Exhibit 1A: Sample Synchro 6 Report (3 pages)

Lanes, Volumes, Timings

4: Univ Pkwy & US 41

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
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	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.961			0.995	
Flt Protected	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1681	1709	1583	1770	3401	0	3433	3522	0
Flt Permitted	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	1681	1709	1583	1770	3401	0	3433	3522	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			9			286		36			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)		30			45			45			45	
Link Distance (ft)		682			738			985			875	
Travel Time (s)		15.5			11.2			14.9			13.3	
Volume (vph)	52	75	19	482	85	836	25	1048	364	945	1772	66
Peak Hour 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
Adj. Flow (vph)	52	75	19	482	85	836	25	1048	364	945	1772	66
Lane Group Flow (vph)	52	75	19	276	291	836	25	1412	0	945	1838	0
Turn Type	Split		pt+ov	Split		pt+ov	Prot			Prot		
Protected Phases	2	2	2 3	6	6	6 7	3	8		7	4	
Permitted Phases												
Detector Phases	2	2	2 3	6	6	6 7	3	8		7	4	
Minimum Initial (s)	7.0	7.0		10.0	10.0		7.0	20.0		7.0	20.0	
Minimum Split (s)	31.0	31.0		26.0	26.0		13.0	41.7		13.0	41.7	
Total Split (s)	32.0	32.0	45.0	26.0	26.0	59.0	13.0	54.0	0.0	33.0	74.0	0.0
Total Split (%)	22.1%	22.1%	31.0%	17.9%	17.9%	40.7%	9.0%	37.2%	0.0%	22.8%	51.0%	0.0%
Maximum Green (s)	26.0	26.0		20.0	20.0		7.0	47.3		27.0	67.3	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	2.2		1.5	2.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0						7.0			7.0	
Flash Dont Walk (s)	18.0	18.0						28.0			28.0	
Pedestrian Calls (#/hr)	0	0						0			0	
Act Effct Green (s)	12.6	12.6	21.8	22.0	22.0	55.0	9.0	50.0		29.0	75.3	
Actuated g/C Ratio	0.10	0.10	0.16	0.17	0.17	0.42	0.07	0.39		0.22	0.58	
v/c Ratio	0.30	0.41	0.07	0.97	1.00	1.00	0.21	1.06		1.23	0.90	
Control Delay	58.8	61.8	18.7	99.2	107.6	56.2	63.2	79.6		157.4	32.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	58.8	61.8	18.7	99.2	107.6	56.2	63.2	79.6		157.4	32.5	
LOS	E	E	B	F	F	E	E	E		F	C	
Approach Delay		55.1			75.3			79.3			74.9	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	41	60	5	245	~261	530	20	~673		~504	750	
Queue Length 95th (ft)	84	111	21	#451	#478	#868	52	#859		#663	#1008	
Internal Link Dist (ft)		602			658			905			795	
Turn Bay Length (ft)												
Base Capacity (vph)	342	360	398	285	290	836	118	1333		768	2048	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.15	0.21	0.05	0.97	1.00	1.00	0.21	1.06		1.23	0.90	

Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 129.7

Natural Cycle: 145

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 75.6 Intersection LOS: E

Intersection Capacity Utilization 108.2% ICU Level of Service G

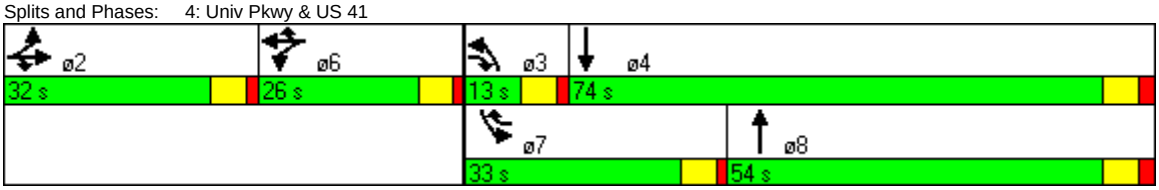
Analysis Period (min) 15

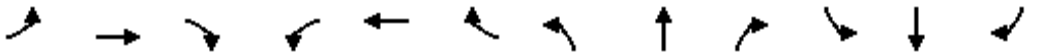
~ Volume exceeds capacity, queue is theoretically infinite.

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: 4: Univ Pkwy & US 41





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	54	2282	11	63	2599	111	5	0	47	30	0	21
Peak Hour 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
Hourly flow rate (vph)	54	2282	11	63	2599	111	5	0	47	30	0	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	2710			2293			3409	5232	766	3696	5182	922
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2710			2293			3409	5232	766	3696	5182	922
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	63			71			0	100	86	0	100	92
cM capacity (veh/h)	148			217			1	0	345	1	0	272

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	54	913	913	467	63	1040	1040	631	52	51
Volume Left	54	0	0	0	63	0	0	0	5	30
Volume Right	0	0	0	11	0	0	0	111	47	21
cSH	148	1700	1700	1700	217	1700	1700	1700	15	1
Volume to Capacity	0.37	0.54	0.54	0.27	0.29	0.61	0.61	0.37	3.56	37.33
Queue Length 95th (ft)	38	0	0	0	29	0	0	0	Err	Err
Control Delay (s)	42.7	0.0	0.0	0.0	28.3	0.0	0.0	0.0	Err	Err
Lane LOS	E				D				F	F
Approach Delay (s)	1.0				0.6				Err	Err
Approach LOS									F	F

Intersection Summary					
Average Delay	198.0				
Intersection Capacity Utilization	69.0%	ICU Level of Service		C	
Analysis Period (min)	15				

Exhibit 1B: Sample HCS Report

SHORT REPORT

General Information		Site Information	
Analyst		Intersection	*Univ Pkwy & US 41*
Agency or Co.	*2005AM_Existing Conditions*	Area Type	*All other areas*
Date Performed	*12/29/2005*	Jurisdiction	
Time Period	*5:00 pm*	Analysis Year	

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Num. of Lanes	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*2*	*0*	*2*	*2*	*0*
Lane group	*L*	*T*	*R*	*L*	*LT*	*R*	*L*	*TR*		*L*	*TR*	
Volume (vph)	*52*	*75*	*19*	*482*	*85*	*836*	*25*	*1048*	*364*	*945*	*1772*	*66*
% Heavy veh	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*	*2*
PHF	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*	*0.95*
Actuated (P/A)	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*	*A*
Startup lost time	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*	*2.0*		*2.0*	*2.0*	
Ext. eff. green	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*	*4.0*	*4.7*		*4.0*	*4.7*	
Arrival type	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*		*3*	*3*	
Unit Extension	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*		*3.0*	*3.0*	
Ped/Bike/RTOR Volume	*0*	*0*	*8*	*0*		*167*	*0*	*0*	*22*	*0*	*0*	*2*
Lane Width	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*	*12.0*		*12.0*	*12.0*	
Parking/Grade/Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*
Parking/hr												
Bus stops/hr	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*		*0*	*0*	
Unit Extension	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*	*3.0*		*3.0*	*3.0*	

Phasing	EB Only	WB Only	03	04	Excl. Left	SB Only	Thru & RT	08
Timing	G = *10.6*	G = *20.0*	G =	G =	G = *4.1*	G = *16.9*	G = *49.7*	G =
	Y = *6*	Y = *6*	Y =	Y =	Y = *6*	Y = *6*	Y = *6.7*	Y =
Duration of Analysis (hrs) = *0.25*						Cycle Length C = *132.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
Adj. flow rate	*55*	*79*	*12*	*289*	*307*	*704*	*26*	*1463*		*995*	*1932*	
Lane group cap.	*169*	*178*	*224*	*295*	*300*	*660*	*82*	*1356*		*755*	*2013*	
v/c ratio	*0.33*	*0.44*	*0.05*	*0.98*	*1.02*	*1.07*	*0.32*	*1.08*		*1.32*	*0.96*	
Green ratio	*0.10*	*0.10*	*0.14*	*0.17*	*0.17*	*0.42*	*0.05*	*0.40*		*0.22*	*0.57*	
Unif. delay d1	*55.7*	*56.4*	*49.0*	*54.8*	*55.0*	*38.5*	*60.9*	*39.8*		*51.5*	*26.9*	
Delay factor k	*0.11*	*0.11*	*0.11*	*0.48*	*0.50*	*0.50*	*0.11*	*0.50*		*0.50*	*0.47*	
Increm. delay d2	*1.1*	*1.8*	*0.1*	*46.7*	*58.1*	*54.2*	*2.2*	*48.7*		*152.3*	*12.0*	
PF factor	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	
Control delay	*56.9*	*58.2*	*49.1*	*101.4*	*113.1*	*92.7*	*63.2*	*88.5*		*203.8*	*38.9*	
Lane group LOS	*E*	*E*	*D*	*F*	*F*	*F*	*E*	*F*		*F*	*D*	
Apprch. delay	*56.9*			*99.4*			*88.1*			*95.0*		
Approach LOS	*E*			*F*			*F*			*F*		
Intersec. delay	*93.3*			Intersection LOS						*F*		

BACK-OF-QUEUE WORKSHEET

General Information

Project Description

Average Back of Queue

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Lane group	*L*	*T*	*R*	*L*	*LT*	*R*	*L*	*TR*		*L*	*TR*	
Init. queue/lane	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*		*0.0*	*0.0*	
Flow rate/lane	*55*	*79*	*12*	*289*	*307*	*704*	*26*	*1463*		*995*	*1932*	
Satflow per lane	*1770*	*1863*	*1583*	*1770*	*1799*	*1583*	*1770*	*1794*		*1770*	*1852*	
Capacity/lane	*169*	*178*	*224*	*295*	*300*	*660*	*82*	*1356*		*755*	*2013*	
Flow ratio	*0.03*	*0.04*	*0.01*	*0.16*	*0.17*	*0.44*	*0.01*	*0.43*		*0.29*	0.55	
v/c ratio	*0.33*	*0.44*	*0.05*	*0.98*	*1.02*	*1.07*	*0.32*	*1.08*		*1.32*	*0.96*	
I factor	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*	*1.000*		*1.000*	*1.000*	
Arrival type	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*3*		*3*	*3*	
Platoon ratio	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		*1.00*	*1.00*	
PF factor	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*		*1.00*	*1.00*	
Q_1	*1.9*	*2.7*	*0.4*	*10.6*	*11.3*	*25.8*	*0.9*	*28.2*		*18.8*	*35.3*	
k_B	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.7*	*0.2*	*0.7*		*0.5*	*0.9*	
Q_2	*0.1*	*0.2*	*0.0*	*3.5*	*4.5*	*10.9*	*0.1*	*12.5*		*17.3*	*8.3*	
Q avg.	*2.0*	*3.0*	*0.4*	*14.1*	*15.7*	*36.8*	*1.0*	*40.6*		*36.1*	*43.6*	

