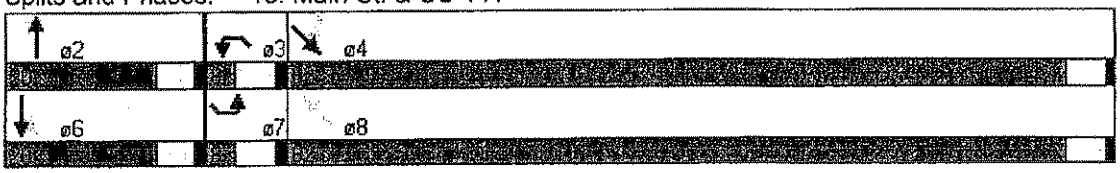
Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	170		0	160		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.902			0.932			0.984			0.998	
Flt Protected	0.950				0.980		0.950			0.950		
Satd. Flow (prot)	1770	1680	0	0	1701	0	1770	3483	0	1770	3532	0
Flt Permitted	0.684				0.852		0.150			0.950		
Satd. Flow (perm)	1274	1680	0	0	1479	0	279	3483	0	1770	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			38			29			3	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		15			15			45			45	
Link Distance (ft)		264			548			1574			535	
Travel Time (s)		12.0			24.9			23.8			8.1	
Volume (vph)	147	29	55	29	6	36	34	932	111	80	1258	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	160	32	60	32	7	39	37	1013	121	87	1367	21
Lane Group Flow (vph)	160	92	0	0	78	0	37	1134	0	87	1388	0
Turn Type	Perm			Perm			pm+pt			Prot		
Protected Phases		2			6		7	4		3		
Permitted Phases	2			6			4				8	
Detector Phases	2	2		6	6		7	4		3	8	
Minimum Initial (s)	4.0	4.0		4.0	4.0		1.0	4.0		3.0	4.0	
Minimum Split (s)	10.0	10.0		10.0	10.0		6.0	10.0		8.0	10.0	
Total Split (s)	20.0	20.0	0.0	20.0	20.0	0.0	8.0	82.0	0.0	8.0	82.0	0.0
Total Split (%)	18.2%	18.2%	0.0%	18.2%	18.2%	0.0%	7.3%	74.5%	0.0%	7.3%	74.5%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	16.5	16.5			16.5		33.4	29.2		4.1	34.8	
Actuated g/C Ratio	0.27	0.27			0.27		0.50	0.47		0.07	0.56	
v/c Ratio	0.47	0.19			0.19		0.16	0.69		0.74	0.70	
Control Delay	29.0	12.3			15.2		6.6	14.1		72.0	12.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	29.0	12.3			15.2		6.6	14.1		72.0	12.4	
LOS	C	B			B		A	B		E	B	
Approach Delay		22.9			15.2			13.9			15.9	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	46	8			10		5	154		31	150	
Queue Length 95th (ft)	#147	51			52		13	205		#133	285	
Internal Link Dist (ft)		184			468			1494			455	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Turn Bay Length (ft)	100						170			160		
Base Capacity (vph)	338	490			420		229	2478		117	2623	
Starvation Cap Reductn	0	0			0		0	0		0	79	
Spillback Cap Reductn	0	0			0		0	32		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.47	0.19			0.19		0.16	0.46		0.74	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 62.2
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: Main St. & US 441



Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0		150		0	150		0		300	0
Storage Lanes	1	0		1		0	1		0		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95
Frt		0.850			0.918			0.943			0.979	
Flt Protected	0.950			0.950			0.950			0.950	0.959	
Satd. Flow (prot)	1671	2632	0	1671	1615	0	1671	1659	0	1671	3204	0
Flt Permitted	0.950			0.259			0.550			0.082	0.959	
Satd. Flow (perm)	1671	2632	0	456	1615	0	968	1659	0	144	3204	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			52			24			22	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	45				30			30			45	
Link Distance (ft)	898				1137			636			535	
Travel Time (s)	13.6				25.8			14.5			8.1	
Volume (vph)	206	1137	91	134	107	129	49	140	86	139	752	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	224	1236	99	146	116	140	53	152	93	151	817	136
Lane Group Flow (vph)	224	1335	0	146	256	0	53	245	0	151	953	0
Turn Type	Prot			pm+pt			pm+pt			pm+pt		
Protected Phases	3			5	2		1	6		7	4	
Permitted Phases		8		2			6			4		
Detector Phases	3	8		5	2		1	6		7	4	
Minimum Initial (s)	3.0	1.0		3.0	3.0		3.0	3.0		3.0	1.0	
Minimum Split (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Total Split (s)	19.0	56.0	0.0	15.0	33.0	0.0	7.0	25.0	0.0	16.0	53.0	0.0
Total Split (%)	17.0%	50.0%	0.0%	13.4%	29.5%	0.0%	6.3%	22.3%	0.0%	14.3%	47.3%	0.0%
Yellow Time (s)	3.0	4.0		3.0	3.0		3.0	3.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	1.0		1.0	1.0		1.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	Max		None	Max		None	None	
Act Effct Green (s)	15.0	52.0		35.4	29.9		24.1	21.1		58.3	47.7	
Actuated g/C Ratio	0.14	0.47		0.32	0.27		0.22	0.19		0.53	0.43	
v/c Ratio	0.98	1.07		0.56	0.54		0.23	0.73		0.67	0.68	
Control Delay	104.4	75.5		37.0	32.6		32.0	51.8		36.6	27.5	
Queue Delay	0.0	8.9		0.6	0.0		0.0	0.3		0.0	0.6	
Total Delay	104.4	84.5		37.6	32.6		32.0	52.1		36.6	28.1	
LOS	F	F		D	C		C	D		D	C	
Approach Delay	87.3				34.4			48.5			29.3	
Approach LOS	F				C			D			C	
Queue Length 50th (ft)	~164	~614		78	127		27	152		55	269	
Queue Length 95th (ft)	#324	#765		132	214		57	#266		125	342	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Internal Link Dist (ft)	818				1057			556			455	
Turn Bay Length (ft)	300			150			150			300	300	
Base Capacity (vph)	228	1249		266	476		228	337		242	1421	
Starvation Cap Reductn	0	0		0	0		0	0		0	166	
Spillback Cap Reductn	0	25		17	0		0	5		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.98	1.09		0.59	0.54		0.23	0.74		0.62	0.76	

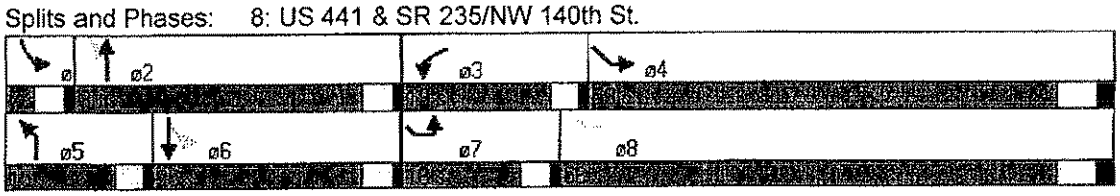
Intersection Summary

Area Type: Other
Cycle Length: 112
Actuated Cycle Length: 110.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 58.5 — Intersection LOS: E
Intersection Capacity Utilization 73.0% — ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

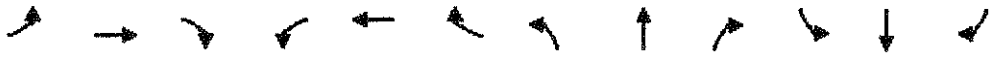
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: US 441 & SR 235/NW 140th St.



APPENDIX G

Future Synchro Printouts (With Improvements)



