

ACADIAN / PERKINS IMR

CHAPTER 2 APP B

Existing Conditions Analysis

DRAFT

URBAN SYSTEMS inc.



Table 2-1
Capacity Analysis
Existing Conditions- Intersection Analysis

Location	AM			PM		
	Delay (sec)	V/C Ratio	95 th % Queues (ft)*	Delay (sec)	V/C Ratio	95 th % Queues (ft)*
Acadian Thruway at I-10 Westbound Ramps	21.3			20.3		
<i>Acadian Thruway Northbound</i>	11.5	0.74	138	11.9	0.78	123
<i>Acadian Thruway Southbound</i>	14.3	0.54	370	14.2	0.59	418
<i>I-10 Off Ramp Westbound</i>	42.0	0.82	350	42.4	0.81	313
Acadian Thruway at I-10 Eastbound Ramps	16.7			15.1		
<i>Acadian Thruway Northbound</i>	50.1	0.82	300	38.9	0.67	303
<i>Acadian Thruway Southbound</i>	5.7	0.54	368	6.6	0.60	418
<i>I-10 Off Ramp Eastbound</i>	61.8	0.73	95	65.8	0.64	50
Acadian Thruway at Acadian Centre	8.5			8.4		
<i>Acadian Thruway Northbound</i>	8.4	0.50	320	8.7	0.54	373
<i>Acadian Thruway Southbound</i>	5.1	0.42	253	4.7	0.42	240
<i>Richland Plantation Eastbound</i>	84.4	0.41	5	51.8	0.29	18
<i>Acadian Centre Westbound</i>	46.0	0.59	140	47.7	0.51	78
Acadian Thruway at Perkins Road	44.0			53.2		
<i>Stanford Avenue Northbound</i>	44.2	0.90	375	65.0	0.89	598
<i>Acadian Thruway Southbound</i>	47.9	0.80	425	62.5	0.90	348
<i>Perkins Road Eastbound</i>	42.3	0.80	363	47.4	0.85	575
<i>Perkins Road Westbound</i>	42.0	0.81	530	42.0	0.77	550

* Queues reported in vehicle, converted to feet by a factor of 25 ft/veh

Table 2-1 (continued)
Capacity Analysis
Existing Conditions- Intersection Analysis

Location	AM			PM		
	Delay (sec)	V/C Ratio	95 th % Queues (ft)*	Delay (sec)	V/C Ratio	95 th % Queues (ft)
Perkins Road at I-10 Ramps	18.0			9.5		
<i>I-10 Eastbound off ramp Southbound</i>	54.5	0.91	398	55.2	0.66	213
<i>Perkins Road Eastbound</i>	6.1	0.24	158	4.2	0.38	233
<i>Perkins Road Westbound</i>	11.5	0.41	318	8.7	0.49	390

* Queues reported in vehicle, converted to feet by a factor of 25 ft/veh

Table 2-2
Capacity Analysis
Existing Conditions- Merge and Diverge Analysis

Location	AM	PM
	Density (pc/ln/mi)	Density (pc/ln/mi)
<i>I-10 Eastbound Freeway west of Perkins Road</i>	39.8	34.0
<i>I-10 Eastbound Diverge at Perkins Road</i>	39.0	34.4
<i>I-10 Eastbound Freeway between Perkins Road and Acadian Thruway</i>	37.4	34.1
<i>I-10 Eastbound Diverge at Acadian Thruway</i>	36.3	33.2
<i>I-10 Eastbound Weave between Acadian Thruway and College Drive – Case #1</i>	38.5	38.5
<i>I-10 Eastbound Weave between Acadian Thruway and College Drive – Case #2</i>	--	--
<i>I-10 Eastbound Weave between Acadian Thruway and College Drive – Case #3</i>	42.6	41.3
<i>I-10 Westbound Merge at College Drive</i>	33.3	28.9
<i>I-10 Westbound Freeway between Acadian Thruway and College Drive</i>	32.6	28.8
<i>I-10 Westbound Merge at Acadian Thruway</i>	37.8	32.6
<i>I-10 Westbound Merge at Perkins Road</i>	44.9	37.3
<i>I-10 Westbound Freeway west of Perkins Road</i>	--	35.3

-- When v/c is greater than 1 the HCS software does not report density

HCS Freeway Merge/Diverge analysis - Existing Conditions	
INPUT	
Project Properties	
Analyst	Initials of person doing analysis
Agency	USI- 10-085-2
Analysis Year	2017
Project Description	I-10 Corridor Improvement Stage 1 EA - "analysis location"
Jurisdiction	LADOTD
Time Period	"Scenario AM"
Date	"Date of analysis"
Geometric Data	
Number of lanes	3
Freeway FFS	Posted speed
Freeway Length	default
Freeway Terrain Type	level
Freeway Grade	default
Freeway Grade Length	default
Highway or C-D Roadway	unchecked
Managed Lane	unchecked
Ramp Lanes	1
Ramp FFS	Posted advisory speed of ramp for diverge and default for merge (unless posted)
Ramp side	Right
Ramp Terrain Type	Level
Ramp Grade	default
Ramp Grade length	default
Total Ramp Density	Calculated using Google Earth
Right Side Clearance	Measured in Google Earth
Length of First Accel Lane	From previous analysis or measured in Google Earth
Length of Second Accel Lane	default
Demand Data	
Freeway Demand	I-10 mainline volume (DC Figure 2)
Freeway Peak Hour Factor	Calculated mainline PHF
Freeway Total Trucks	HV % from DCR reports Table 1.
Freeway Tractor-Trailers	default
Freeway Single Unit Trucks	default
Merge/Diverge Demand	On/Off ramp volume (DC Figure 2)
Ramp Peak Hour Factor	Calculated ramp PHF
Ramp Total Trucks	HV % from DCR reports (weighted average)
Ramp Single Unit Trucks	default
Ramp Tractor-Trailers	default
Adjustment Factors	
Freeway Driver Population	default
Freeway Weather Type	default
Freeway Speed Adjustment Factor	default
Freeway Capacity Adjustment Factor	default
Freeway Demand Adjustment Factor	default
Incident Type	default
Ramp Driver Population	default
Ramp Weather Type	default
Ramp Speed Adjustment Factor	default
Ramp Capacity Adjustment Factor	default
Ramp Demand Adjustment Factor	default
Adjacent Ramps	
Upstream Ramp	merge/diverge
Distance to Upstream Ramp	From previous analysis or measured in Google Earth
Upstream Ramp Terrain	default
Upstream Ramp Demand	On/Off ramp volume (DC Figure 2 - may not be the same DC report)
Upstream Ramp PHF	Calculated ramp PHF
Upstream Ramp Trucks	HV % from DCR reports (weighted average)
Downstream Ramp	merge/diverge
Distance to Downstream Ramp	From previous analysis or measured in Google Earth
Downstream Ramp Terrain	default
Downstream Ramp Demand	On/Off ramp volume (DC Figure 2 - may not be the same DC report)
Downstream Ramp PHF	Calculated mainline PHF
Downstream Ramp Trucks	HV % from DCR reports (weighted average)

Acadian/Perkins Existing PHF
Mainline and Ramps for HCS Merge/Diverge/**Freeway** Analysis

PHF = $V_t / (V_{peak} 15 * 4)$

AM

I-10 EB mainline	
Acadian/Perkins Data Collection Report	
Count Source	#9
Day	Tuesday 10/11/17
	15 Min Volumes - I-10 Mainline
7:00	1484
7:15	1496
7:30	1608
7:45	1560
PHF	0.96

I-10 WB mainline	
Acadian/Perkins Data Collection Report	
Count Source	#9
Day	Tuesday 10/11/17
	15 Min Volumes - I-10 Mainline
7:00	1593
7:15	1549
7:30	1687
7:45	1534
PHF	0.94

I-10 EB off ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
PHF	0.92

I-10 WB on ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
	15 Min Volumes - Ramps
7:00	168
7:15	174
7:30	208
7:45	198
PHF	0.90

PM

I-10 EB mainline	
Acadian/Perkins Data Collection Report	
Count Source	#9
Day	Tuesday 10/11/17
	15 Min Volumes - I-10 Mainline
16:45	1487
17:00	1553
17:15	1522
17:30	1419
PHF	0.96

I-10 WB mainline	
Acadian/Perkins Data Collection Report	
Count Source	#9
Day	Tuesday 10/11/17
	15 Min Volumes - I-10 Mainline
16:45	1435
17:00	1461
17:15	1438
17:30	1471
PHF	0.99

I-10 EB off ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
PHF	0.67

I-10 WB on ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
	15 Min Volumes - Ramps
16:30	119
16:45	85
17:00	130
17:15	154
PHF	0.79

AM

I-10 EB off ramp at Dalrymple	
Washington/Dalrymple Data Collection Report	
Count Source	#39
Day	Wednesday 10/25/17
PHF	0.81

I-10 EB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
PHF	0.79

I-10 EB on ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
15 Min Volumes - Ramps	
7:15	333
7:30	338
7:45	310
8:00	282
PHF	0.93

I-10 WB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
PHF	0.88

PM

I-10 EB off ramp at Dalrymple	
Washington/Dalrymple Data Collection Report	
Count Source	#39
Day	Wednesday 10/25/17
PHF	0.85

I-10 EB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
PHF	0.86

I-10 EB on ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
15 Min Volumes - Ramps	
17:00	345
17:15	349
17:30	329
17:45	372
PHF	0.94

I-10 WB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
PHF	0.94

AM

I-10 WB on ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
	15 Min Volumes - Ramps
6:45	35
7:00	30
7:15	33
7:30	31
PHF	0.92

I-10 WB off ramp at Dalrymple	
Washington/Dalrymple Data Collection Report	
Count Source	#38
Day	Wednesday 10/25/2017
PHF	0.76

I-10 WB on ramp at College	
College Data Collection Report	
Count Source	#59
Day	Thursday 11/09/17
	15 Min Volumes - Ramps
7:30	120
7:45	107
8:00	157
8:15	122
PHF	0.81

I-10 EB off ramp at College	
Acadian/Perkins Data Collection Report	
Count Source	24 hr counts
Day	Thursday 5/02/19
	15 Min Volumes - Ramps
7:00	140
7:15	147
7:30	173
7:45	181
PHF	0.89

PM

I-10 WB on ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
	15 Min Volumes - Ramps
16:30	57
16:45	45
17:00	51
17:15	43
PHF	0.86