Percentile Back of Queue (95th percentile)

$f_{B\%}$	*2.0*	*2.0*	*2.1*	*1.8*	*1.8*	*1.6*	*2.1*	*1.6*		*1.6*	*1.6*	
BOQ, $Q_{\%}$	*4.1*	*6.0*	*0.8*	*25.0*	*27.5*	*58.0*	*2.1*	*63.5*		*57.1*	*67.7*	

Queue Storage Ratio

Q spacing	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*	*25.0*		*25.0*	*25.0*	
Q storage	*50*	*0*	*0*	*0*	*0*	*0*	*300*	*0*		*650*	*0*	
Avg. R_Q	*1.0*						*0.1*			*1.4*		
95% $R_{Q\%}$	*2.1*						*0.2*			*2.2*		

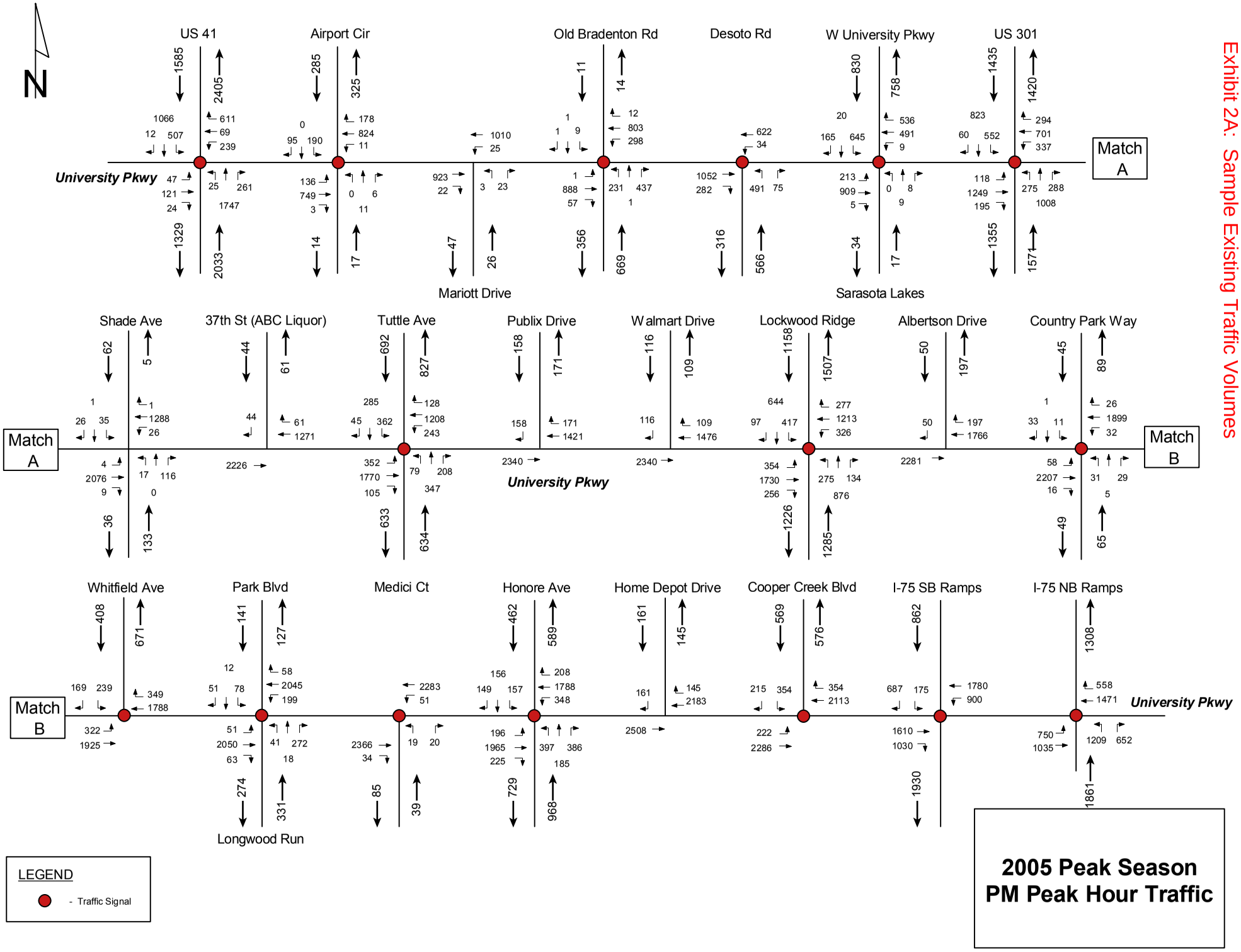


Exhibit 2A: Sample Existing Traffic Volumes

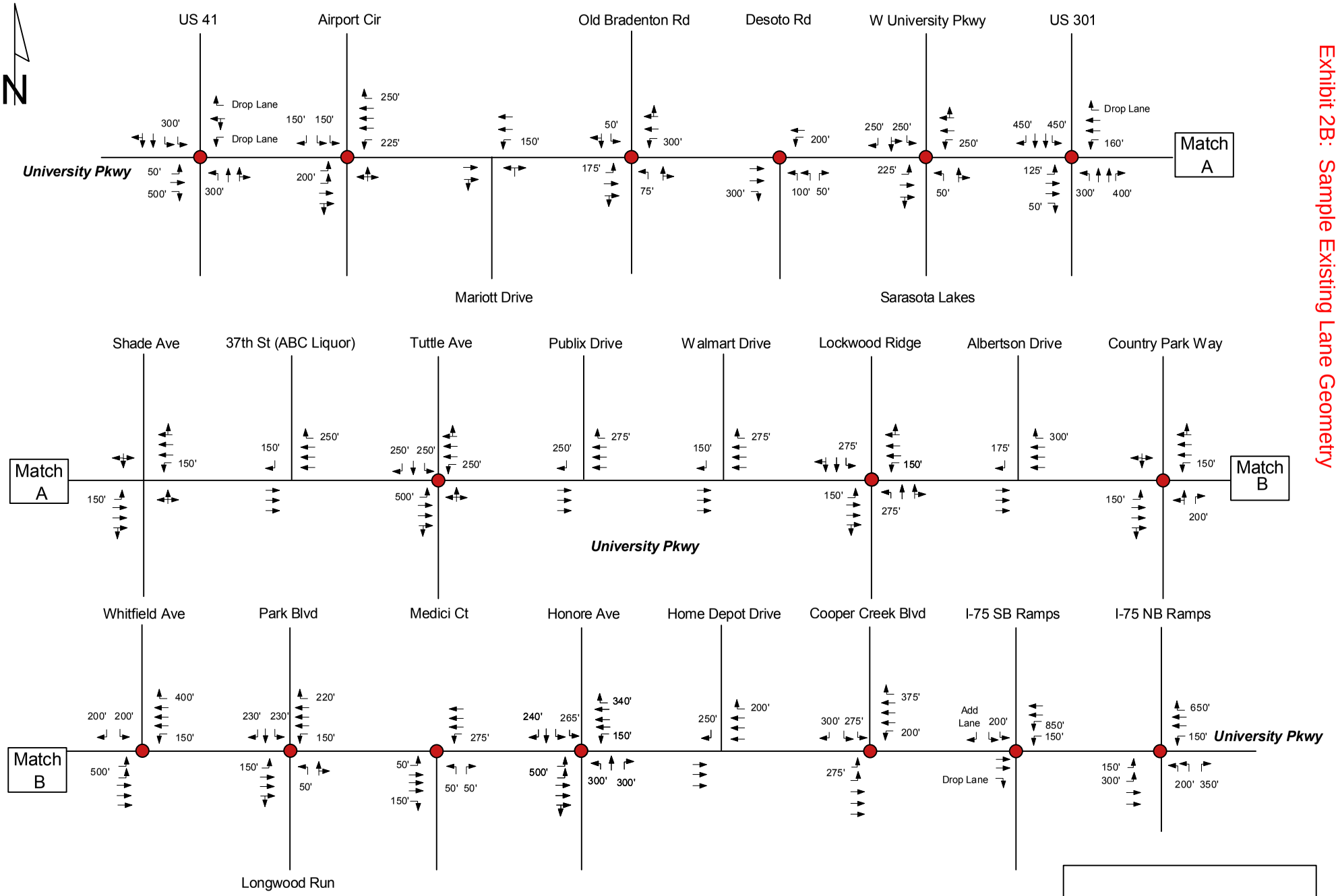


Exhibit 2B: Sample Existing Lane Geometry

Exhibit 2C: Sample Existing Traffic Volumes and Lane Geometry

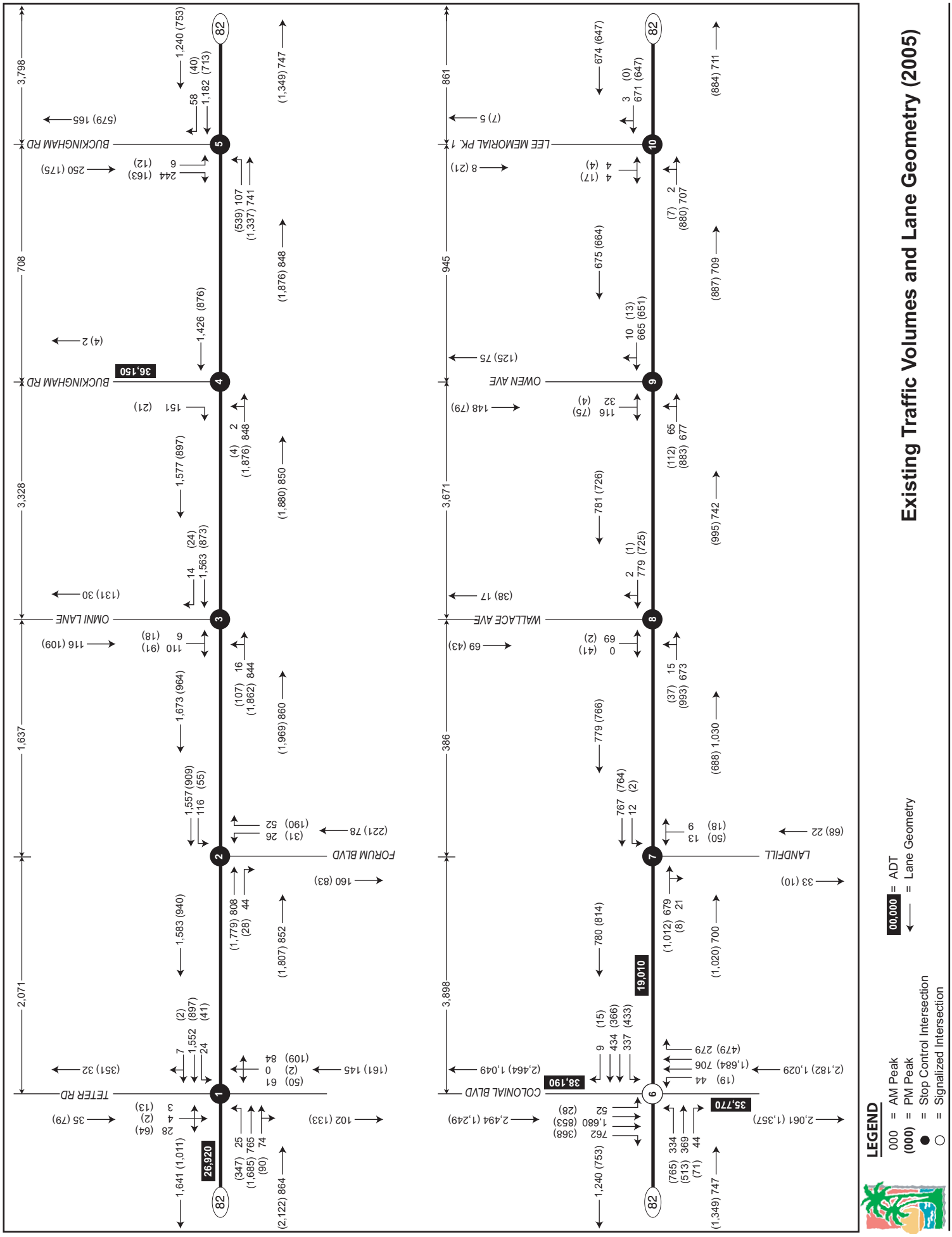


Exhibit 3: Sample Design Traffic Factors

BLE 2.ADOPTED TRAFFIC FACTORS

SR 82 Corridor Access Management Plan

Description		Factors	Time Period			
			5/2/2004 - 5/8/2004	5/9/2004 - 5/15/2004	5/16/2004 - 5/22/2004	5/23/2004 - 5/29/2004
2004 Seasonal Factors						
Lee County (SR 82)		PSCF (1)	1.04	1.05	1.07	1.10
		SF (2)	0.98	0.99	1.01	1.03
Collier County (Countywide)		PSCF (1)	1.09	1.11	1.13	1.15
		SF (2)	0.96	0.98	0.99	1.01
2004 Axle Correction Factors						
Lee County	I-75 to CR 884		0.94			
	CR 884 to Alabama Rd		0.93			
	Alabama Rd to Hendry County Line		0.89			
Collier County	Hendry County Line to SR 29		0.89			

2004 K, D, and T Factors

Description	K_{30}	D_{30}	Daily Truck T_{24}	Peak Hr Truck T_f (T_{24}/2)	FDOT Count Site
Lee County					
SR 82 between I-75 and Buckingham Rd	10.02	55.13	15.32	7.66	120064 (3)
SR 82 between Buckingham Rd and Colonial Blvd	10.02	55.13	9.91	4.96	120021 (3)
SR 82 between Colonial Blvd and Gunnery Rd	10.02	55.13	8.70	4.35	120077 (3)
SR 82 between Gunnery Rd and Alabama Road	10.02	55.13	10.25	5.13	120101 (3)
SR 82 between Alabama Road and Bell Blvd	10.02	55.13	18.91	9.46	120068 (3)
Collier County					
SR 82 between Bell Blvd and South Church Road	10.47	54.99	9.45	4.73	030183 (3)
SR 82 between South Church Road and SR 29	10.47	54.99	18.64	9.32	030200 (4)
SR 29 south of SR 82	10.47	54.99	14.00	7.00	030143 (4)

(1) PSCF = Peak Season Conversion Factor (2) SF = Seasonal Factor

(3) Prior Year Data (4) Actual Data

Source: 2004 Traffic Information CD

Exhibit 4A: Sample Trip Generation