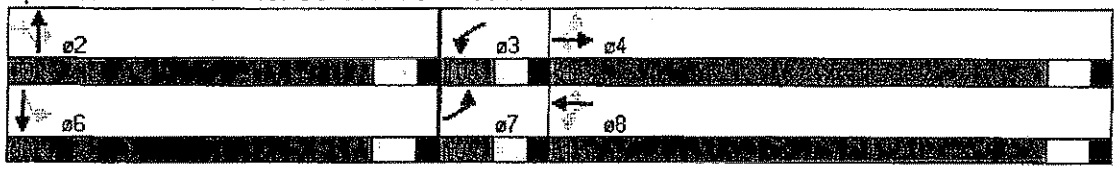
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		150	300		150	200		150	200		0
Storage Lanes	1		1	1		1	1		1	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	330	50	50	330	50	50	50	50	50	50	
Trailing Detector (ft)	0	150	0	0	150	0	0	0	0	0	0	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.894	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3438	1538	1641	3438	1583	1656	1743	1292	1770	1628	0
Flt Permitted	0.085			0.301			0.704			0.742		
Satd. Flow (perm)	160	3438	1538	520	3438	1583	1227	1743	1292	1382	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			72			149		58	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		522			2834			1009			973	
Travel Time (s)		7.9			42.9			15.3			14.7	
Volume (vph)	17	654	28	82	1239	99	43	21	137	68	22	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	5%	5%	10%	5%	2%	9%	9%	25%	2%	10%	2%
Adj. Flow (vph)	18	711	30	89	1347	108	47	23	149	74	24	58
Lane Group Flow (vph)	18	711	30	89	1347	108	47	23	149	74	82	0
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Detector Phases	7	4	4	3	8	8	2	2	2	6	6	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	10.0	51.0	51.0	10.0	51.0	51.0	39.0	39.0	39.0	39.0	39.0	
Total Split (s)	10.0	51.0	51.0	10.0	51.0	51.0	39.0	39.0	39.0	39.0	39.0	0.0
Total Split (%)	10.0%	51.0%	51.0%	10.0%	51.0%	51.0%	39.0%	39.0%	39.0%	39.0%	39.0%	0.0%
Maximum Green (s)	5.0	45.0	45.0	5.0	45.0	45.0	33.0	33.0	33.0	33.0	33.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	1.0	1.0	1.0	1.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		40.0	40.0		40.0	40.0	28.0	28.0	28.0	28.0	28.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0	0	0	0	
Act Effct Green (s)	78.5	74.5	74.5	80.3	78.2	78.2	10.2	10.2	10.2	10.2	10.2	
Actuated g/C Ratio	0.78	0.74	0.74	0.80	0.78	0.78	0.10	0.10	0.10	0.10	0.10	
v/c Ratio	0.09	0.28	0.03	0.19	0.50	0.09	0.38	0.13	0.56	0.52	0.38	
Control Delay	3.1	5.1	1.9	1.8	2.0	0.3	49.3	40.7	15.4	55.2	21.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	3.1	5.1	1.9	1.8	2.0	0.3	49.3	40.7	15.4	55.2	21.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	A	A	D	D	B	E	C	
Approach Delay		4.9			1.9			25.3			37.4	
Approach LOS		A			A			C			D	
Queue Length 50th (ft)	2	69	0	3	28	0	29	14	0	46	14	
Queue Length 95th (ft)	6	112	9	m7	64	m1	63	36	56	88	56	
Internal Link Dist (ft)		442			2754			929			893	
Turn Bay Length (ft)	300		150	300		150	200		150	200		
Base Capacity (vph)	225	2562	1154	486	2689	1254	429	610	549	484	608	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.28	0.03	0.18	0.50	0.09	0.11	0.04	0.27	0.15	0.13	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 66 (66%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 6.7 Intersection LOS: A
Intersection Capacity Utilization 58.0% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 15: US 441 & CR 235 A



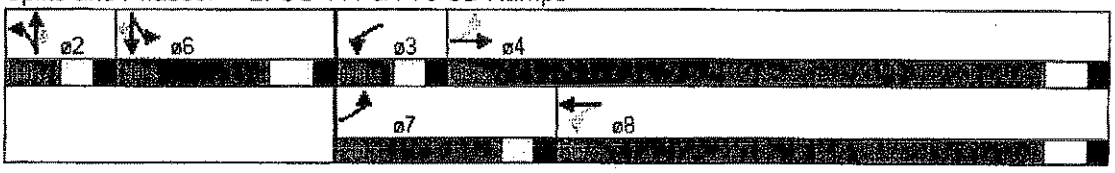
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	540		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	330		50	330		50	50	50	50	50	50
Trailing Detector (ft)	0	150		0	150		0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996							0.850			0.850
Flt Protected	0.950			0.950				0.966			0.957	
Satd. Flow (prot)	1719	3429	0	1787	3438	0	0	1823	1615	0	1667	1468
Flt Permitted	0.088			0.392				0.966			0.957	
Satd. Flow (perm)	159	3429	0	737	3438	0	0	1823	1615	0	1667	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5							53			58
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		791			327			169			130	
Travel Time (s)		12.0			5.0			3.8			3.0	
Volume (vph)	205	611	18	55	1137	0	19	8	49	138	16	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	0%	1%	5%	5%	1%	0%	0%	10%	1%	10%
Adj. Flow (vph)	223	664	20	60	1236	0	21	9	53	150	17	58
Lane Group Flow (vph)	223	684	0	60	1236	0	0	30	53	0	167	58
Turn Type	pm+pt			pm+pt			Split		Perm	Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8					2			6
Detector Phases	7	4		3	8		2	2	2	6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		10.0	22.0		10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	20.0	60.0	0.0	10.0	50.0	0.0	10.0	10.0	10.0	20.0	20.0	20.0
Total Split (%)	20.0%	60.0%	0.0%	10.0%	50.0%	0.0%	10.0%	10.0%	10.0%	20.0%	20.0%	20.0%
Maximum Green (s)	15.0	54.0		5.0	44.0		5.0	5.0	5.0	14.0	14.0	14.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None	None	None	None	None
Act Effct Green (s)	70.3	63.0		60.1	54.9			5.6	5.6		13.9	13.9
Actuated g/C Ratio	0.70	0.63		0.60	0.55			0.06	0.06		0.14	0.14
v/c Ratio	0.77	0.32		0.12	0.65			0.29	0.38		0.72	0.23
Control Delay	30.3	9.1		2.1	7.1			52.6	20.9		58.7	12.5
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	30.3	9.1		2.1	7.1			52.6	20.9		58.7	12.5
LOS	C	A		A	A			D	C		E	B
Approach Delay		14.3			6.9			32.3			46.8	
Approach LOS		B			A			C			D	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	46	125		4	85			19	0		101	0
Queue Length 95th (ft)	99	180		m4	217			48	38		172	35
Internal Link Dist (ft)		711			247			89			50	
Turn Bay Length (ft)				540								
Base Capacity (vph)	362	2161		512	1889			109	147		267	284
Starvation Cap Reductn	0	0		0	0			0	0		0	0
Spillback Cap Reductn	0	0		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.62	0.32		0.12	0.65			0.28	0.36		0.63	0.20