I-10 WB off ramp at Dalrymple	
Washington/Dalrymple Data Collection Report	
Count Source	#38
Day	Wednesday 10/25/2017
PHF	0.83

I-10 WB on ramp at College	
College Data Collection Report	
Count Source	#59
Day	Thursday 11/09/17
	15 Min Volumes - Ramps
16:00	95
16:15	69
16:30	83
16:45	88
PHF	0.88

I-10 EB off ramp at College	
Acadian/Perkins Data Collection Report	
Count Source	24 hr counts
Day	Thursday 5/02/19
	15 Min Volumes - Ramps
16:45	94
17:00	121
17:15	119
17:30	160
PHF	0.77

Acadian/Perkins Existing PHF
Intersection Totals for Synchro Analysis

$$PHF = Vt / (V_{peak} 15 * 4)$$

AM

I-10 EB off ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
PHF	0.98

Acadian at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#50
Day	Thursday 11/02/17
PHF	0.95

Acadian at Acadian Centre	
Acadian/Perkins Data Collection Report	
Count Source	#51
Day	Thursday 11/02/17
PHF	0.90

I-10 EB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
PHF	0.92

I-10 WB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
PHF	0.93

PM

I-10 EB off ramp at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#43
Day	Thursday 11/09/17
PHF	0.91

Acadian at Perkins	
Acadian/Perkins Data Collection Report	
Count Source	#50
Day	Thursday 11/02/17
PHF	0.99

Acadian at Acadian Centre	
Acadian/Perkins Data Collection Report	
Count Source	#51
Day	Thursday 11/02/17
PHF	0.98

I-10 EB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#52
Day	Thursday 11/02/2017
PHF	0.98

I-10 WB off ramp at Acadian	
Acadian/Perkins Data Collection Report	
Count Source	#53
Day	Thursday 11/02/2017
PHF	0.96

Summary of Input Sources for Merge/Diverge Freeway Analysis
Heavy Vehicles

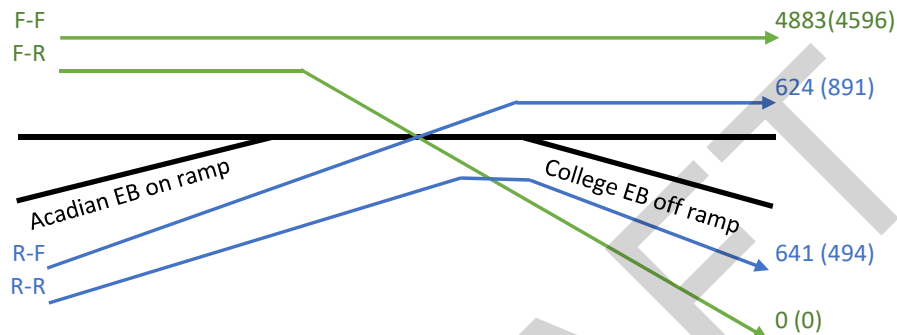
Data Source	Intersection	Approach	Movement	AM Volumes from Turning Movement Counts						PM Volumes from Turning Movement Counts					
				# cars	# trucks	# buses	Total Trucks and Buses	Total Vehicles	% Heavy Vehicles per approach	# cars	# trucks	# buses	Total Trucks and Buses	Total Vehicles	% Heavy Vehicles per approach
Acadian / Perkins Data Collection Report Table 1	I-10 EB	Eastbound	Thru						13.0%						11.0%
	I-10 WB	Westbound	Thru						6.0%						8.0%
Acadian / Perkins Data Collection Report TMC #43	I-10 EB at Perkins Rd	Eastbound Off Ramp	SB Left	293	2	4	8	327	2.4%	110	0	0	0	119	0.0%
			SB Right	26	2	0				9	0	0			
		Westbound On Ramp	EB Left	45	0	0	14	748	1.9%	37	1	0	10	488	2.0%
			WB Right	689	5	9				441	4	5			
Acadian / Perkins Data Collection Report TMC #52	I-10 EB at Acadian	Eastbound On Ramp	SB Left	528	4	3	8	1263	0.6%	573	1	2	7	1395	0.5%
			NB Right	727	1	0				815	4	0			
		Eastbound Off Ramp	Left	57	0	0	0	146	0.0%	28	1	1	3	114	2.6%
			Thru	2	0	0				2	0	0			
			Right	87	0	0				81	0	1			
Acadian / Perkins Data Collection Report TMC #53	I-10 WB at Acadian	Westbound On Ramp	NB Left	35	1	2	4	129	3.1%	57	0	1	2	196	1.0%
			SB Right	90	0	1				137	0	1			
		Westbound Off Ramp	Left	568	2	1	15	1352	1.1%	527	1	0	4	1251	0.3%
			Thru	5	0	0				10	0	0			
			Right	764	6	6				710	1	2			
Washington / Dalrymple Data Collection Report TMC #39	I-10 EB at Dalrymple	Eastbound Off Ramp	Left	25	0	1	5	174	2.9%	11	0	0	0	71	0.0%
			Right	144	4	0				60	0	0			
Washington / Dalrymple Data Collection Report TMC #38	I-10 WB at Dalrymple	Westbound Off Ramp	Left	45	1	0	2	435	0.5%	48	1	0	1	275	0.4%
			Thru	1	0	0				5	0	0			
			Right	387	1	0				221	0	0			
College Data Collection Report TMC #59	I-10 WB at College	Westbound On Ramp	NB Right	246	1	1	6	506	1.2%	170	0	0	0	335	0.0%
			SB Left	254	2	2				165	0	0			

I-10 EB Existing Weave Sensitivity Volumes

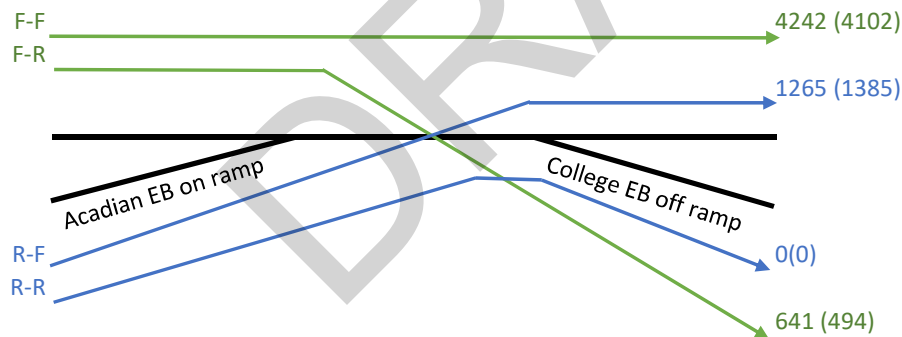
I-10 eastbound between Acadian and College is a weave. As there was insufficient data to determine weave maneuvers (freeway to freeway, freeway to ramp, ramp to freeway, and ramp to ramp), a volume sensitivity weave analysis was conducted. The following three (3) volume scenarios were considered:

- Case 1: 100% of vehicles exiting at College originate from Acadian
- Case 2: 100% of vehicles exiting at College originate from I-10 eastbound
- Case 3: 50% of vehicles exiting at College originate from Acadian and I-10 eastbound

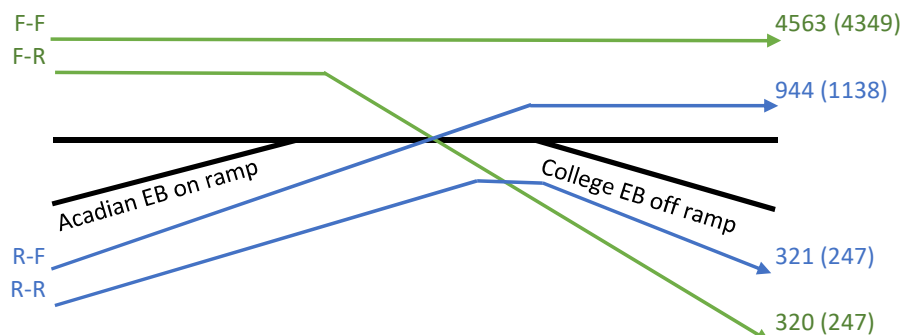
Existing: Case #1: All exiting volume from ramp
AM (PM)



Existing: Case #2: All exiting volume from freeway (*Discussed in Chapter 2)
AM (PM)



Existing: Case #3: 50% exiting volume from ramp, 50% from freeway
AM (PM)



TRAFFIC SIGNAL INVENTORY

TSI NO. **S-159**

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 1a OF 4

INTERSECTION: PERKINS AT I-10

CITY: BATON ROUGE

PARISH: EAST BATON ROUGE

INSTALLATION DATE:

09/16/75

TYPE SIGNAL: Volume Density, Interconnected

LAST REVISION DATE:

04/25/17

PHASES		Φ2 + Φ6			Φ4			Φ2 + Φ5												FL
INTERVALS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
SIGNAL FACES ↑ ↓	1	G	Y	R																R
	2	G	Y	R																R
	3	G	Y	R				G	G	G										R
	4	G	Y	R				G	G	G										R
	5	/G	/Y	R				←G/G	←Y/G	/G										R
	6				G	Y	R													R
	7				G	Y	R													R
	8																			
	9																			
	10																			
	11																			
	12																			
	13																			
	14																			
	15																			
	16																			

HOURS OF FLASHING OPERATION

TIME	SEC	53.6	4.4	1.0	45.6	4.4	1.0	4.6	4.4	1.0									Offset =
FO	SEC	0.0			51.0			61.0											83
YP	SEC																		sec
SPLIT	SEC	59			51			10											

PATTERN 1 CYCLE LENGTH = 120 TIMES OF OPERATION = M-F 0600-1000

TIME	SEC	53.6	4.4	1.0	35.6	4.4	1.0	4.6	4.4	1.0									Offset =
FO	SEC	0.0			41.0			51.0											24
YP	SEC																		sec
SPLIT	SEC	59			41			10											

M-Th 1000-1400; Fri 1000-1300; Sat 0800-2000; Sun 0900-2000

PATTERN 2 CYCLE LENGTH = 110 TIMES OF OPERATION =

TIME	SEC	32.6	4.4	1.0	20.6	4.4	1.0	5.6	4.4	1.0									Offset =
FO	SEC	0.0			26.0			37.0											2
YP	SEC																		sec
SPLIT	SEC	38			26			11											