TABLE XX: TRIP GENERATION (BASED ON INTERNAL CAPTURE & PASS-BY RATES)

PASS-BY RATE (DAILY) = **15%**

PASS-BY RATE (PM PEAK) = **25%**

LAND-USE (CODE)	UNIT	SIZE	TOTAL TRIPS (1)				INTERNAL CAPTURE TRIPS (2)				PASS-BY TRIPS (3)				NET (NEW) TRIPS				FINAL TRIP GEN. RATES	
			DAILY	PM PK-HR			DAILY	PM PK-HR			DAILY	PM PK-HR			DAILY	PM PK-HR				
			(2-WAY)	ENTER	EXIT	(2-WAY)	(2-WAY)	ENTER	EXIT	(2-WAY)	(2-WAY)	ENTER	EXIT	(2-WAY)	(2-WAY)	ENTER	EXIT	(2-WAY)	DAILY	PM-PK HR
RETAIL (820)	SQ. FEET	200,000	10,656	475	514	989	507	9	50	59	1,522	116	116	232	8,627	350	348	698	53.28	4.95
OFFICE (710)	SQ. FEET	120,000	1,535	36	177	213	304	21	10	31	0	0	0	0	1,231	15	167	182	12.79	1.78
RESIDENTIAL (221) (MULTI-FAMILY)	DWELLING UNITS	200	1,412	81	43	124	293	34	4	38	0	0	0	0	1,119	47	39	86	7.06	0.62
TOTAL			13,603	592	734	1,326	1,104	64	64	128	1,522	116	116	232	10,977	412	554	966		

(1) Total trips were determine based on the trip rates contained in the ITE Trip Generation, 7th Edition.

(2) Internal trips were obtained from the internal capture calculations.

(3) As per ITE Trip Generation 7th Edition, page 46, a retail center has an average pass-by capture of 34%. Using the ITE Equation Ln(T)= -0.29Ln(X)+5.0 results in 32% pass-by capture. As per FDOT's Traffic Impact Handbook, the total pass-by trips should not exceed 25% of the project's external trips and 10% of the adjacent street traffic. Hence, the pass-by rate was reduced to 15% and 25% for daily and PM peak hour, respectively. The entering pass-by trips should be equal to the exiting pass-by trips and in the same direction as the entering pass-by trips i.e. if 20 pass-by trips heading EB entered the project driveway, 20 pass-by trips should exit the project driveway to go EB.

Land Use Code 820: Daily Trip Generation Ln(T) = 0.65 Ln(X)) + 5.83 PM Peak Hour of Adjacent Street Traffic Ln(T) = 0.66 Ln(X) + 3.40 with 48% Entering and 52% Exiting.

Land Use Code 710: Daily Trip Generation Ln(T) = 0.77 Ln(X)) + 3.65 PM Peak Hour of Adjacent Street Traffic T = 1.12(X) + 78.81 with 17% Entering and 83% Exiting.

Land Use Code 221: Daily Trip Generation T=5.12(X) + 387.53 PM Peak Hour of Adjacent Street Traffic Ln(T) = 0.88 Ln(X) + 0.16 with 65% Entering and 35% Exiting.