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 15 (15%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 67.9% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: US 441 & I-75 SB Ramps



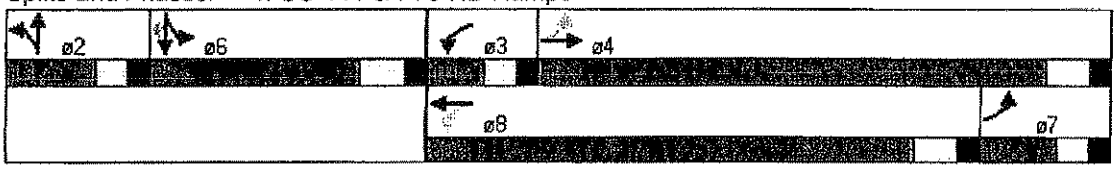
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		0	230		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		2
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	330		50	330		50	50		50	50	50
Trailing Detector (ft)	0	150		0	150		0	0		0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.88
Frt		0.998						0.966				0.850
Flt Protected	0.950			0.950				0.972			0.956	
Satd. Flow (prot)	1687	3433	0	1805	3438	0	0	1774	0	0	1735	2707
Flt Permitted	0.116			0.237				0.972			0.956	
Satd. Flow (perm)	206	3433	0	450	3438	0	0	1774	0	0	1735	2707
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2						14				371
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		451			396			153			301	
Travel Time (s)		6.8			6.0			3.0			5.9	
Volume (vph)	115	672	11	35	1180	0	56	17	25	222	20	438
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	5%	1%	0%	5%	7%	1%	0%	0%	5%	1%	5%
Adj. Flow (vph)	125	730	12	38	1283	0	61	18	27	241	22	476
Lane Group Flow (vph)	125	742	0	38	1283	0	0	106	0	0	263	476
Turn Type	pm+pt			pm+pt			Split			Split		Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases	4			8								6
Detector Phases	7	4		3	8		2	2		6	6	6
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	22.0		10.0	22.0		10.0	10.0		10.0	10.0	10.0
Total Split (s)	12.0	52.0	0.0	10.0	50.0	0.0	13.0	13.0	0.0	25.0	25.0	25.0
Total Split (%)	12.0%	52.0%	0.0%	10.0%	50.0%	0.0%	13.0%	13.0%	0.0%	25.0%	25.0%	25.0%
Maximum Green (s)	7.0	46.0		5.0	44.0		8.0	8.0		19.0	19.0	19.0
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	3.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max		None	None		None	None	None
Act Effct Green (s)	55.6	55.6		49.2	49.2			8.1			18.7	18.7
Actuated g/C Ratio	0.56	0.56		0.49	0.49			0.08			0.19	0.19
v/c Ratio	0.54	0.39		0.13	0.76			0.68			0.81	0.59
Control Delay	30.5	9.6		5.0	10.0			60.6			58.2	11.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	30.5	9.6		5.0	10.0			60.6			58.2	11.6
LOS	C	A		A	B			E			E	B
Approach Delay		12.6			9.9			60.6			28.2	
Approach LOS		B			A			E			C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 50th (ft)	31	99	5	84			57			158		31
Queue Length 95th (ft)	m83	125	m11	119			#126			#265		82
Internal Link Dist (ft)		371		316			73			221		
Turn Bay Length (ft)	350		230									
Base Capacity (vph)	233	1910	303	1691			172			364		862
Starvation Cap Reductn	0	0	0	0			0			0		0
Spillback Cap Reductn	0	0	0	0			0			0		0
Storage Cap Reductn	0	0	0	0			0			0		0
Reduced v/c Ratio	0.54	0.39	0.13	0.76			0.62			0.72		0.55