PATTERN 3 CYCLE LENGTH = 75 TIMES OF OPERATION = M-Th 1400-1900; Fri 1300-1900

TIME	SEC	63.6	4.4	1.0	25.6	4.4	1.0	4.6	4.4	1.0									Offset =
FO	SEC	0.0			31.0			41.0											25
YP	SEC																		sec
SPLIT	SEC	69			31			10											

PATTERN 4 CYCLE LENGTH = 110 TIMES OF OPERATION = M-F 1900-2100

PHASING SEQUENCE	$\Phi 2 + \Phi 6$	$\Phi 4$	$\Phi 2 + \Phi 5$			
	Coordinated Phase					

SIGNAL WARRANTS: MAINTAINED BY: DPW CONTROLLER MANUF: NAZTEC SYSTEM #:

MASTER/ SLAVE: MASTER AT TSI #: COORDINATED WITH TSI #'S:

TRAFFIC SIGNAL INVENTORY

TSI NO. S-159

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 1b OF 4

SUPPLEMENTAL PHASING & TIMING

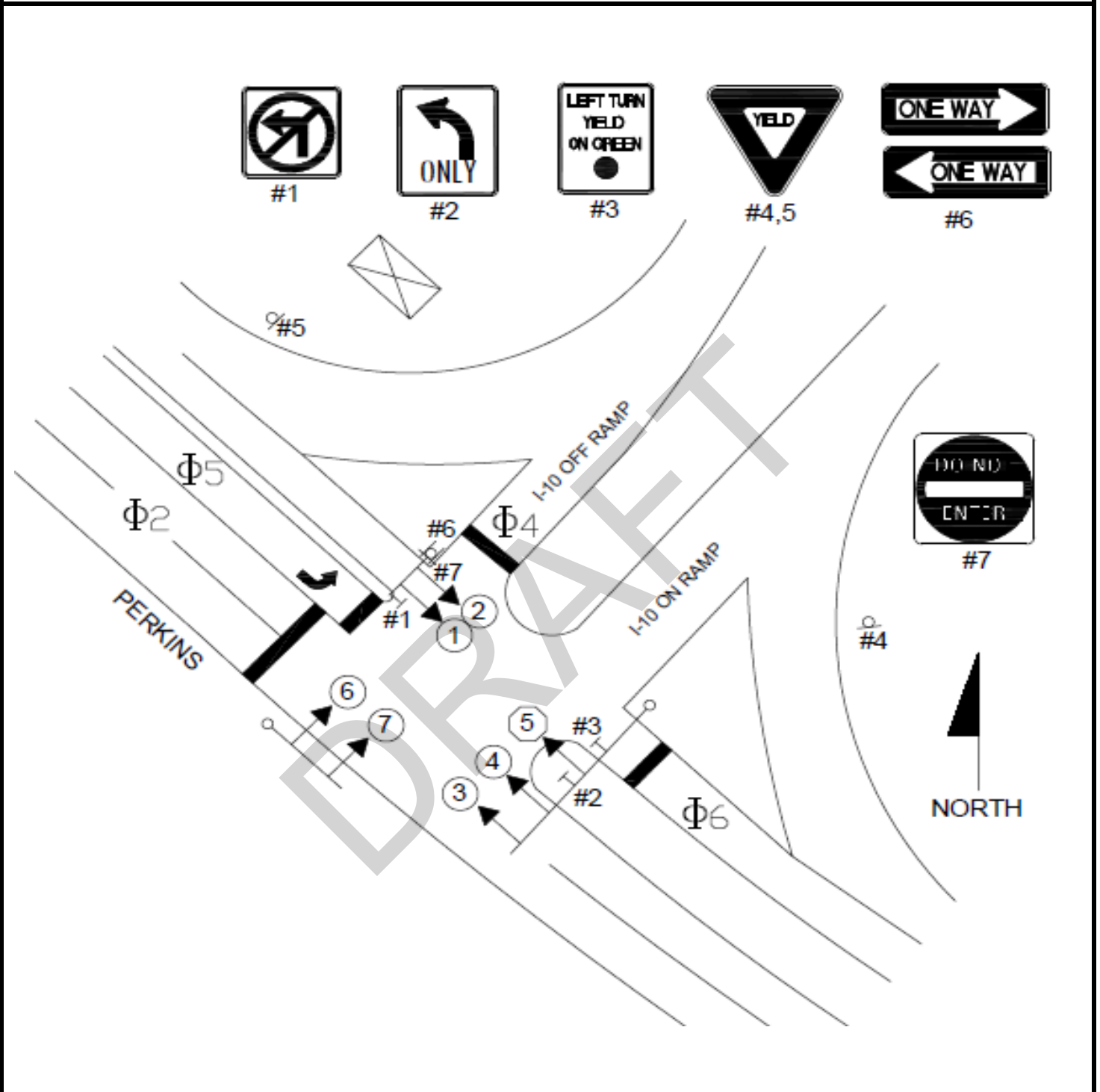
PHASES		Φ2 + Φ6			Φ4			Φ2 + Φ5												FL
INTERVALS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
SIGNAL FACES ↑ ↓	1	G	Y	R																R
	2	G	Y	R																R
	3	G	Y	R					G	G	G									R
	4	G	Y	R					G	G	G									R
	5	/G	/Y	R					←G/G	←Y/G	/G									R
	6				G	Y	R													R
	7				G	Y	R													R
	8																			
	9																			
	10																			
	11																			
	12																			
	13																			
	14																			
	15																			
	16																			
TIME	SEC	58.6	4.4	1.0	19.6	4.4	1.0	5.6	4.4	1.0										Offset =
FO	SEC	0.0			25.0			36.0												11
YP	SEC																			sec
SPLIT	SEC	64			25			11												
PATTERN		5			CYCLE LENGTH = 100			TIMES OF OPERATION =			M-F 0000-0600, 2100-0000; Sat 0000-0800, 2000-0000; Sun 0000-0900, 2000-0000									
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN					CYCLE LENGTH =			TIMES OF OPERATION =												
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN					CYCLE LENGTH =			TIMES OF OPERATION =												
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN					CYCLE LENGTH =			TIMES OF OPERATION =												
PHASING		Φ2 + Φ6			Φ4			Φ2 + Φ5												

TRAFFIC SIGNAL INVENTORY

TSI NO. S-159

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

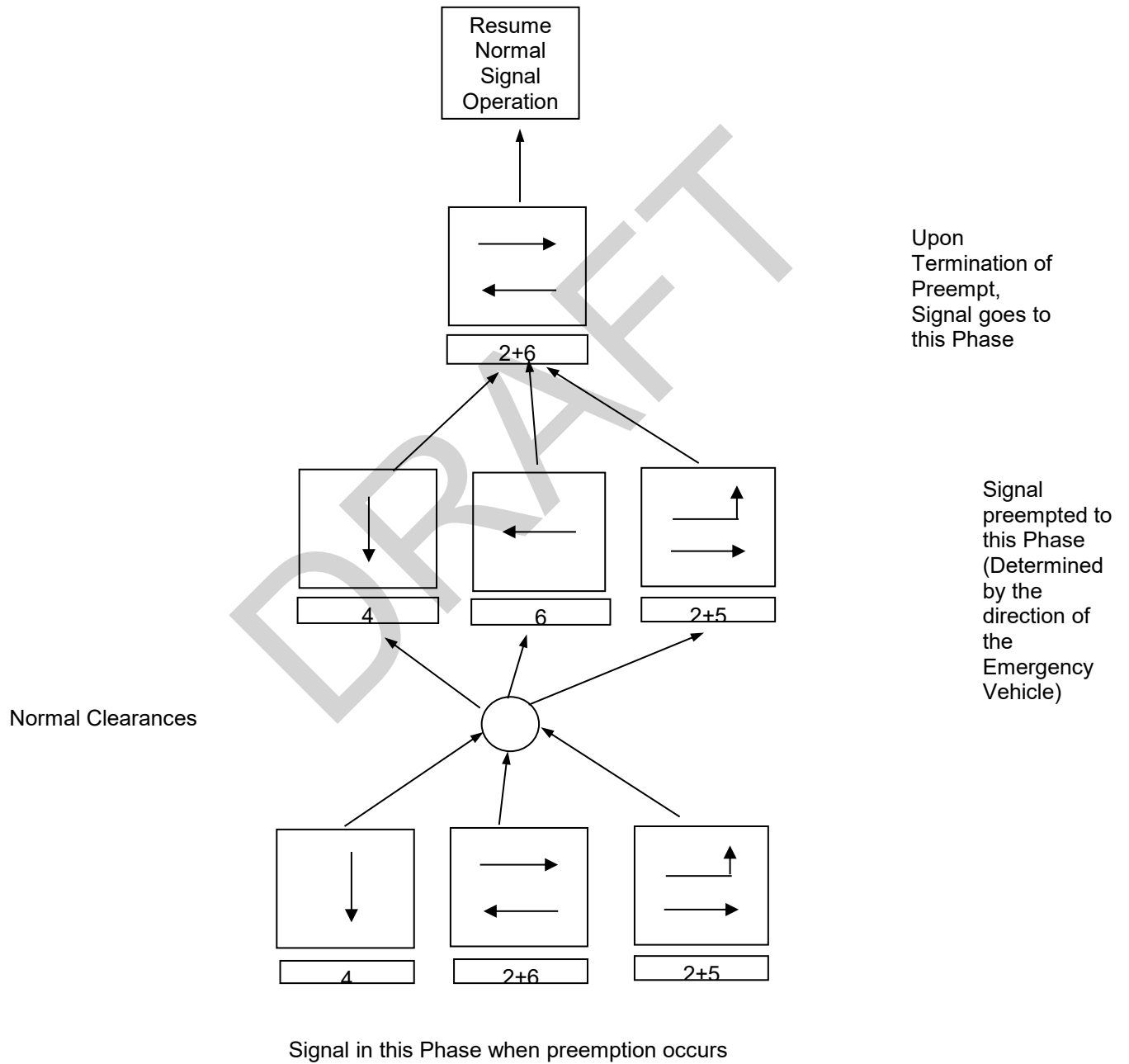
SHEET: 2 OF 4



SIGNAL FACES	1-4,6,7						5			
TOTALS	6						1			
R= RED Y= YELLOW G= GREEN G= GREEN ARROW Y= YELLOW ARROW DK= DARK 8"= 8" DIA. LENS 12"= 12" DIA. LENS WA= WALK DW= DONT WALK FDW= FLASHING DONT WALK	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)			PED W DW