Figure 3.1 Recommended Procedure for Selecting Between *Trip Generation* Average Rates and Equations

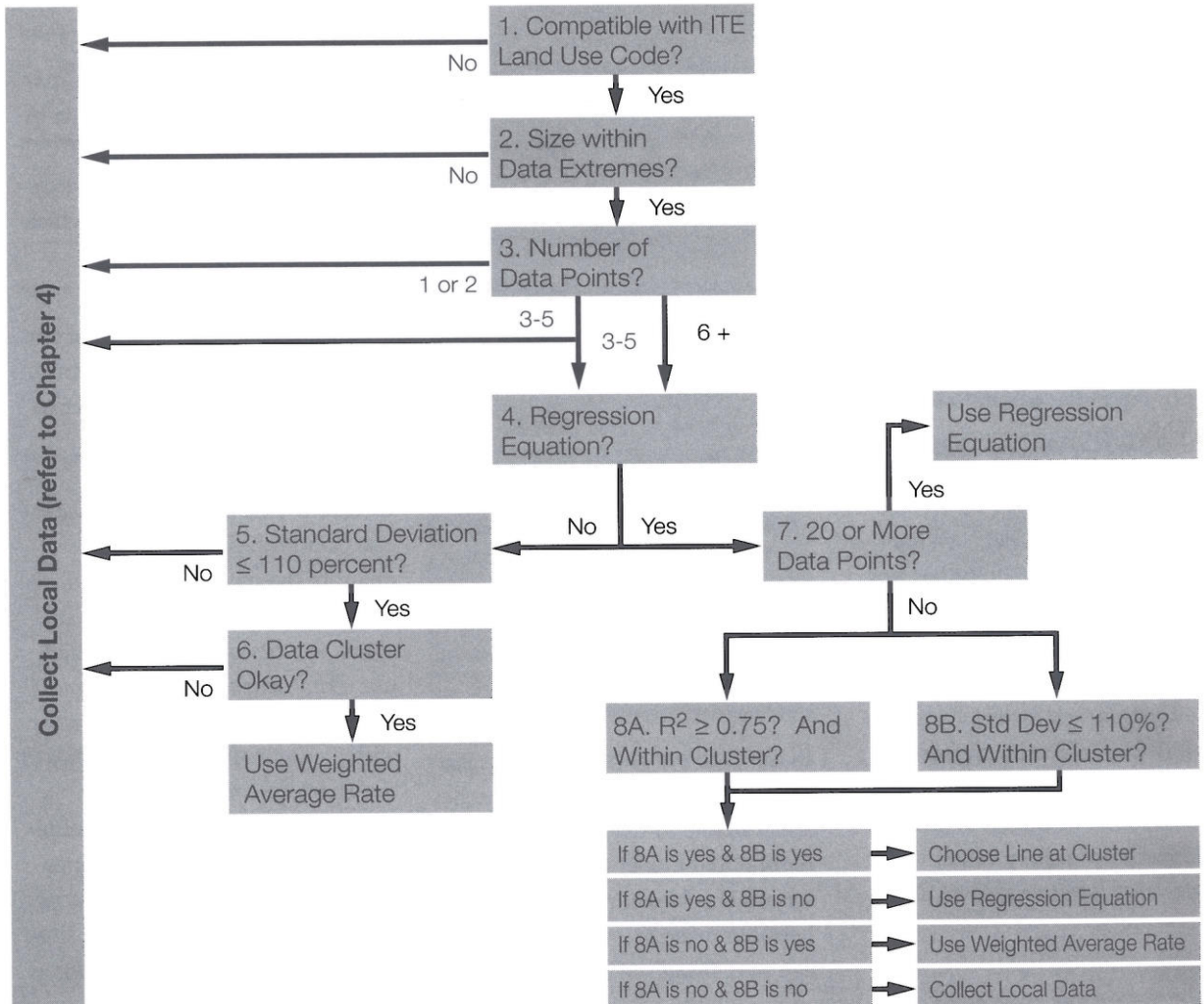
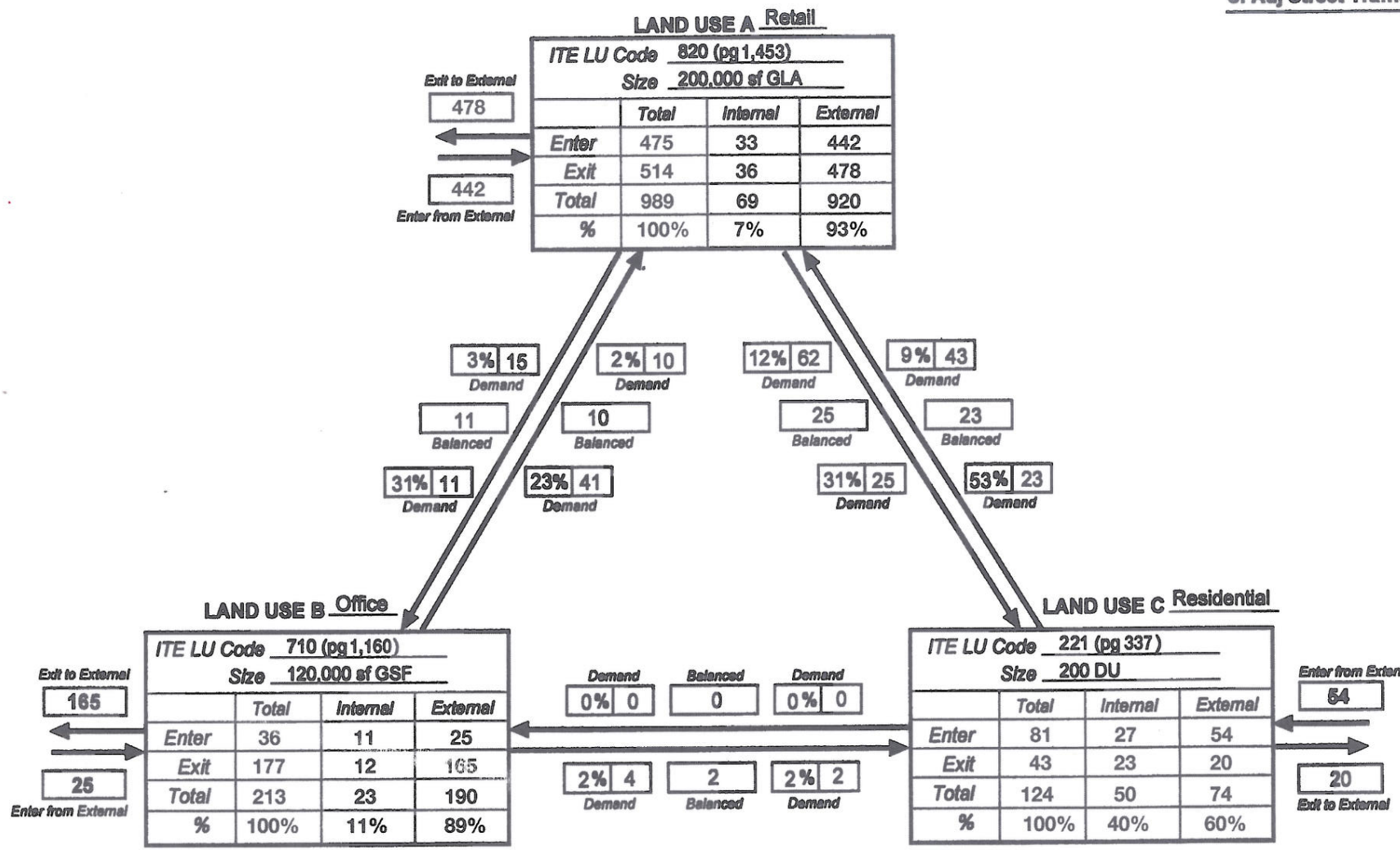


Exhibit 4B: Recommended Procedure for Selecting Between Trip Generation Average Rates and Equations (Figure 3.1, Page 10 of ITE Trip Generation Handbook)

Figure 7.5 Steps 7-9 for Multi-Use Trip Generation Calculation Sample Problem

Analyst _____
Date _____

Name of Dvlpt _____
Time Period PM Peak Hour of Adj Street Traffic



	Total	Internal	External
Enter	475	33	442
Exit	514	36	478
Total	989	69	920
%	100%	7%	93%

	Total	Internal	External
Enter	36	11	25
Exit	177	12	165
Total	213	23	190
%	100%	11%	89%

	Total	Internal	External
Enter	81	27	54
Exit	43	23	20
Total	124	50	74
%	100%	40%	60%

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	TOTAL
Enter	442	25	54	521
Exit	478	165	20	663
Total	920	190	74	1184
Single-Use Trip Gen. Est.	989	213	124	1326

Source: Kaku Associates, Inc.

INTERNAL CAPTURE 11%

Exhibit 5A: Sample ITE Internal Capture (Fig 7.5 Page 93, ITE Trip Generation Handbook)

TABLE XX: INTERNAL CAPTURE

Exhibit 5B: Sample Internal Capture

INTERNAL CAPTURE RATES

FROM ORIGIN LAND-USES (EXIT)	TO DESTINATION LAND-USE (ENTER)					
	RETAIL		OFFICE		RESIDENTIAL	
	DAILY	PM PK-HR	DAILY	PM PK-HR	DAILY	PM PK-HR
RETAIL	0.0%	0.0%	2.0%	2.0%	2.0%	3.0%
OFFICE	3.0%	3.0%	0.0%	0.0%	2.0%	2.0%
RESIDENTIAL	2.5%	2.5%	1.0%	1.0%	0.0%	0.0%

INTERNAL CAPTURE TRIPS

FROM ORIGIN LAND-USES (EXIT)			TO DESTINATION LAND-USE (ENTER)						ORIGIN TOTAL		% Internal Capture		
			RETAIL		OFFICE		RESIDENTIAL						
			DAILY	PM PK-HR	DAILY	PM PK-HR	DAILY	PM PK-HR	DAILY	PM PK-HR	DAILY	PM PK-HR	PK DIR
DAILY	PM PK	PK DIR*											
RETAIL													
10,656	989	514	0	0	213	20	213	30	426	50	4.8%	6.0%	9.7%
OFFICE													
1,535	213	177	46	6	0	0	31	4	77	10	19.8%	14.6%	5.6%
RESIDENTIAL													
1,412	124	43	35	3	14	1	0	0	49	4	20.8%	30.6%	9.3%
DESTINATION			81	9	227	21	244	34	552	64			
TOTAL									552	64			
13,603	1,326	734							1104	128			

* Although the PM peak direction trips for residential land-use are the vehicles entering the development, the overall PM peak direction trips for the development are the vehicles exiting the development.

Note: The interaction between same land uses (office and office, retail and retail, etc.) has not been considered here. This interaction is anticipated to further increase the internal capture than shown on these tables.