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 9 (9%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 69.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 441 & I-75 NB Ramps



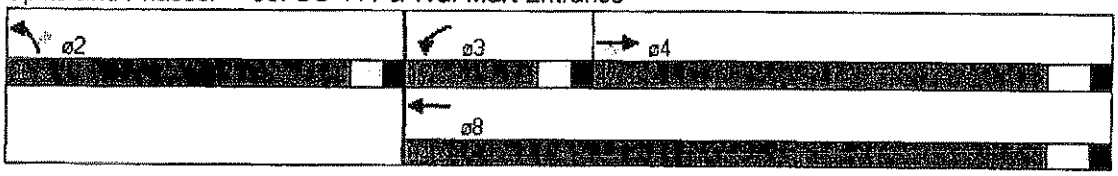
Lane Group	EBL	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰↰	↑↑	↰↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		185	435		0	145
Storage Lanes		1	2		2	1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	330	50	50	330	50	50
Trailing Detector (ft)	150	0	0	150	0	0
Turning Speed (mph)		9	15		15	9
Lane Util. Factor	0.95	1.00	0.97	0.95	0.97	1.00
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3438	1599	3467	3438	3433	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3438	1599	3467	3438	3433	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		184				176
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	45			45	30	
Link Distance (ft)	1162			1150	988	
Travel Time (s)	17.6			17.4	22.5	
Volume (vph)	750	169	134	1267	153	162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	1%	1%	5%	2%	2%
Adj. Flow (vph)	815	184	146	1377	166	176
Lane Group Flow (vph)	815	184	146	1377	166	176
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phases	4	4	3	8	2	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	41.0	41.0	10.0	41.0	31.0	31.0
Total Split (s)	47.0	47.0	17.0	64.0	36.0	36.0
Total Split (%)	47.0%	47.0%	17.0%	64.0%	36.0%	36.0%
Maximum Green (s)	41.0	41.0	12.0	58.0	31.0	31.0
Yellow Time (s)	4.0	4.0	3.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	1.0	3.0	1.0	1.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	30.0	30.0		30.0	20.0	20.0
Pedestrian Calls (#/hr)	0	0		0	0	0
Act Effct Green (s)	71.1	71.1	8.2	83.3	8.7	8.7
Actuated g/C Ratio	0.71	0.71	0.08	0.83	0.09	0.09
v/c Ratio	0.33	0.15	0.51	0.48	0.56	0.59
Control Delay	3.0	0.3	51.8	4.8	50.7	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	0.3	51.8	4.8	50.7	15.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A	A	D	A	D	B
Approach Delay	2.5			9.3	32.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	37	0	39	260	53	0
Queue Length 95th (ft)	53	m0	m65	24	84	61
Internal Link Dist (ft)	1082			1070	908	
Turn Bay Length (ft)		185	435			145
Base Capacity (vph)	2443	1189	451	2864	1099	626
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.15	0.32	0.48	0.15	0.28

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 17 (17%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 9.7 Intersection LOS: A
Intersection Capacity Utilization 46.1% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 33: US 441 & Wal-Mart Entrance



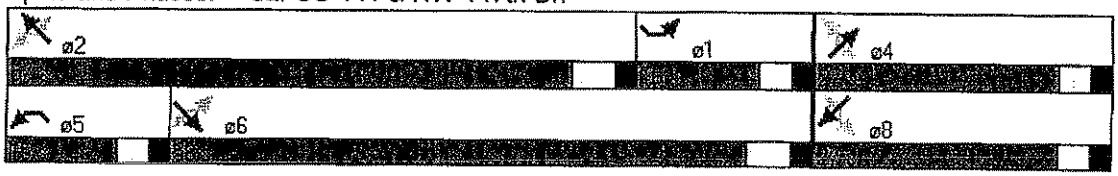
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		260	250		265	0		140	100		100
Storage Lanes	1		1	1		1	0		1	1		1
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	330	50	50	330	50	50	50	50	50	50	50
Trailing Detector (ft)	0	150	0	0	150	0	0	0	0	0	0	0
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950				0.964		0.950		
Satd. Flow (prot)	1770	3438	1583	1770	3438	1583	0	1796	1583	1770	1863	1583
Flt Permitted	0.151			0.184				0.763		0.587		
Satd. Flow (perm)	281	3438	1583	343	3438	1583	0	1421	1583	1093	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107			72			52			79
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		435			1585			349			308	
Travel Time (s)		6.6			24.0			7.9			7.0	
Volume (vph)	84	849	98	79	1228	66	100	32	48	32	21	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	91	923	107	86	1335	72	109	35	52	35	23	79
Lane Group Flow (vph)	91	923	107	86	1335	72	0	144	52	35	23	79
Turn Type	pm+pt		Perm	pm+pt		Perm	Perm		Perm	Perm		Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4		4	8		8
Detector Phases	1	6	6	5	2	2	4	4	4	8	8	8
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	41.0	41.0	10.0	41.0	41.0	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	16.0	58.0	58.0	15.0	57.0	57.0	27.0	27.0	27.0	27.0	27.0	27.0
Total Split (%)	16.0%	58.0%	58.0%	15.0%	57.0%	57.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%
Maximum Green (s)	11.0	52.0	52.0	10.0	51.0	51.0	22.0	22.0	22.0	22.0	22.0	22.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0	3.0	1.0	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		30.0	30.0		30.0	30.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)	68.8	68.8	68.8	65.1	65.1	65.1		14.1	14.1	14.1	14.1	14.1
Actuated g/C Ratio	0.69	0.69	0.69	0.65	0.65	0.65		0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.26	0.39	0.10	0.27	0.60	0.07		0.72	0.19	0.23	0.09	0.27
Control Delay	13.5	7.7	2.7	8.5	13.8	3.3		59.8	11.5	39.4	35.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	7.7	2.7	8.5	13.8	3.3		59.8	11.5	39.4	35.3	10.5