TRAFFIC SIGNAL INVENTORY				TSI NO. S-159																	
DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION				SHEET: 3 OF 4																	
Phase Timing Parameters																					
Phase Designation		1	2	3	4	5	6	7	8												
Movement Description			→		↓	↗	←														
PARAMETER	RANGE																				
MIN GREEN (MIN Grn)	0-255		20		15	3	20														
GAP EXTENSION	0-25.5		5.0		2.5	2.5	5.0														
MAX GREEN I (MAX I)	0-255		50		30	10	50														
MAX GREEN II (MAX II)	0-255		50		30	10	50														
YELLOW CLEARANCE (YEL)	0-25.5		4.4		4.4	4.4	4.4														
RED CLEARANCE (RED)	0-25.5		1.0		1.0	1.0	1.0														
WALK (WALK)	0-255																				
PED CLEARANCE (P CLR)	0-255																				
ADDED INITIAL GREEN	0-25.5		1.2				1.2														
MAX INITIAL GREEN	0-255		20				20														
TIME BEFORE REDUCTION	0-255		10				10														
TIME TO REDUCE	0-255		20				20														
MIN GAP	0-25.5		2.5				2.5														
DYNAMIC MAX LIMIT	0-255																				
MAX STEP	0-25.5																				
RECALL	CODES		MIN				MIN														
LOOP # - DELAY (in sec.)	0-25.5																				
LOOP # - EXTEND (in sec.)	0-25.5																				
RECALL FUNCTIONS <table> <tr> <td>MON</td> <td>MEMORY ON</td> </tr> <tr> <td>MOF</td> <td>MEMORY OFF</td> </tr> <tr> <td>MIN</td> <td>MINIMUM</td> </tr> <tr> <td>MAX</td> <td>MAXIMUM</td> </tr> <tr> <td>PMN</td> <td>PEDESTRIAN AND MINIMUM</td> </tr> <tr> <td>PMX</td> <td>PEDESTRIAN AND MAXIMUM</td> </tr> </table>										MON	MEMORY ON	MOF	MEMORY OFF	MIN	MINIMUM	MAX	MAXIMUM	PMN	PEDESTRIAN AND MINIMUM	PMX	PEDESTRIAN AND MAXIMUM
MON	MEMORY ON																				
MOF	MEMORY OFF																				
MIN	MINIMUM																				
MAX	MAXIMUM																				
PMN	PEDESTRIAN AND MINIMUM																				
PMX	PEDESTRIAN AND MAXIMUM																				
Note 1: Runs Max 2 During Coordination																					
Note 2:																					
Note 3:																					

Emergency Preemption Sequence



TRAFFIC SIGNAL INVENTORY

TSI NO. **S-078**

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: **1a** OF **4**

INTERSECTION: PERKINS AT ACADIAN

CITY BATON ROUGE

PARISH: EAST BATON ROUGE

INSTALLATION DATE:

10/05/76

TYPE SIGNAL: VOLUME DENSITY/ INTERCONNECTED

LAST REVISION DATE:

10/24/13

PHASES INTERVALS	Φ2 + Φ6			Φ3 + Φ7			Φ4 + Φ8			Φ1 + Φ5			13	14	15	16	17	18	FL
	1	2	3	4	5	6	7	8	9	10	11	12							
1										←G	←Y	R							R
2										←G	←Y	R							R
3	G	Y	R																R
4	G	Y	R																R
5	G/	Y/	R	R/G→	R/Y→	R													R
6										←G	←Y	R							R
7										←G	←Y	R							R
8	G	Y	R																R
9	G	Y	R																R
10				←G	←Y	R													R
11				←G	←Y	R													R
12							G	Y	R										R
13							G	Y	R										R
14							G/	Y/	R	R/G→	R/Y→	R							R
15				←G	←Y	R													R
16							G	Y	R										R
17							G	Y	R										R
18							G/	Y/	R	R/G→	R/Y→	R							R
19,26							W>FDW	FDW	DW										
20,21	W>FDW	FDW	DW																
22,23							W>FDW	FDW	DW										
24,25	W>FDW	FDW	DW																

TIME	SEC	35.5	4.5	1.0	19.4	4.6	1.0	31.4	4.6	1.0	11.5	4.5	1.0							Offset = 68 sec
FO	SEC	0.0			24.9			61.9			79.0									
YP	SEC																			
SPLIT	SEC	41			25			37			17									

PATTERN 1 CYCLE LENGTH = 120 TIMES OF OPERATION = M-F 0600-1000

TIME	SEC	35.5	4.5	1.0	12.4	4.6	1.0	29.4	4.6	1.0	10.5	4.5	1.0							Offset = 0 sec
FO	SEC	0.0			17.9			52.9			69.0									
YP	SEC																			
SPLIT	SEC	41			18			35			16									

M-Th 1000-1400; Fri 1000-1300; Sat 0800-2000;

PATTERN 2 CYCLE LENGTH = 110 TIMES OF OPERATION =

Sun 0900-2000

TIME	SEC	49.5	4.5	1.0	19.4	4.6	1.0	39.4	4.6	1.0	19.5	4.5	1.0							Offset = 0 sec
FO	SEC	0.0			24.9			69.9			95.0									
YP	SEC																			
SPLIT	SEC	55			25			45			25									

PATTERN 3 CYCLE LENGTH = 150 TIMES OF OPERATION = M-Th 1400-1900; Fri 1300-1900

PHASING SEQUENCE	Φ2 + Φ6	Φ3 + Φ7	Φ4 + Φ8	Φ1 + Φ5		
	Coordinated Phase	OLC		OLA OLB		

SIGNAL WARRANTS:	MAINTAINED BY: DPW	CONTROLLER MANUF: NAZTEC	SYSTEM #:
MASTER/ SLAVE:	MASTER AT TSI #:	COORDINATED WITH TSI #'S:	

TRAFFIC SIGNAL INVENTORY

TSI NO. S-078

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 1b OF 4

SUPPLEMENTAL PHASING & TIMING

PHASES INTERVALS		Φ2 + Φ6			Φ3 + Φ7			Φ4 + Φ8			Φ1 + Φ5									FL	Emergency	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
SIGNAL FACES ↑ ↓	1										←G	←Y	R							R		
	2										←G	←Y	R							R		
	3	G	Y	R																R		
	4	G	Y	R																R		
	5	G/	Y/	R	R/G→	R/Y→	R													R		
	6										←G	←Y	R							R		
	7										←G	←Y	R							R		
	8	G	Y	R																R		
	9	G	Y	R																R		
	10				←G	←Y	R													R		
	11				←G	←Y	R													R		
	12							G	Y	R										R		
	13							G	Y	R										R		
	14							G/	Y/	R	R/G→	R/Y→	R							R		
	15				←G	←Y	R													R		
	16							G	Y	R										R		
	17							G	Y	R										R		
	18							G/	Y/	R	R/G→	R/Y→	R							R		
	19,26							W>FDW	FDW	DW												
	20,21	W>FDW	FDW	DW																		
	22,23							W>FDW	FDW	DW												
	24,25	W>FDW	FDW	DW																		
TIME	SEC	31.5	4.5	1.0	12.4	4.6	1.0	31.4	4.6	1.0	12.5	4.5	1.0							Offset =		
FO	SEC	0.0			17.9			54.9			73.0									0		
YP	SEC																			sec		
SPLIT	SEC	37			18			37			18											
PATTERN		4	CYCLE LENGTH =				110	TIMES OF OPERATION =				M-F 1900-2100										
TIME	SEC	31.5	4.5	1.0	7.4	4.6	1.0	31.4	4.6	1.0	7.5	4.5	1.0							Offset =		
FO	SEC	0.0			12.9			49.9			63.0									0		
YP	SEC																			sec		
SPLIT	SEC	37			13			37			13											
PATTERN		5	CYCLE LENGTH =				100	TIMES OF OPERATION =				M-F 0000-0600, 2100-0000; Sat 0000-0800, 2000-0000; Sun 0000-0900, 2000-0000										
TIME	SEC																			Offset =		
FO	SEC																					
YP	SEC																			sec		
SPLIT	SEC																					
PATTERN		CYCLE LENGTH=				TIMES OF OPERATION =																
PHASING	Φ2 + Φ6		Φ3 + Φ7		Φ4 + Φ8		Φ1 + Φ5															