INTERNAL % OF TOTAL TRIPS = 8.12% 9.65%

FIGURE XX: PM PEAK HOUR INTERNAL CAPTURE BUBBLE DIAGRAM

Total Peak Hour Trips =	1,326
Total Trips at External Driveway =	1,198
Total Internal Trips =	128
% Internalization =	**9.65%**

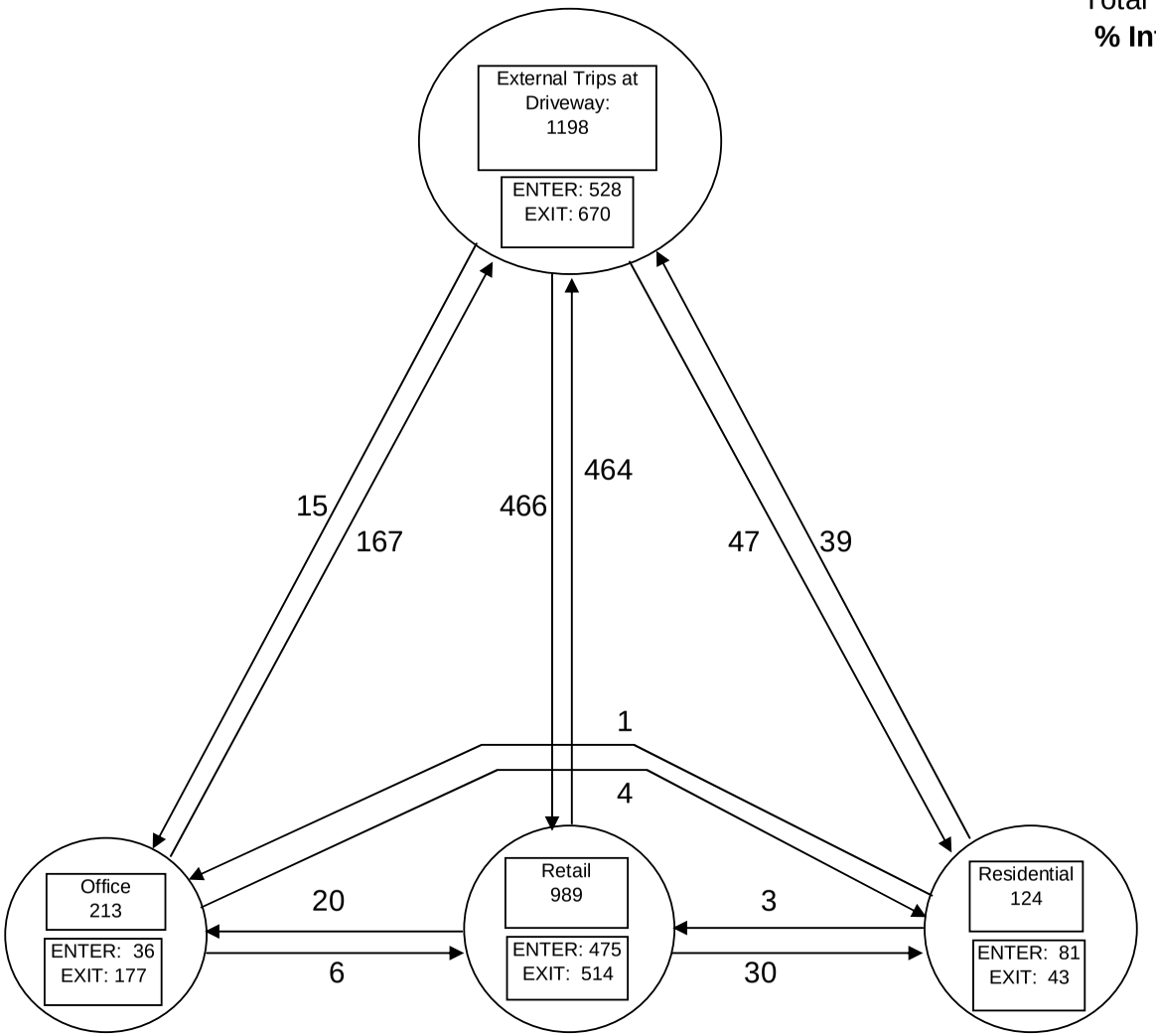


Exhibit 5C: Sample Internal Capture Bubble Diagram

Exhibit 6A: Pass-By Capture FDOT Guidelines

When considering pass-by trips, the distribution of driveway volumes may change and be related to the street traffic. The analysis of pass-by trips should occur in two steps: (1) determine the number of new trips and pass-by trips for the site, then (2) assign the pass-by trips in proportion to the street traffic and the driveways and then assign the new trips in accordance with standard trip distribution procedures.

The pass-by trips estimated in the trip generation step are preliminary. Final pass-by trips are estimated following assignment when the number of pass-by trips considered can be compared with the total traffic on the facility.

In general, the number of pass-by trips should not exceed 10 percent of the adjacent street traffic during the peak hour or 25 percent of the project's external trip generating potential.

Diverted trips, like pass-by trips, are not new to the system overall; however, diverted trips are now utilizing a segment of the transportation system that they previously were not using to access the proposed development site. The new roads a diverted trip uses may or may not have direct access to the proposed development site. Facilities that receive diverted trips may require analysis of the impacts of the development trips. An example of a diverted trip is provided on Figure 21.

With diverted trips, the total driveway volumes are not reduced. Diverted trips are counted as new trips where they travel on segments required to reach the site where they previously did not travel.

ITE proposes the following methodology for estimating the percent of pass-by and diverted trips.

$$N_{pb} = p(VOL_{Pb})$$
$$N_D = p(VOL_D)$$

Where:

p = probability of a driver already in the traffic stream, stopping at the generator, $0 \geq p \geq 1$

VOL_{Pb} = volume available to produce pass-by trips

VOL_D = volume on other streets available to produce diverted trips

Average daily pass-by trip percentages trip and diverted trip percentages are provided as a function of GLA and average daily traffic on the adjacent roadways for several shopping centers in ITE's *Trip Generation* for shopping centers (ITE: *Trip Generation*, p. I-24-36). Peak-hour percentages are suggested to be 10 percent less than these daily percentages.

The percentage of pass-by trips in the PM peak hour for shopping centers is provided in Figure VII-1A and using the following equation in ITE's *Trip Generation*.

$$Ln\ (P_{PB}) = -0.341\ Ln\ (X) + 5.376$$

Where:

P_{PB} = percent pass-by

X = 1,000 GLA of shopping center

The PM peak-hour, pass-by trip percentages are usually 10 percent greater than in other times during day. (ITE: *Trip Generation*, p. I-23).

In all cases, pass-by and diverted trip rates must be justified by the applicant and approved by the Department prior to use.

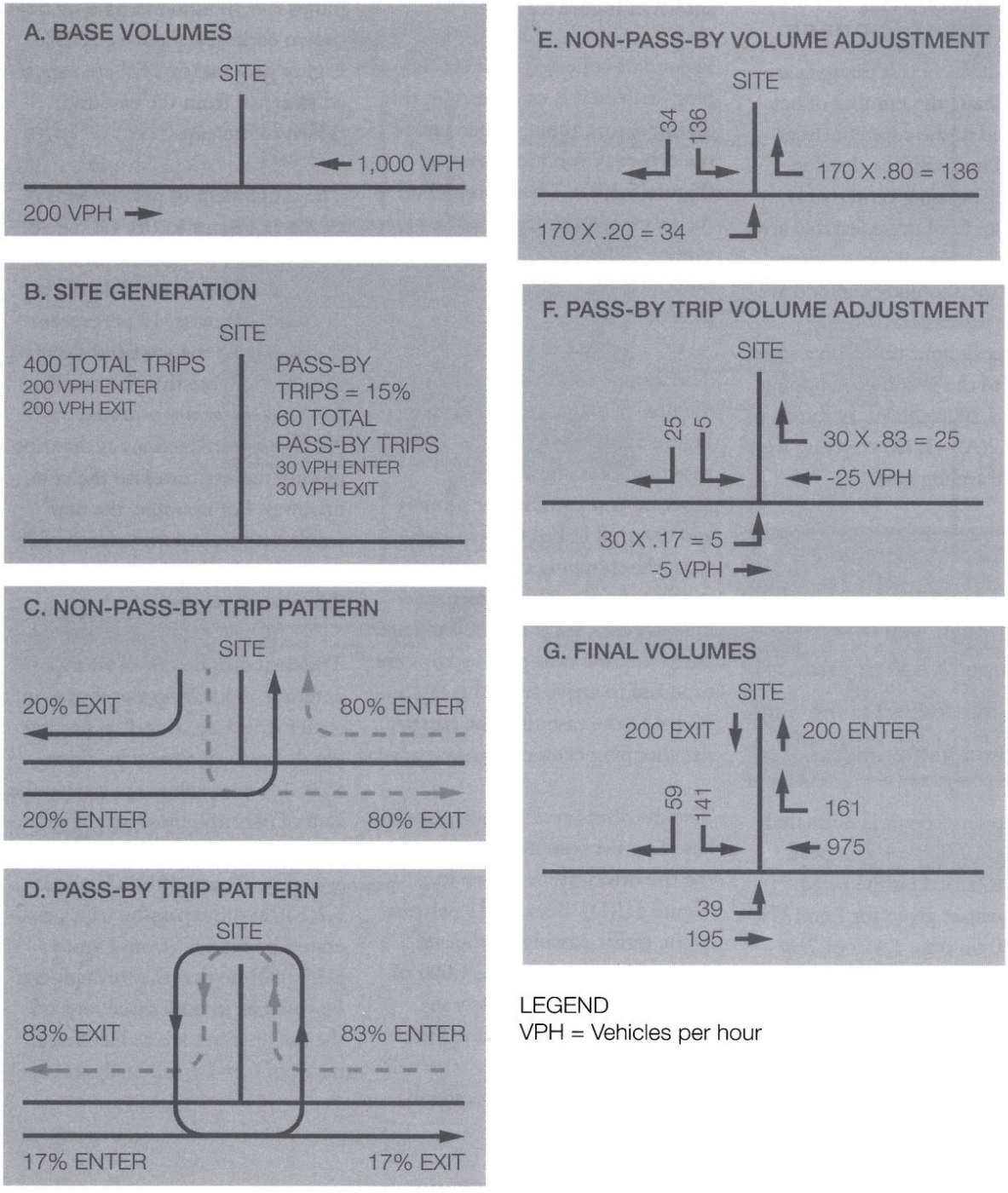
When retail land uses are involved with a mixed-use development that attracts pass-by traffic, each land use must be analyzed separately using the following procedure:

1. Estimate the peak-hour, pass-by trip percentage for each retail parcel (shopping centers, convenience store, gas station, etc.) within the development. ITE's *Trip Generation* (page I-21) provides guidance on this step. The estimated pass-by trip percentage depends on the retail site's square footage.