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
LOS	B	A	A	A	B	A	E	B	D	D	B	
Approach Delay		7.7			13.0		47.0			22.0		
Approach LOS		A			B		D			C		
Queue Length 50th (ft)	20	128	5	14	255	3	89	0	20	13	0	
Queue Length 95th (ft)	m43	160	m25	m47	513	m20	145	31	46	33	38	
Internal Link Dist (ft)		355			1505		269			228		
Turn Bay Length (ft)	200		260	250		265		140	100		100	
Base Capacity (vph)	372	2367	1123	380	2237	1055	327	404	251	428	425	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.39	0.10	0.23	0.60	0.07	0.44	0.13	0.14	0.05	0.19	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 60 (60%), Referenced to phase 2:NWTL and 6:SETL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 13.7 Intersection LOS: B
Intersection Capacity Utilization 62.5% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 32: US 441 & NW 147th Dr.



Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	0		0	170		0	160		0
Storage Lanes	1		0	0		0	1		0	1		0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	50		50	50		50	330		50	330	
Trailing Detector (ft)	0	0		0	0		0	150		0	150	
Turning Speed (mph)	15		9	15		9	15		9	15		9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.902			0.932			0.984			0.998	
Flt Protected	0.950				0.980		0.950			0.950		
Satd. Flow (prot)	1770	1680	0	0	1735	0	1805	3393	0	1770	3434	0
Flt Permitted	0.720				0.874		0.091			0.950		
Satd. Flow (perm)	1341	1680	0	0	1548	0	173	3393	0	1770	3434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			39			16			2	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)		15			15			45			45	
Link Distance (ft)		264			548			1585			534	
Travel Time (s)		12.0			24.9			24.0			8.1	
Volume (vph)	147	29	55	29	6	36	34	932	111	80	1258	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	0%	0%	0%	0%	5%	2%	2%	5%	0%
Adj. Flow (vph)	160	32	60	32	7	39	37	1013	121	87	1367	21
Lane Group Flow (vph)	160	92	0	0	78	0	37	1134	0	87	1388	0
Turn Type	Perm			Perm			pm+pt			Prot		
Protected Phases		2			6		7	4		3		
Permitted Phases	2			6			4				8	
Detector Phases	2	2		6	6		7	4		3	8	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.0	30.0		22.0	22.0		22.0	41.0		22.0	41.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	22.0	48.0	0.0	22.0	48.0	0.0
Total Split (%)	30.0%	30.0%	0.0%	30.0%	30.0%	0.0%	22.0%	48.0%	0.0%	22.0%	48.0%	0.0%
Maximum Green (s)	25.0	25.0		25.0	25.0		16.0	42.0		16.0	42.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	3.0		1.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Flash Dont Walk (s)	20.0	20.0		11.0	11.0			30.0			30.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	15.7	15.7			15.7		68.8	64.0		10.4	72.3	
Actuated g/C Ratio	0.16	0.16			0.16		0.69	0.64		0.10	0.72	
v/c Ratio	0.76	0.29			0.28		0.17	0.52		0.48	0.56	
Control Delay	61.4	17.0			22.0		9.2	10.4		51.9	3.7	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay	61.4	17.0			22.0		9.2	10.4		51.9	3.9	