TRAFFIC SIGNAL INVENTORY

TSI NO. S-078

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 2 OF 4



#1,3,7,9
11,13,17



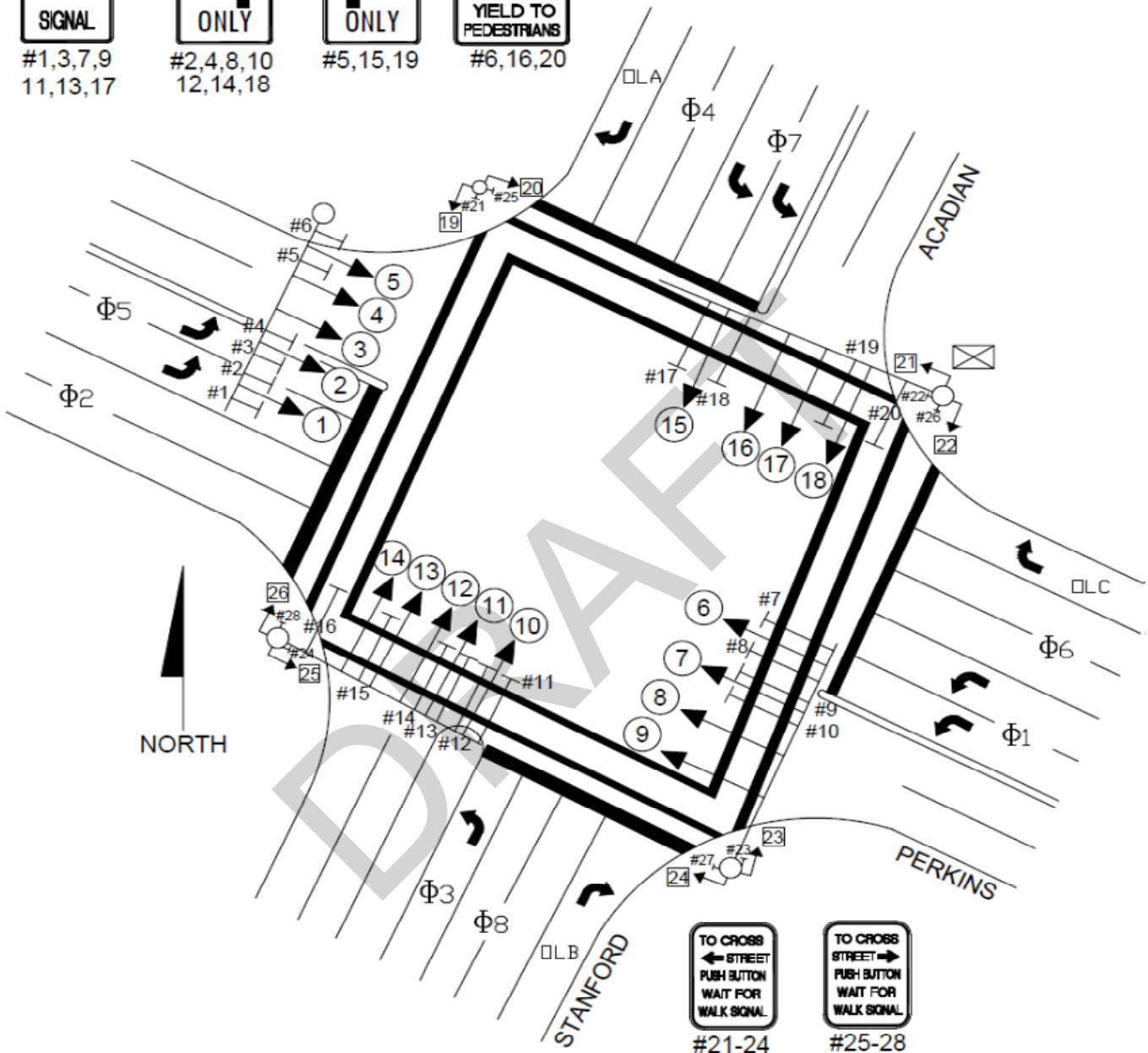
#2,4,8,10
12,14,18



#5,15,19



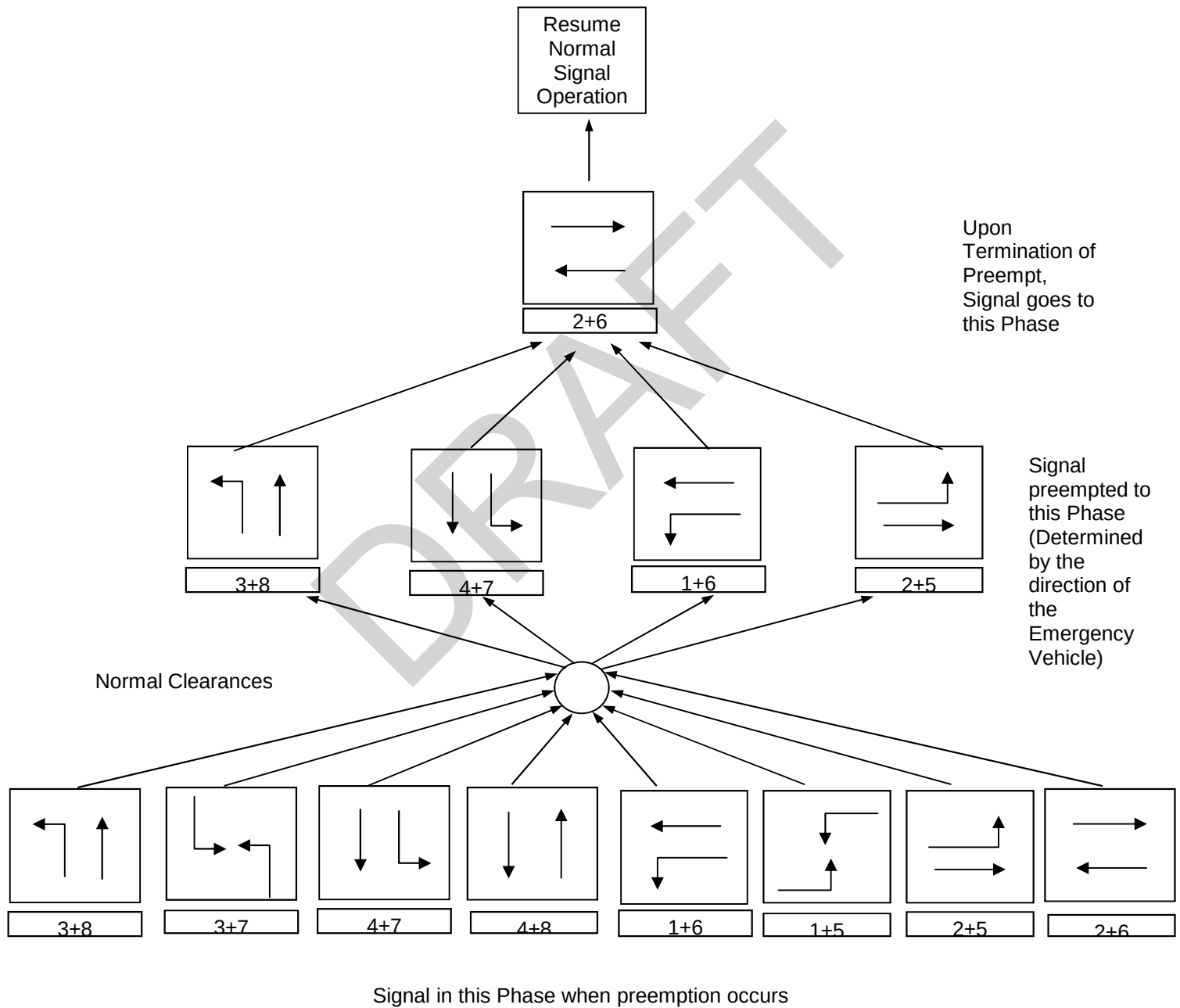
#6,16,20



SIGNAL FACES	3,4,8,9, 12,13,16, 17		1,2,6,7, 10,11,15			5,14,18				19-26
TOTALS	8		7			3				8
R = RED Y = YELLOW G = GREEN GA = GREEN ARROW YA = YELLOW ARROW DK = DARK 8" = 8" DIA. LENS 12" = 12" DIA. LENS WA = WALK DW = DON'T WALK FDW = FLASHING DON'T WALK	(R) (Y) (G)	(R) (YA) (GA)	(R) (YA) (GA)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (YA) (GA)			PED W DW

TRAFFIC SIGNAL INVENTORY						TSI NO. S-078			
DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION						SHEET: 3 OF 4			
Phase Timing Parameters									
Phase Designation		1	2	3	4	5	6	7	8
Movement Description									
PARAMETER	RANGE								
MIN GREEN (MIN Grn)	0-255	5	12	5	12	5	12	5	12
GAP EXTENSION	0-25.5	2.5	3.9	2.5	3.9	2.5	3.9	2.5	3.9
MAX GREEN I (MAX I)	0-255	30	50	30	50	30	50	30	50
MAX GREEN II (MAX II)	0-255	50	90	50	90	50	90	50	90
YELLOW CLEARANCE (YEL)	0-25.5	4.5	4.5	4.6	4.6	4.5	4.5	4.6	4.6
RED CLEARANCE (RED)	0-25.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
WALK (WALK)	0-255		4		4		4		4
PED CLEARANCE (P CLR)	0-255		27		27		27		27
ADDED INITIAL GREEN	0-25.5		1.2		1.2		1.2		
MAX INITIAL GREEN	0-255								
TIME BEFORE REDUCTION	0-255		15		15		15		
TIME TO REDUCE	0-255		20		20		20		
MIN GAP	0-25.5		2.5		2.5		2.5		
DYNAMIC MAX LIMIT	0-255								
MAX STEP	0-25.5								
RECALL	CODES		MIN				MIN		
LOOP # - DELAY (in sec.)	0-25.5								
LOOP # - EXTEND (in sec.)	0-25.5								
RECALL FUNCTIONS									
MON	MEMORY ON								
MOF	MEMORY OFF								
MIN	MINIMUM								
MAX	MAXIMUM								
PMN	PEDESTRIAN AND MINIMUM								
PMX	PEDESTRIAN AND MAXIMUM								
Note 1: Runs Max 2 During Coordination									
Note 2: OLA = Φ5; OLB = Φ1; OLC = Φ7; OLD = Φ3									
Note 3: Peds Clear thru Yellow on phases 2,4,6,8.									

Emergency Preemption Sequence



TRAFFIC SIGNAL INVENTORY

TSI NO. **S-308**

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: **1** OF **4**

INTERSECTION: Acadian at Richland Plantation-Acadian Center

CITY: BATON ROUGE

PARISH: EAST BATON ROUGE

INSTALLATION DATE: 01/24/95

TYPE SIGNAL: Volume Density Interconnected

LAST REVISION DATE: 07/20/14

PHASES	$\Phi 2 + \Phi 6$			$\Phi 4$			$\Phi 8$			$\Phi 2 + \Phi 5$									FL
INTERVALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
SIGNAL FACES ↑ ↓	1	G	Y	R															R
	2	G	Y	R															R
	3	G/	Y/	R	R/G→	R/Y→	R												R
	4	G	Y	R						G	G	G							R
	5	G	Y	R						G	G	G							R
	6	/G	/Y	R						←G/G	←Y/G	/G							R
	7						G	Y	R										R
	8						←G/G	Y	R										R
	9				←G/G	Y	R												R
	10				G/	Y/	R			R/G→	R/Y→	R							R
	11																		
	12																		
	13																		
	14																		
	15																		
	16																		

HOURS OF FLASHING OPERATION

TIME	SEC	47.0	4.0	1.0	9.0	4.0	1.0	15.0	4.0	1.0	9.0	4.0	1.0						Offset =
FO	SEC	0.0			14.0			34.0			48.0								6
YP	SEC																		sec
SPLIT	SEC	52			14			20			14								

PATTERN 1 CYCLE LENGTH = 100 TIMES OF OPERATION = Sa-Su: 24 Hrs

TIME	SEC	53.0	4.0	1.0	10.0	4.0	1.0	10.0	4.0	1.0	7.0	4.0	1.0						Offset =
FO	SEC	0.0			15.0			30.0			42.0								75
YP	SEC																		sec
SPLIT	SEC	58			15			15			12								

PATTERN 3 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F: 0000-0630, 1000-1430, 2030-0000

TIME	SEC	53.0	4.0	1.0	9.0	4.0	1.0	9.0	4.0	1.0	9.0	4.0	1.0						Offset =
FO	SEC	0.0			14.0			28.0			42.0								44
YP	SEC																		sec
SPLIT	SEC	58			14			14			14								