2. Some of the pass-by trips will likely proceed to (or come from) other proposed development project land uses for their primary destinations. These trips cannot be claimed as pass-by trips to be reduced from total project trip generation because they are new trips generated by the project. Trips between the commercial parcel and other project land uses are internal trips.

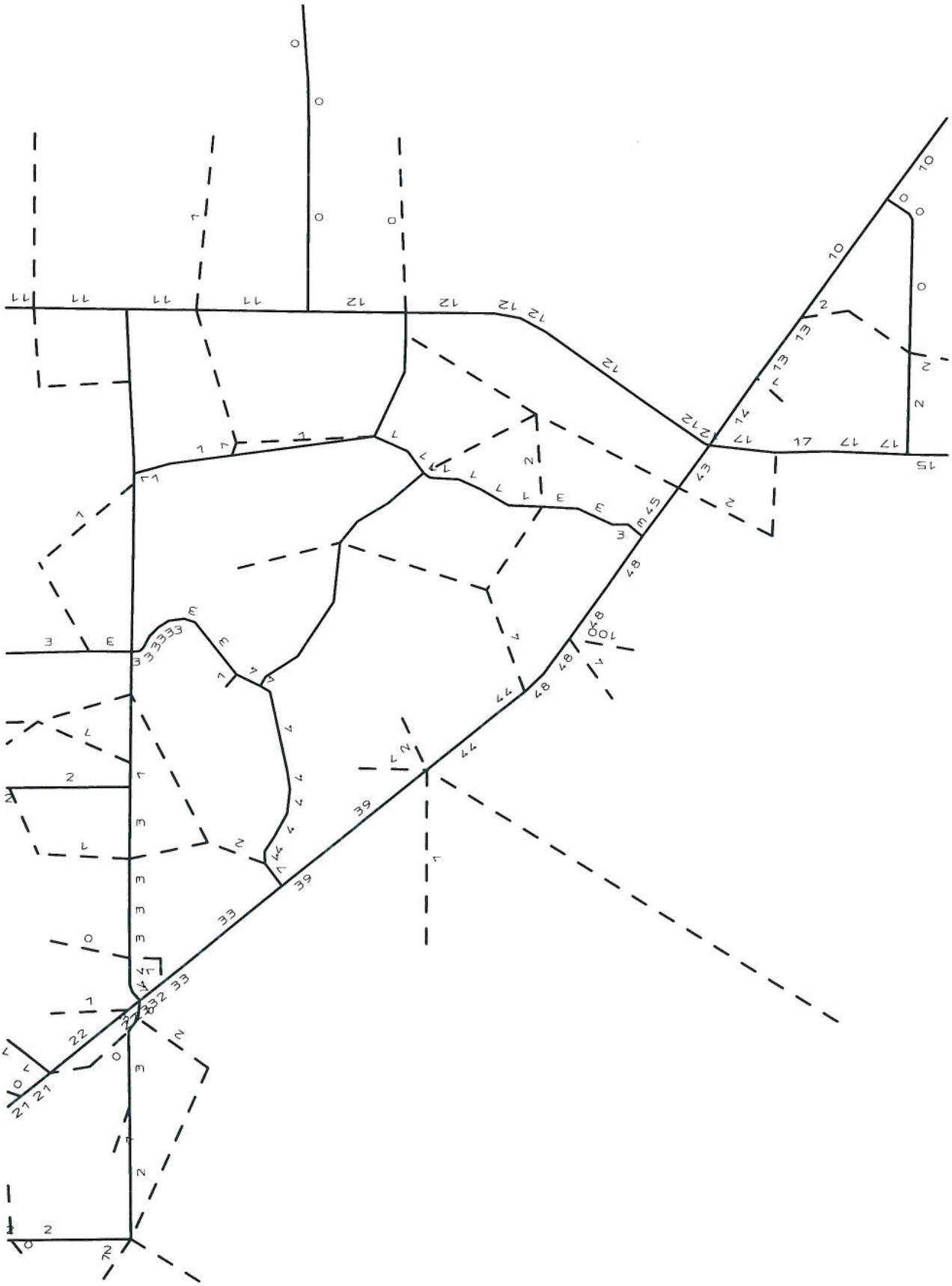
Exhibit 6B: Sample ITE Pass-By Application (Fig 5.2 Page 30, ITE Trip Generation Handbook)

Figure 5.2 Application of Pass-By Trips



LEGEND
VPH = Vehicles per hour

Exhibit 7A: Sample Trip Distribution From Travel Demand Model



Barefoot Plaza Site (2015 Interim Model w/ 2009zdata)
Select Zone Plot (TAZ 965)
Plotted as Distribution of Project Traffic (%)
11JUL06 07:56:44