Lane Group	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
LOS	E	B		C	A	B		D		A		
Approach Delay		45.2		22.0		10.3				6.8		
Approach LOS		D		C		B				A		
Queue Length 50th (ft)	99	18		22	2	208		58		71		
Queue Length 95th (ft)	157	57		59	20	415		m68		m105		
Internal Link Dist (ft)		184		468		1505				454		
Turn Bay Length (ft)	100				170			160				
Base Capacity (vph)	349	481		431	426	2176		319		2482		
Starvation Cap Reductn	0	0		0	0	0		0		349		
Spillback Cap Reductn	0	0		0	0	0		0		0		
Storage Cap Reductn	0	0		0	0	0		0		0		
Reduced v/c Ratio	0.46	0.19		0.18	0.09	0.52		0.27		0.65		

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 4:SETL and 8:NWT, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 11.8 Intersection LOS: B
Intersection Capacity Utilization 63.5% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 18: Main St./NW 141st St. & US 441

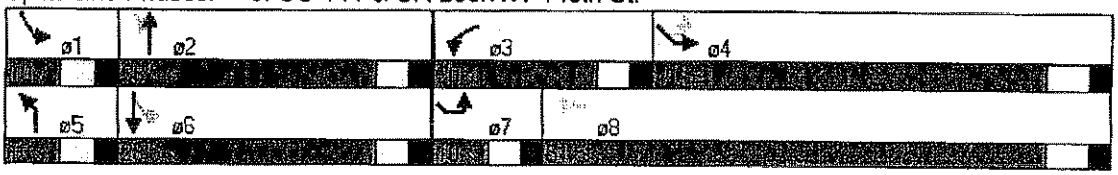
Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300	0		150		0	150		0		300	0
Storage Lanes	1	0		1		0	1		0		1	0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Leading Detector (ft)	50	330		50	330		50	330		50	330	
Trailing Detector (ft)	0	150		0	150		0	150		0	150	
Turning Speed (mph)	15	9	9	15		9	15		9	15	15	9
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95
Frt		0.850			0.918			0.943			0.979	
Flt Protected	0.950			0.950			0.950			0.950	0.959	
Satd. Flow (prot)	1770	2713	0	1770	1688	0	1770	1715	0	1719	3296	0
Flt Permitted	0.950			0.411			0.392			0.107	0.959	
Satd. Flow (perm)	1770	2713	0	766	1688	0	730	1715	0	194	3296	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			58			29			22	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Link Speed (mph)	45				30			30			45	
Link Distance (ft)	907				1137			989			534	
Travel Time (s)	13.7				25.8			22.5			8.1	
Volume (vph)	206	1137	91	134	107	129	49	140	86	139	752	125
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	5%	2%	2%	6%	2%	5%	5%	5%
Adj. Flow (vph)	224	1236	99	146	116	140	53	152	93	151	817	136
Lane Group Flow (vph)	224	1335	0	146	256	0	53	245	0	151	953	0
Turn Type	Prot			pm+pt			pm+pt			pm+pt		
Protected Phases	3			5	2		1	6		7	4	
Permitted Phases		8		2			6			4		
Detector Phases	3	8		5	2		1	6		7	4	
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	41.0		10.0	28.5		10.0	28.0		10.0	41.0	
Total Split (s)	20.0	51.5	0.0	10.0	28.5	0.0	10.0	28.5	0.0	10.0	41.5	0.0
Total Split (%)	20.0%	51.5%	0.0%	10.0%	28.5%	0.0%	10.0%	28.5%	0.0%	10.0%	41.5%	0.0%
Maximum Green (s)	15.0	45.5		5.0	23.5		5.0	23.5		5.0	35.5	
Yellow Time (s)	3.0	4.0		3.0	3.0		3.0	3.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	3.0		1.0	3.0		1.0	3.0		1.0	3.0	
Recall Mode	None	C-Max		None	None		None	None		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		30.0			18.0			18.0			30.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	14.9	53.8		22.8	18.0		21.7	15.9		55.5	47.2	
Actuated g/C Ratio	0.15	0.54		0.23	0.18		0.22	0.16		0.56	0.47	
v/c Ratio	0.85	0.91		0.62	0.73		0.24	0.82		0.65	0.61	
Control Delay	70.0	33.5		41.8	42.2		28.7	56.8		40.5	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	70.0	33.5		41.8	42.2		28.7	56.8		40.5	8.6	