PATTERN 4 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F 0630-1000

TIME	SEC	57.0	4.0	1.0	7.0	4.0	1.0	9.0	4.0	1.0	7.0	4.0	1.0						Offset =
FO	SEC	0.0			12.0			26.0			38.0								0
YP	SEC																		sec
SPLIT	SEC	62			12			14			12								

PATTERN 5 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F 1430-2030

PHASING SEQUENCE	$\Phi 2 + \Phi 6$	$\Phi 4$	$\Phi 8$	$\Phi 2 + \Phi 5$		

SIGNAL WARRANTS: MAINTAINED BY: DPW CONTROLLER MANUF: NAZTEC SYSTEM #:

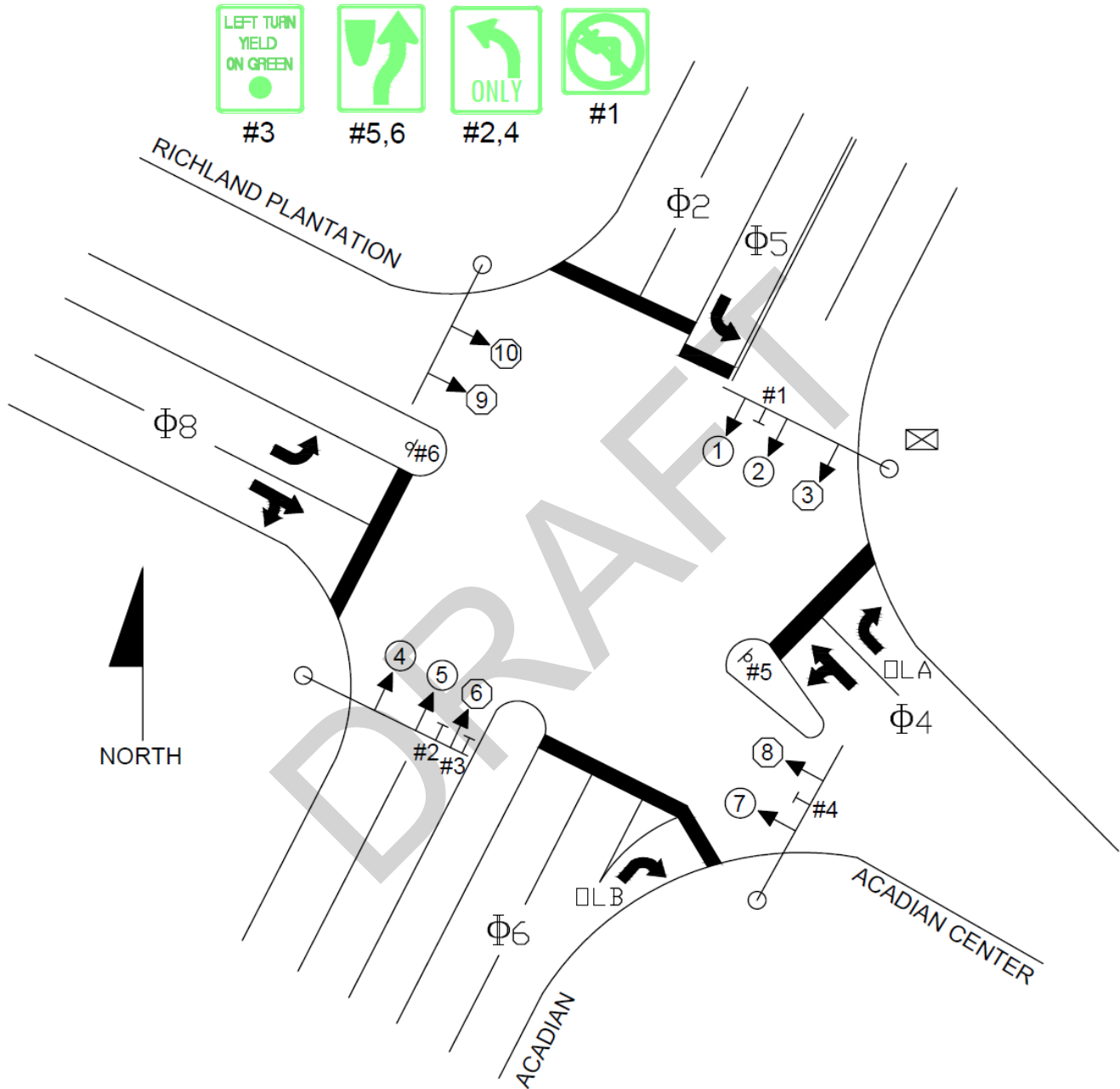
MASTER/ SLAVE: MASTER AT TSI #: COORDINATED WITH TSI #'S:

TRAFFIC SIGNAL INVENTORY

TSI NO. S-308

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

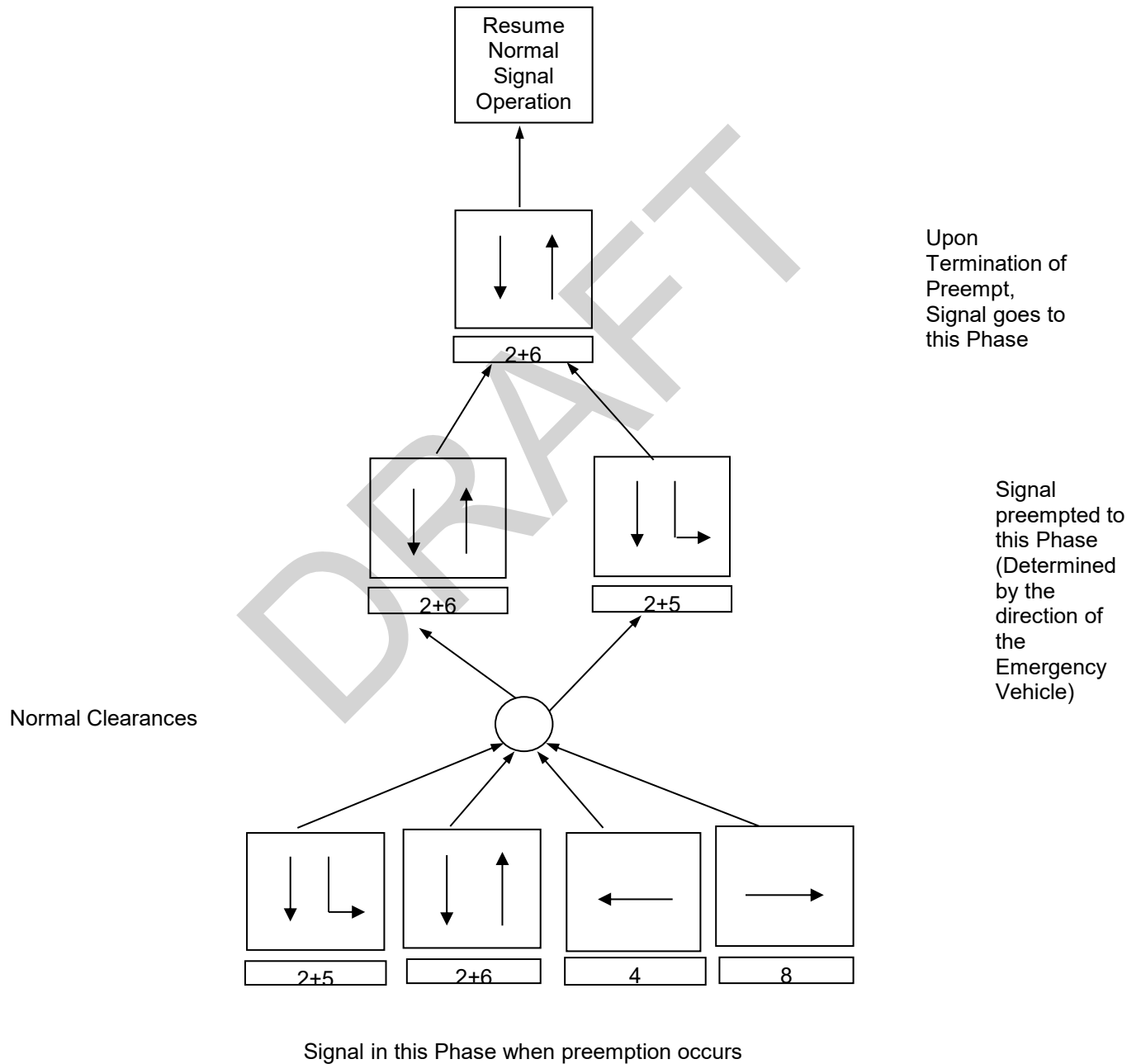
SHEET: 2 OF 4



SIGNAL FACES	1,2,4,5,7			8,9		3,10	6			
TOTALS	5			2		2	1			
R= RED Y= YELLOW G= GREEN GA= GREEN ARROW YA= YELLOW ARROW DK= DARK 8"= 8" DIA. LENS 12"= 12" DIA. LENS WA= WALK DW= DONT WALK FDW= FLASHING DONT WALK	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)			PED W DW

TRAFFIC SIGNAL INVENTORY				TSI NO. S-308																
DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION				SHEET: 3 OF 4																
Phase Timing Parameters																				
Phase Designation		1	2	3	4	5	6	7	8											
Movement Description			↓		←	└→	↑		→											
PARAMETER	RANGE																			
MIN GREEN (MIN Grn)	0-255		15		5	3	10		5											
GAP EXTENSION	0-25.5		6.0		3.0	3.0	6.0		3.0											
MAX GREEN I (MAX I)	0-255		60		20	15	60		20											
MAX GREEN II (MAX II)	0-255		120		20	15	120		20											
YELLOW CLEARANCE (YEL)	0-25.5		4.0		4.0	4.0	4.0		4.0											
RED CLEARANCE (RED)	0-25.5		1.0		1.0	1.0	1.0		1.0											
WALK (WALK)	0-255																			
PED CLEARANCE (P CLR)	0-255																			
ADDED INITIAL GREEN	0-25.5		1.2				1.2													
MAX INITIAL GREEN	0-255		20				20													
TIME BEFORE REDUCTION	0-255		10				10													
TIME TO REDUCE	0-255		20				20													
MIN GAP	0-25.5		3.0				3.0													
DYNAMIC MAX LIMIT	0-255																			
MAX STEP	0-25.5																			
RECALL	CODES		MIN				MIN													
LOOP # - DELAY (in sec.)	0-25.5																			
LOOP # - EXTEND (in sec.)	0-25.5																			
RECALL FUNCTIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">MON</td> <td>MEMORY ON</td> </tr> <tr> <td>MOF</td> <td>MEMORY OFF</td> </tr> <tr> <td>MIN</td> <td>MINIMUM</td> </tr> <tr> <td>MAX</td> <td>MAXIMUM</td> </tr> <tr> <td>PMN</td> <td>PEDESTRIAN AND MINIMUM</td> </tr> <tr> <td>PMX</td> <td>PEDESTRIAN AND MAXIMUM</td> </tr> </table>									MON	MEMORY ON	MOF	MEMORY OFF	MIN	MINIMUM	MAX	MAXIMUM	PMN	PEDESTRIAN AND MINIMUM	PMX	PEDESTRIAN AND MAXIMUM
MON	MEMORY ON																			
MOF	MEMORY OFF																			
MIN	MINIMUM																			
MAX	MAXIMUM																			
PMN	PEDESTRIAN AND MINIMUM																			
PMX	PEDESTRIAN AND MAXIMUM																			
Note 1: Runs Max II during coordination																				
Note 2: OLA = Φ5; OLB = Φ4																				
Note 3:																				