Exhibit 7B: Sample Total Project Trip Distribution

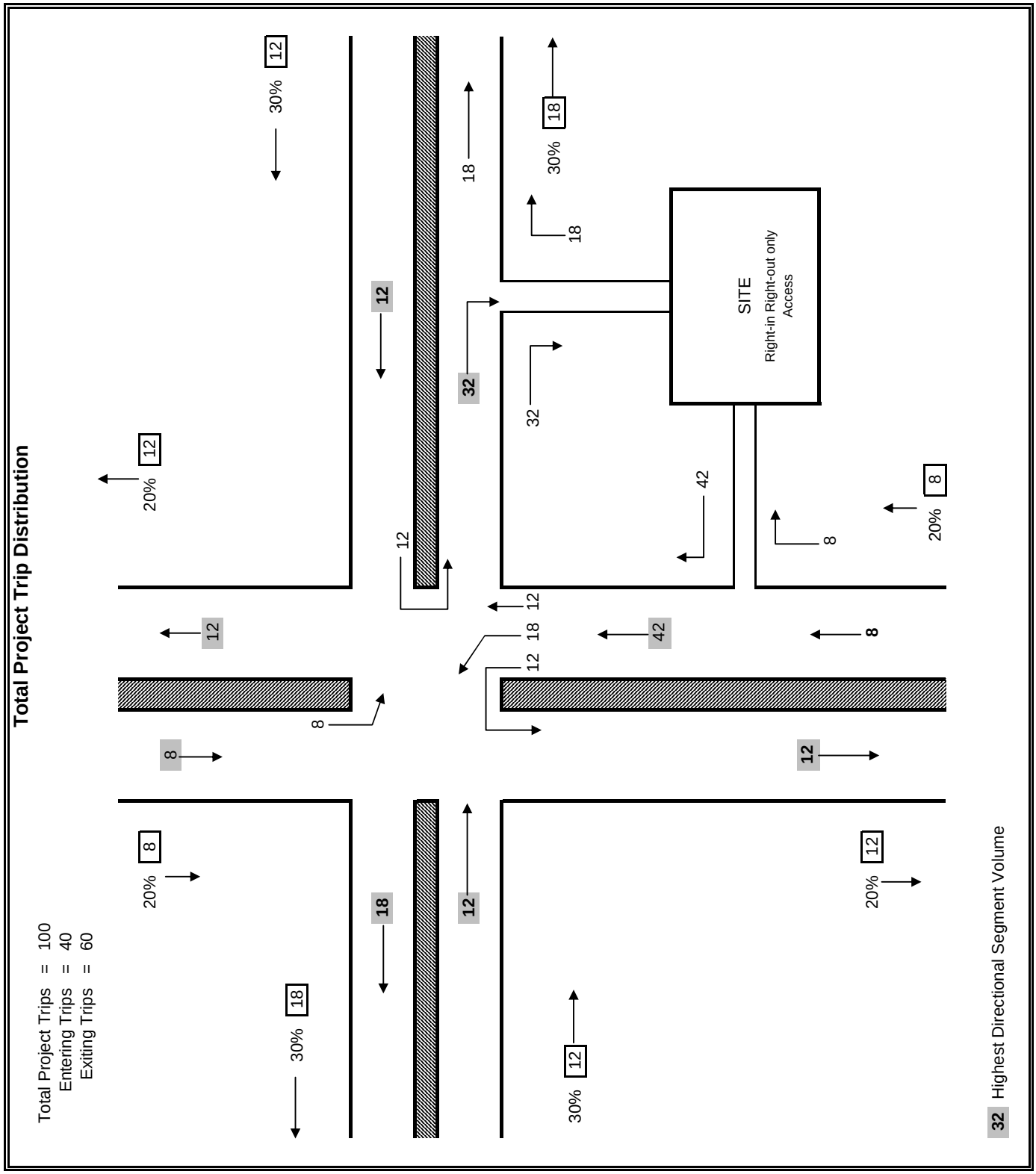


Exhibit 7C: Sample Net New Project Trips Distribution

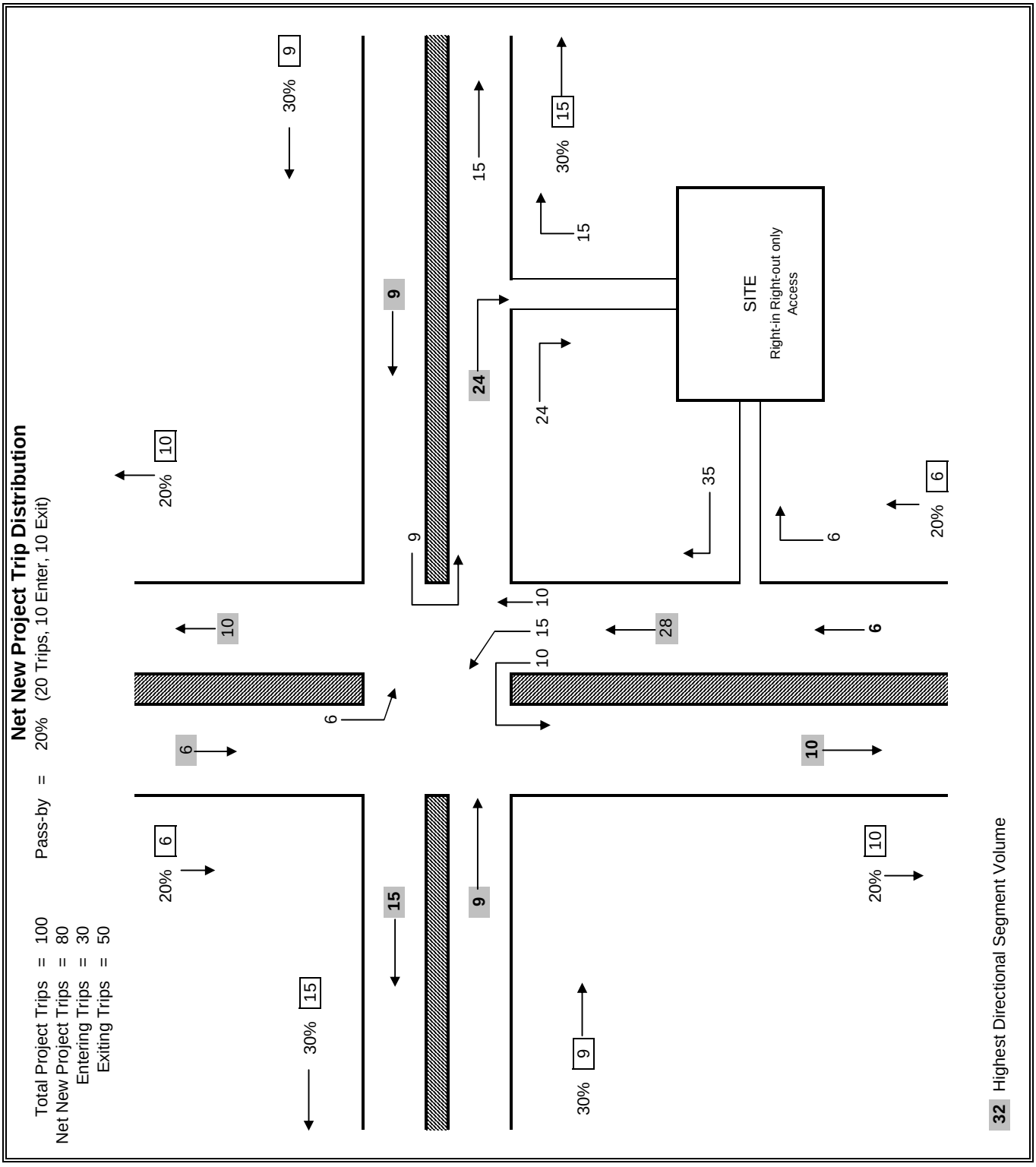


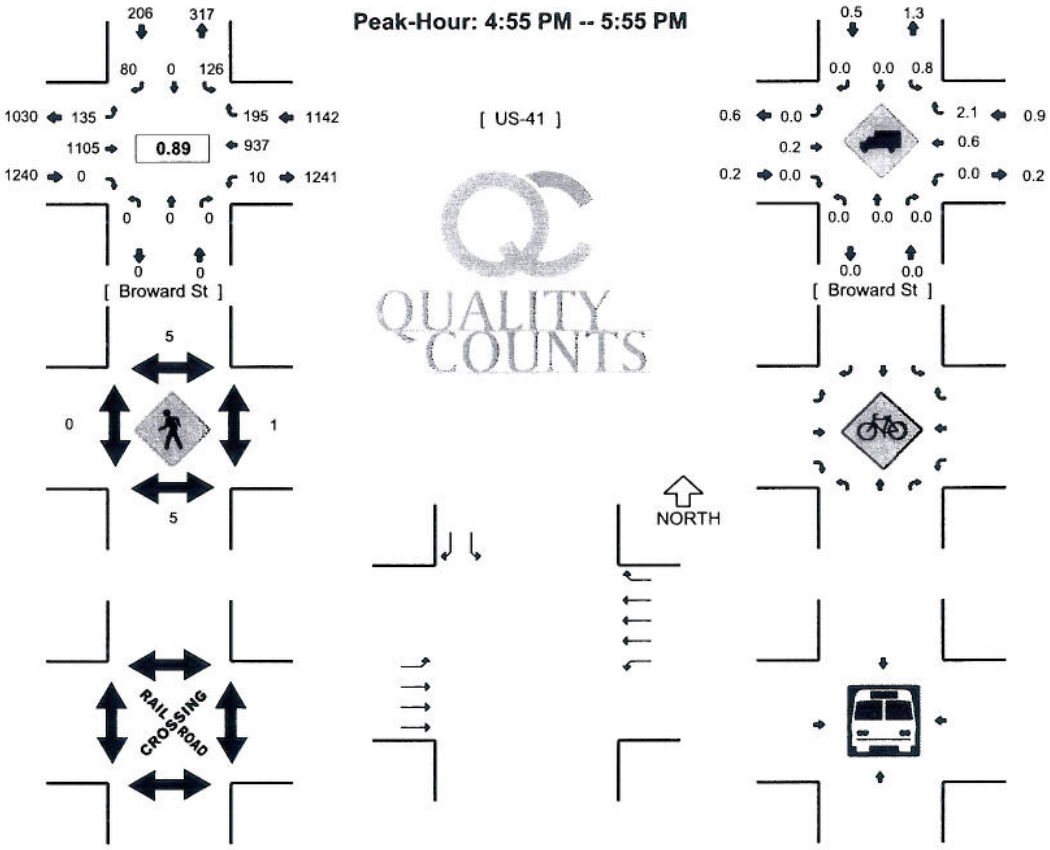
Exhibit 8A: Sample Existing TMC Summary 1

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

INTERSECTION: Broward St--US-41
WEATHER:

QC JOB #: 10177101
DATE: 6/28/2006



*SEE LEGEND SHEET

5-MIN COUNT PERIOD BEGINNING AT	Broward St (Northbound)				Broward St (Southbound)				US-41 (Eastbound)				US-41 (Westbound)				TOTAL	HOURLY TOTALS
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	14	0	7	0	10	68	0	2	0	86	24	1	212	
4:05 PM	0	0	0	0	8	0	8	0	4	81	0	1	0	84	19	2	207	
4:10 PM	0	0	0	0	8	0	2	0	4	85	0	0	0	80	16	0	195	
4:15 PM	0	0	0	0	9	0	1	0	6	80	0	0	0	80	28	0	204	
4:20 PM	0	0	0	0	11	0	6	0	7	70	0	1	0	69	17	0	181	
4:25 PM	0	0	0	0	7	0	3	0	16	93	0	1	0	86	9	1	216	
4:30 PM	0	0	0	0	12	0	4	0	6	78	0	0	0	83	12	0	195	
4:35 PM	0	0	0	0	13	0	5	0	8	69	0	0	0	76	16	0	187	
4:40 PM	0	0	0	0	15	0	2	0	15	100	0	1	0	78	16	1	228	
4:45 PM	0	0	0	0	11	0	3	0	3	85	0	2	0	80	17	1	202	
4:50 PM	0	0	0	0	10	0	5	0	4	65	0	0	0	71	8	2	165	
4:55 PM	0	0	0	0	9	0	10	0	8	85	0	0	0	80	13	2	207	2399
5:00 PM	0	0	0	0	14	0	8	0	13	86	0	0	0	71	9	0	201	2388
5:05 PM	0	0	0	0	7	0	8	0	5	77	0	1	0	93	14	0	205	2386
5:10 PM	0	0	0	0	13	0	6	0	15	110	0	0	0	74	24	2	244	2435
5:15 PM	0	0	0	0	9	0	7	0	11	106	0	2	0	82	9	0	226	2457
5:20 PM	0	0	0	0	12	0	3	0	13	114	0	0	0	90	23	0	255	2531
5:25 PM	0	0	0	0	10	0	3	0	8	92	0	2	0	70	24	4	213	2528
5:30 PM	0	0	0	0	12	0	5	0	7	84	0	2	0	96	13	1	220	2553
5:35 PM	0	0	0	0	13	0	9	0	12	88	0	1	0	67	19	1	210	2576
5:40 PM	0	0	0	0	13	0	12	0	8	76	0	1	0	70	20	0	200	2548
5:45 PM	0	0	0	0	4	0	6	0	9	87	0	2	0	68	13	0	189	2535
5:50 PM	0	0	0	0	10	0	3	0	13	100	0	2	0	76	14	0	218	2588
5:55 PM	0	0	0	0	10	0	8	0	15	77	0	6	0	52	12	0	180	2561

PEAK 15-MIN FLOW RATES	Northbound				Southbound				Eastbound				Westbound				TOTAL
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	136	0	64	0	156	1320	0	8	0	984	224	8	2900
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	12	8		24
Pedestrians		4				0				0				0			4
Bicycles																	
Railroad																	
Stopped Buses																	

Counter Comments:

Report generated on 7/10/2006

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net)

Kimley-Horn and Associates, Inc.
1227 Del Prado Boulevard Suite 203
Cape Coral, Florida 33990

Intersection: US 41 & Barefoot Williams
City/County: Naples/Collier
Counted By: KHA

File Name : untitled1
Site Code : 00000001
Start Date : 07/11/2006
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