Lane Group	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR	SEL2	SEL	SER
LOS	E	C		D	D	C	E		D		A	
Approach Delay	38.7				42.1		51.8				12.9	
Approach LOS	D				D		D				B	
Queue Length 50th (ft)	139	425		75	124	26	136		41		37	
Queue Length 95th (ft)	#258	#667		115	194	50	201		#160		68	
Internal Link Dist (ft)	827				1057		909				454	
Turn Bay Length (ft)	300			150		150			300		300	
Base Capacity (vph)	283	1463		235	457	223	442		234		1567	
Starvation Cap Reductn	0	0		0	0	0	0		0		0	
Spillback Cap Reductn	0	0		0	0	0	0		0		0	
Storage Cap Reductn	0	0		0	0	0	0		0		0	
Reduced v/c Ratio	0.79	0.91		0.62	0.56	0.24	0.55		0.65		0.61	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 4:SEL and 8:WBR, Start of Green, Master Intersection
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 31.8 Intersection LOS: C
Intersection Capacity Utilization 73.0% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: US 441 & SR 235/NW 140th St.



APPENDIX H

Future HCS Ramp Analysis

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 SB
Agency or Company	TPD	Junction	US 441
Date Performed	09/10/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	FUTURE 2010

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2860	0.95	Level	25	5	0.881	1.00	3417
Ramp	456	0.95	Level	8	2	0.958	1.00	501
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.617 using Equation (Exhibit 25-5)

V_{12} = 2107 pc/h

V_3 or V_{av34} 1310 pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3918	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2608	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 16.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Determination

M_S = 0.276 (Exibit 25-19)

S_R = 58.7 mph (Exhibit 25-19)

S_0 = 62.1 mph (Exhibit 25-19)

S = 59.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-12)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 SB
Agency or Company	TPD	Junction	US 441
Date Performed	09/10/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	FUTURE 2010

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☑ No ☐ Off		☑ No ☐ Off
L_{up} = ft	S_{FF} = 65.0 mph S_{FR} = 35.0 mph	L_{down} = ft
V_u = veh/h	Sketch (show lanes, L_A, L_D, V_R, V_f)	V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2960	0.95	Level	23	5	0.889	1.00	3505
Ramp	207	0.95	Level	23	2	0.894	1.00	244
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.661 using Equation (Exhibit 25-12)

V_{12} = 2400 pc/h

V_3 or V_{av34} 1105 pc/h (Equation 25-15 or 25-16)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3505	Exhibit 25-14	7050	No
$V_{FO} = V_F - V_R$	3261	Exhibit 25-14	7050	No
V_R	244	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2400	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.450 (Exhibit 25-19)

S_R = 54.7 mph (Exhibit 25-19)

S_0 = 70.9 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 NB
Agency or Company	TPD	Junction	US 441
Date Performed	09/10/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	FUTURE 2010

Project Description WALMART on US 441

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level
S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3200	0.95	Level	23	5	0.889	1.00	3789
Ramp	680	0.95	Level	23	2	0.894	1.00	801
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 25-7		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 25-7		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.628 using Equation (Exhibit 25-12)
V_{12} = 2679 pc/h
V_3 or V_{av34} 1110 pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3789	Exhibit 25-14	7050	No
$V_{FO} = V_F - V_R$	2988	Exhibit 25-14	7050	No
V_R	801	Exhibit 25-3	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2679	Exhibit 25-14	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

D_s = 0.500 (Exhibit 25-19)
S_R = 53.5 mph (Exhibit 25-19)
S_0 = 70.9 mph (Exhibit 25-19)
S = 57.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	AHS	Freeway/Dir of Travel	I-75 NB
Agency or Company	TPD	Junction	US 441
Date Performed	09/10/2009	Jurisdiction	ALACHUA
Analysis Time Period	PEAK HOUR	Analysis Year	FUTURE 2010

Project Description: WALMART on US 441

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3305	0.95	Level	23	5	0.889	1.00	3914
Ramp	253	0.95	Level	23	2	0.894	1.00	298
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$ (Equation 25-2 or 25-3)

L_{EQ} =
P_{FM} = 0.591 using Equation (Exhibit 25-5)
V_{12} = 2315 pc/h
V_3 or V_{av34} 1599 pc/h (Equation 25-4 or 25-5)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 25-8)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4212	Exhibit 25-7		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2613	Exhibit 25-7	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 22.6 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Determination

M_S = 0.339 (Exibit 25-19)
S_R = 57.2 mph (Exhibit 25-19)
S_0 = 61.0 mph (Exhibit 25-19)
S = 58.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R) P_{FD}$ (Equation 25-8 or 25-9)

L_{EQ} =
P_{FD} = using Equation (Exhibit 25-12)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 25-15 or 25-16)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 25-18)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 25-14		
$V_{FO} = V_F - V_R$		Exhibit 25-14		
V_R		Exhibit 25-3		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 25-14		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Determination

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)
S = mph (Exhibit 25-15)