Emergency Preemption Sequence



TRAFFIC SIGNAL INVENTORY

TSI NO. S-027

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 1a OF 4

INTERSECTION: Acadian Thruway at I10

CITY: BATON ROUGE

PARISH: EAST BATON ROUGE

INSTALLATION DATE:

07/25/95

TYPE SIGNAL: Volume Density Interconnected

LAST REVISION DATE:

04/25/17

WB Ramp - Ring 1										EB Ramp - Ring 2								FL	Emergency	HOURS OF FLASHING OPERATION		
Φ2 + OLA			Φ4			Φ1 + OLA			Φ5 + OLB			Φ8			Φ6 + OLB							
PHASES	INTERVALS			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			16	17
SIGNAL FACES	1	G	Y	R																		R
	2	G	Y	R																		R
	3																		G	Y	R	R
	4																		G	Y	R	R
	5												G	Y	R				G	G	G	R
	6												G	Y	R				G	G	G	R
	7	G	Y	R						G	G	G										R
	8	G	Y	R						G	G	G										R
	9	←G	←Y	←R																		R
	10												←G	←Y	←R							R
	11				←G/G	Y	R															R
	12				←G/G	Y	R															R
	13				G	Y	R															R
	14																G	Y	R			R
	15																G	Y	R			R
	16																G	Y	R			R

TIME SEC	44.3	4.7	1.0	29.3	4.7	1.0	9.0	5.0	1.0	14.3	4.7	1.0	29.3	4.7	1.0	39.0	5.0	1.0	Offset =	
FO SEC	0.0			35.0			49.7			0.0			35.0			79.7			57	
YP SEC																			sec	
SPLIT SEC	50			35			15			20			35			45				

PATTERN 1 CYCLE LENGTH = 100 TIMES OF OPERATION = Sa-Su: 24 Hrs

TIME SEC	34.3	4.7	1.0	29.3	4.7	1.0	19.0	5.0	1.0	22.3	4.7	1.0	39.3	4.7	1.0	21.0	5.0	1.0	Offset =	
FO SEC	0.0			35.0			59.7			0.0			45.0			71.7			80	
YP SEC																			sec	
SPLIT SEC	40			35			25			28			45			27				

PATTERN 3 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F: 0000-0630, 1000-1430, 2030-0000

TIME SEC	46.3	4.7	1.0	29.3	4.7	1.0	7.0	5.0	1.0	34.3	4.7	1.0	29.3	4.7	1.0	19.0	5.0	1.0	Offset =	
FO SEC	0.0			35.0			47.7			0.0			35.0			59.7			42	
YP SEC																			sec	
SPLIT SEC	52			35			13			40			35			25				

PATTERN 4 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F: 0630-1000

TIME SEC	59.3	4.7	1.0	16.3	4.7	1.0	7.0	5.0	1.0	41.3	4.7	1.0	14.3	4.7	1.0	27.0	5.0	1.0	Offset =	
FO SEC	0.0			22.0			34.7			0.0			20.0			52.7			0	
YP SEC																			sec	
SPLIT SEC	65			22			13			47			20			33				

PATTERN 5 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F: 1430-1545

PHASING SEQUENCE	Φ2 + OLA			Φ4			Φ1 + OLA			Φ5 + OLB			Φ8			Φ6 + OLB				

SIGNAL WARRANTS:	MAINTAINED BY: DPW	CONTROLLER MANUF: NAZTEC	SYSTEM #:
MASTER/ SLAVE:	MASTER AT TSI #:	COORDINATED WITH TSI #S:	

TRAFFIC SIGNAL INVENTORY

TSI NO. S-027

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 1b OF 4

SUPPLEMENTAL PHASING & TIMING

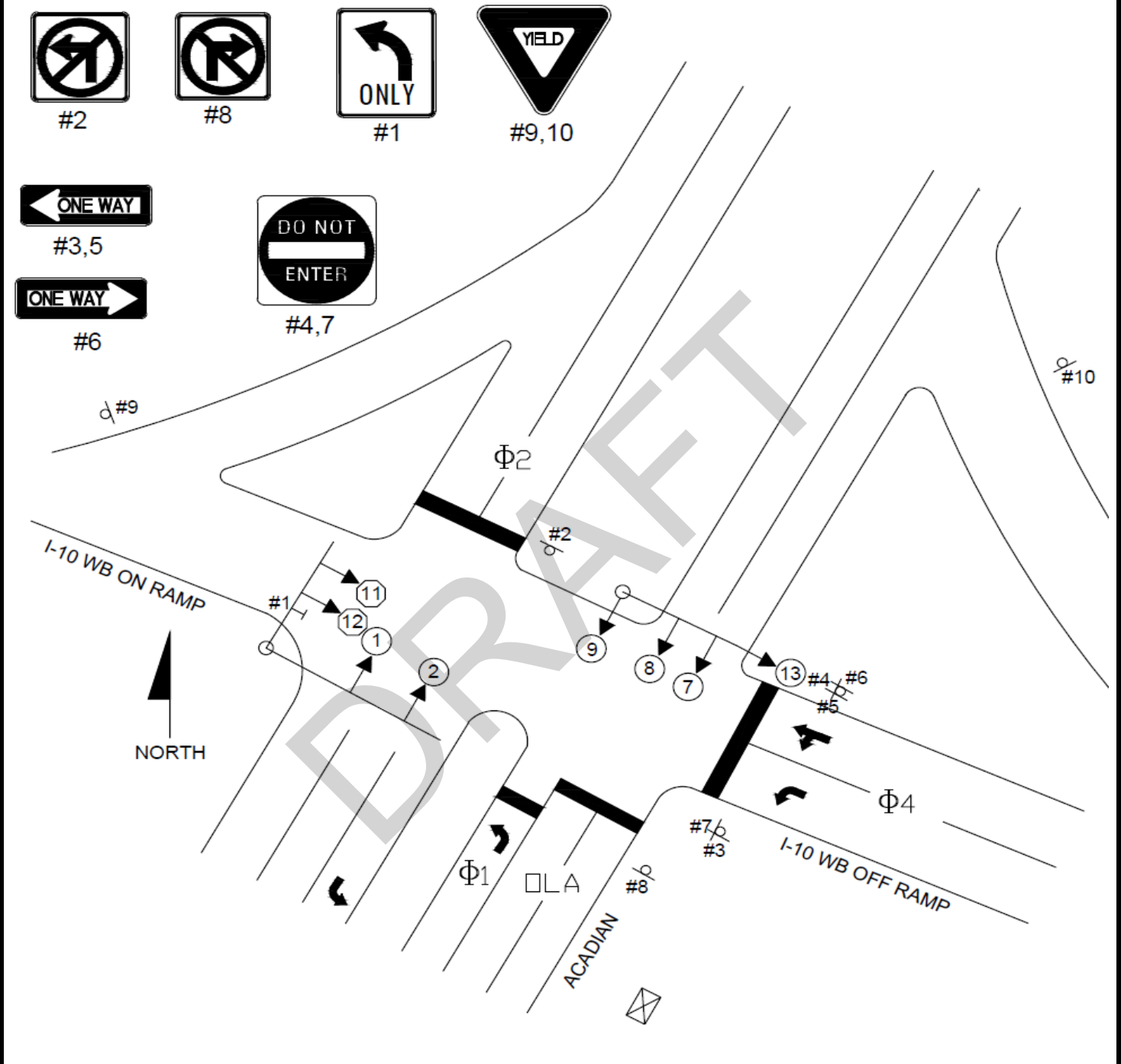
WB Ramp - Ring 1										EB Ramp - Ring 2									FL	
PHASES	Φ2 + OLA			Φ4			Φ1 + OLA			Φ5 + OLB			Φ8			Φ6 + OLB				
INTERVALS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
SIGNAL FACES ↑ ↓	1	G	Y	R															R	
	2	G	Y	R															R	
	3																G	Y	R	
	4																G	Y	R	
	5									G	Y	R				G	G	G	R	
	6									G	Y	R				G	G	G	R	
	7	G	Y	R				G	G	G									R	
	8	G	Y	R				G	G	G									R	
	9	←G	←Y	←R																R
	10										←G	←Y	←R							R
	11				←G/G	Y	R													R
	12				←G/G	Y	R													R
	13				G	Y	R													R
	14													G	Y	R				R
	15													G	Y	R				R
	16													G	Y	R				R
TIME	SEC	47.3	4.7	1.0	28.3	4.7	1.0	7.0	5.0	1.0	36.3	4.7	1.0	12.3	4.7	1.0	34.0	5.0	1.0	Offset =
FO	SEC	0.0			34.0			46.7			0.0			18.0			57.7			0
YP	SEC																			sec
SPLIT	SEC	53			34			13			42			18			40			
PATTERN	6 CYCLE LENGTH = 100 TIMES OF OPERATION = M-F: 1545-2030																			
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN	CYCLE LENGTH = TIMES OF OPERATION =																			
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN	CYCLE LENGTH = TIMES OF OPERATION =																			
TIME	SEC																			Offset =
FO	SEC																			sec
YP	SEC																			
SPLIT	SEC																			
PATTERN	CYCLE LENGTH = TIMES OF OPERATION =																			
PHASING SEQUENCE	Φ2 + OLA			Φ4			Φ1 + OLA			Φ5 + OLB			Φ8			Φ6 + OLB				
																				Coordinated Phase
																				Coordinated Phase
SIGNAL WARRANTS: MAINTAINED BY: DPW CONTROLLER MANUF: NAZTEC SYSTEM #:																				
MASTER/ SLAVE: MASTER AT TSI #: COORDINATED WITH TSI #'S:																				