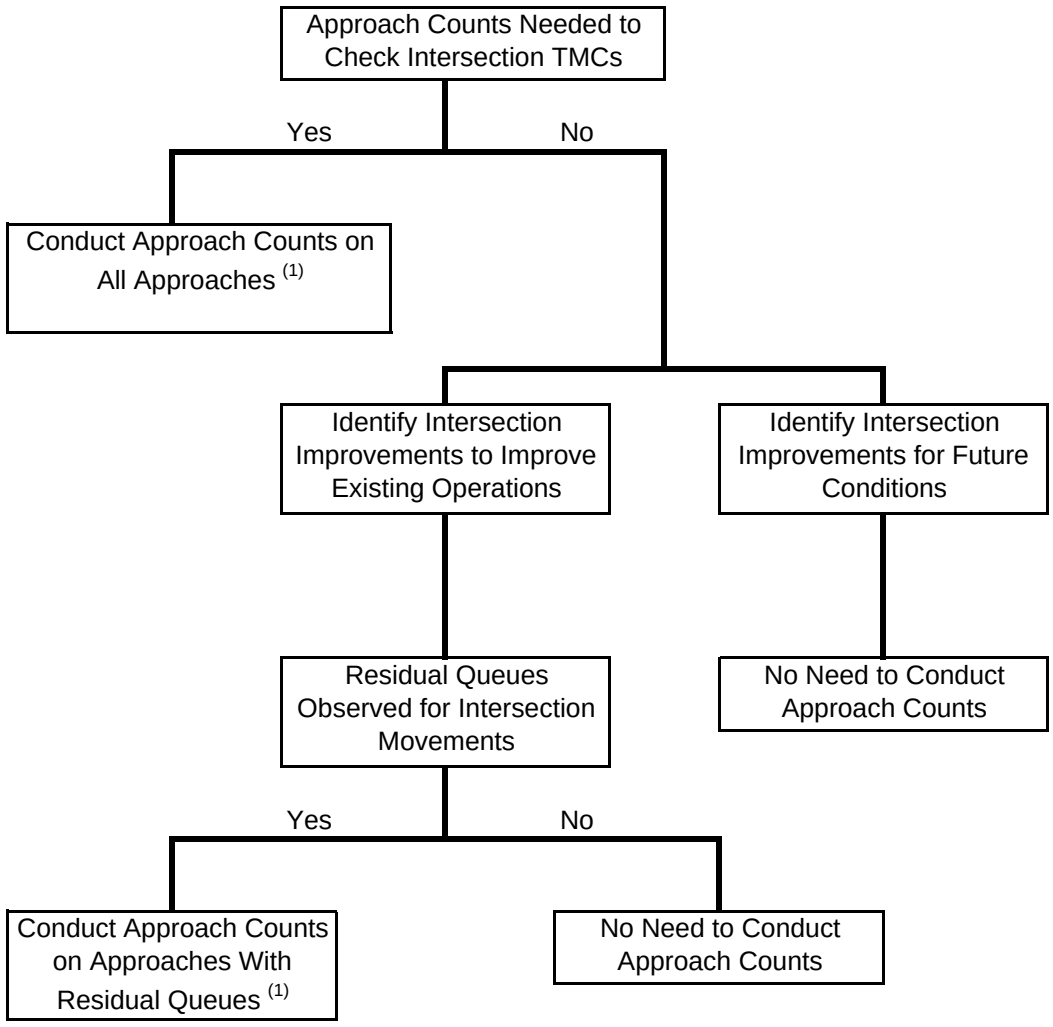
	US 41 Southbound			Eagle Lakes Park Entrance Westbound			US 41 Northbound			Barefoot Williams Rd Eastbound						
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Right	App. Total	Left	Thru	Right	App. Total	Exclu. Total	Inclu. Total	Int. Total
Factor	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0				
05:00 PM	17	12	29	3	2	5	10	0	10	16	0	6	22	0	66	66
05:15 PM	10	10	20	0	3	3	14	0	14	9	0	5	14	0	51	51
05:30 PM	16	8	24	0	4	4	8	1	9	11	0	4	15	0	52	52
05:45 PM	13	13	26	0	2	2	3	3	6	7	0	4	11	0	45	45
Total	56	43	99	3	11	14	35	4	39	43	0	19	62	0	214	214
Grand Total	56	43	99	3	11	14	35	4	39	43	0	19	62	0	214	214
Apprch %	56.6	43.4		21.4	78.6		89.7	10.3		69.4		30.6				
Total %	26.2	20.1	46.3	1.4	5.1	6.5	16.4	1.9	18.2	20.1		8.9	29.0	0.0	100.0	

	US 41 Southbound			Eagle Lakes Park Entrance Westbound			US 41 Northbound			Barefoot Williams Rd Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Right	App. Total	Left	Right	App. Total	Int. Total
Peak Hour From 05:00 PM to 05:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	56	43	99	3	11	14	35	4	39	43	19	62	214
Percent	56.6	43.4		21.4	78.6		89.7	10.3		69.4	30.6		
05:00 Volume	17	12	29	3	2	5	10	0	10	16	6	22	66
Peak Factor													0.811
High Int.	05:00 PM			05:00 PM			05:15 PM			05:00 PM			
Volume	17	12	29	3	2	5	14	0	14	16	6	22	
Peak Factor			0.853			0.700			0.696			0.705	

Exhibit 8B: Sample Existing TMC Summary 2

Exhibit 8C: When To Use Approach Counts to Develop Intersection TMCs

When To Use Approach Counts to Develop Intersection TMCs



(1) The approach volume for the peak hour of the intersection should be used to develop approach turning movement volumes based on the approach turning movement percentages. This should be done for approaches with residual queue build-up during peak hours. The approach count machines should be placed at a location where the queues would not extend past the count machines.

Exhibit 9: Sample Growth Rate Estimation

Project:	Barefoot Plaza	**Volume Source #1:**	US 41 east of Rattlesnake Hammock Road
Location:	Collier County	**Volume Soruce #2:**	
Date:	7/10/2006	**Volume Source #3:**	
Analyst:	KHA	**Volume Source #4:**	
Notes:		**Volume Source #5:**	

Line	Month	Year	Volume Source #1	Volume Source #2	Volume Source #3	Volume Source #4	Volume Source #5	Average Volume
1								
2		2004	37973	27758				32866
3		2003	36199	27069				31634
4		2002	36301	26082				31192
5								
6								
7								
8								
9								
10								

INPUT DATA				OUTPUT DATA			
Line	Month	Year	Aggregate Traffic Volume	Line	Month	Year	Best Fit Volume Trend
1				1			
2		2004	32866	2		2004	32734
3		2003	31634	3		2003	31897
4		2002	31192	4		2002	31060
5				5			
6				6			
7				7			
8				8			
9				9			
10				10			

Slope:	837
Intercept:	-1644614
R^2:	0.931
Standard Error:	322

Exponential Growth Rate: **2.66%**

Future = Existing (1+Growth)^N

Linear Growth Rate: **2.69%**

Future = Existing (1+Growth*N)

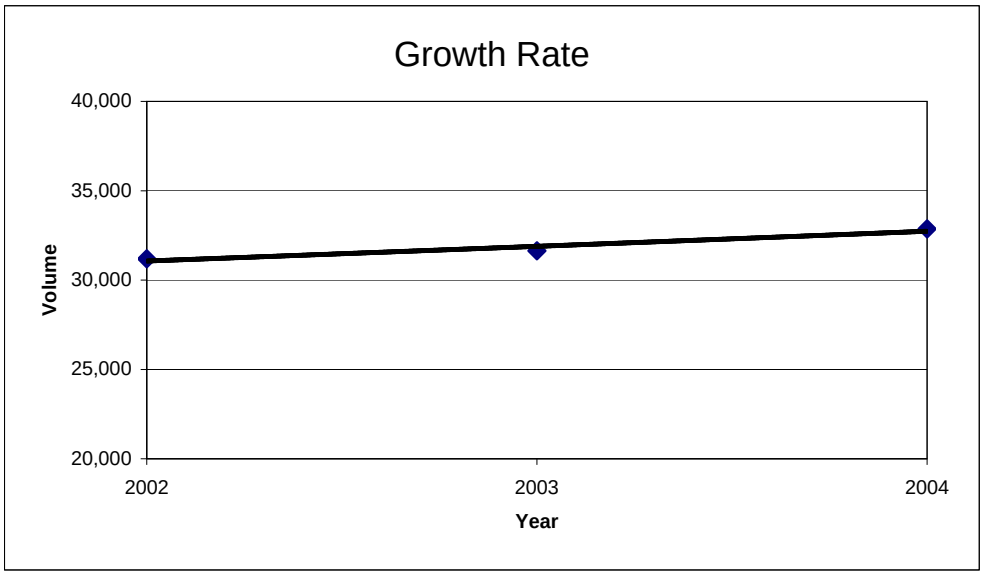


Exhibit 10: Sample Future Intersection Traffic Volume Development Using Growth Rate

INTERSECTION TRAFFIC VOLUME DEVELOPMENT

U.S. 41 & Broward Street

TRAFFIC CONTROL: Signalized
COUNT DATE: June 28, 2006
TIME PERIOD: 4:55 p.m. - 5:55 p.m.
PEAK HOUR FACTOR: 0.89

"EXISTING TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Raw Turning Movement Counts	135	1,105			937	195				126		80
Peak-Season Correction Factor	1.22	1.22			1.22	1.22				1.22		1.22
2006 PEAK-SEASON VOLUMES	**165**	**1,348**			**1,143**	**238**				**154**		**98**

"NON-PROJECT TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
TOTAL VESTED TRAFFIC	0	437			437	0				0		0
Years To Buildout (2009)	3	3			3	3				3		3
Yearly Growth Rate	2.0%	2.0%			2.0%	2.0%				2.0%		2.0%
BACKGROUND TRAFFIC GROWTH	10	83			70	15				9		6
2009 NON-PROJECT TRAFFIC	**175**	**1,868**			**1,650**	**253**				**163**		**104**

"PROJECT TRAFFIC"

LAND U.S.E	TYPE	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Barefoot Plaza	Pass - By												
	New		14			51	5				1		
TOTAL PROJECT TRAFFIC		**0**	**14**			**51**	**5**				**1**		**0**

"TOTAL TRAFFIC"	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
2009 TOTAL TRAFFIC	**175**	**1,882**			**1,701**	**258**				**164**		**104**