TRAFFIC SIGNAL INVENTORY

TSI NO. S-027

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

SHEET: 2a OF 4



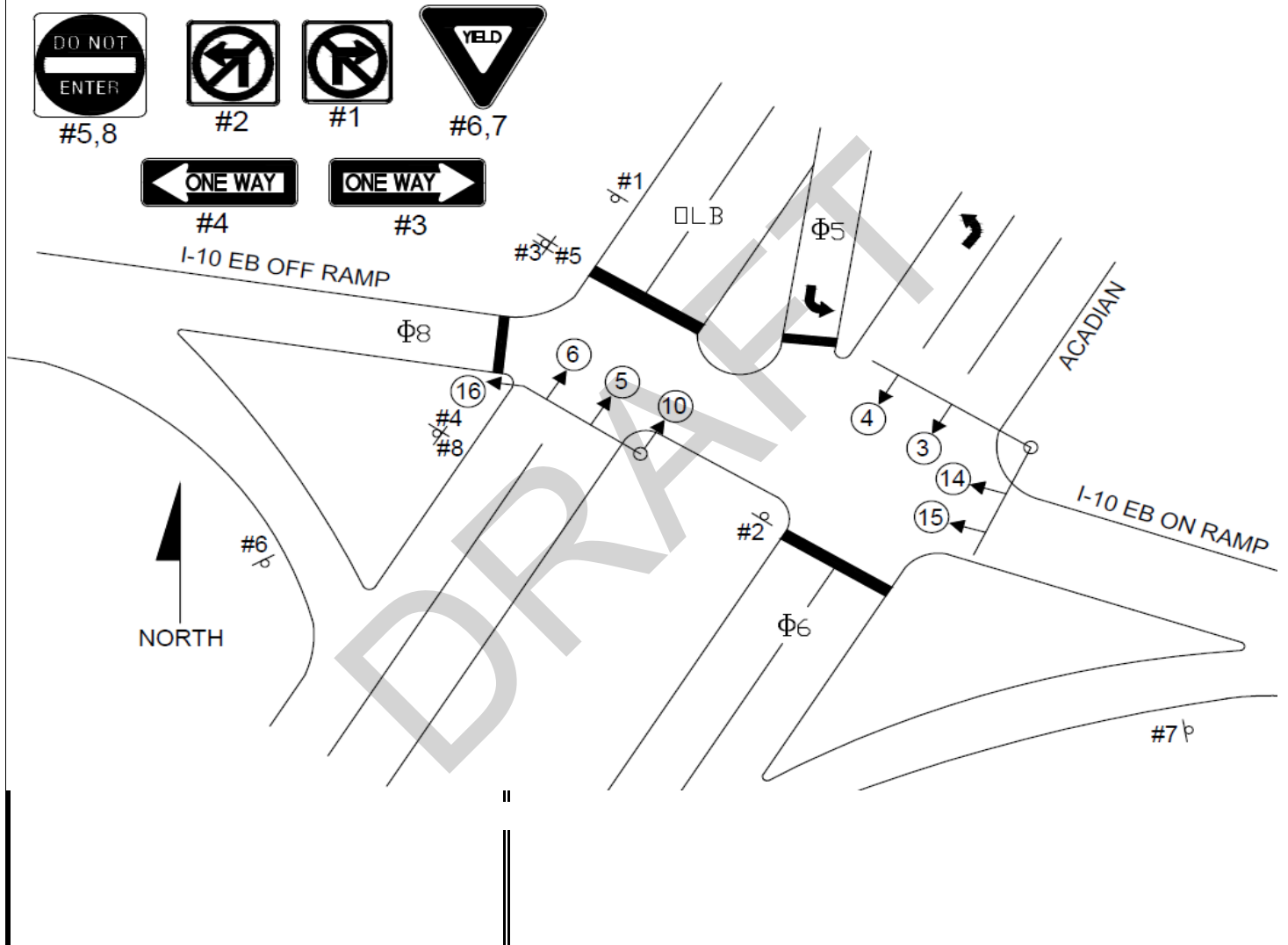
SIGNAL FACES	1,2,7,8,13		9	11,12						
TOTALS	5		1	2						
R= RED Y = YELLOW G = GREEN G = GREEN ARROW Y = YELLOW ARROW DK = DARK 8" = 8" DIA. LENS 12" = 12" DIA. LENS WA = WALK DW = DONT WALK FDW = FLASHING DONT WALK										PED W DW

TRAFFIC SIGNAL INVENTORY

TSI NO. S-027

DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION

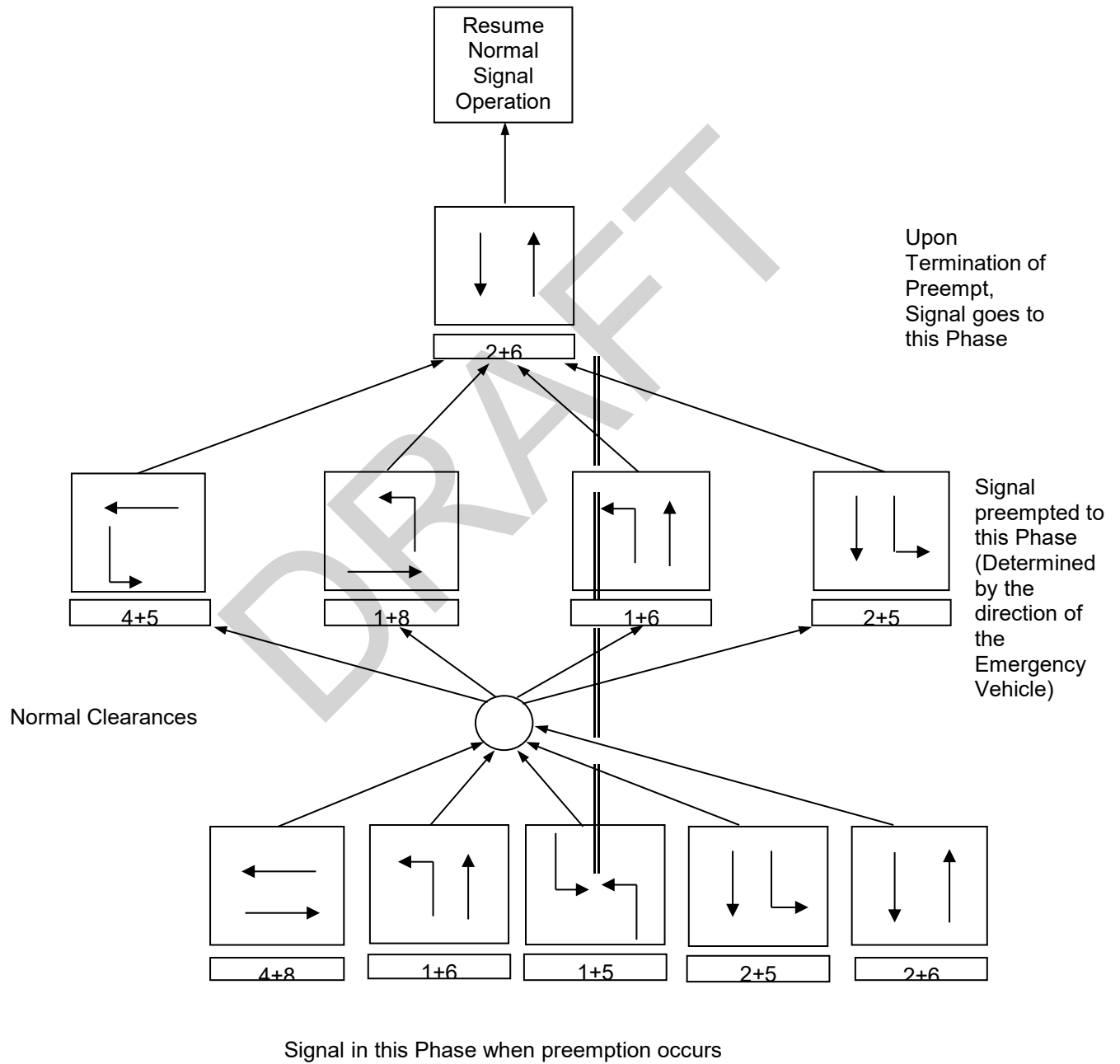
SHEET: 2b OF 4



SIGNAL FACES	3-6,14-16		10							
TOTALS	7		1							
R= RED Y= YELLOW G= GREEN G= GREEN ARROW Y= YELLOW ARROW DK= DARK 8"= 8" DIA. LENS 12"= 12" DIA. LENS WA= WALK DW= DONT WALK FDW= FLASHING DONT WALK	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)	(R) (Y) (G)			PED W DW

TRAFFIC SIGNAL INVENTORY				TSI NO. S-027																
DEPARTMENT OF PUBLIC WORKS/ TRAFFIC ENGINEERING DIVISION				SHEET: 3 OF 4																
Phase Timing Parameters																				
Phase Designation		1	2	3	4	5	6	7	8											
Movement Description		↙	↓		←	↘	↑		→											
PARAMETER	RANGE																			
MIN GREEN (MIN Grn)	0-255	5	15		5	5	15		5											
GAP EXTENSION	0-25.5	4.0	6.0		4.0	4.0	6.0		4.0											
MAX GREEN I (MAX I)	0-255	15	60		30	15	60		30											
MAX GREEN II (MAX II)	0-255	15	120		40	100	120		40											
YELLOW CLEARANCE (YEL)	0-25.5	4.7	4.7		5.0	4.7	4.7		5.0											
RED CLEARANCE (RED)	0-25.5	1.0	1.0		1.0	1.0	1.0		1.0											
WALK (WALK)	0-255																			
PED CLEARANCE (P CLR)	0-255																			
ADDED INITIAL GREEN	0-25.5		1.3				1.3													
MAX INITIAL GREEN	0-255		20				10													
TIME BEFORE REDUCTION	0-255		10				10													
TIME TO REDUCE	0-255		20				20													
MIN GAP	0-25.5		4.0				4.0													
DYNAMIC MAX LIMIT	0-255																			
MAX STEP	0-25.5																			
RECALL	CODES		MIN				MIN													
LOOP # - DELAY (in sec.)	0-25.5																			
LOOP # - EXTEND (in sec.)	0-25.5																			
RECALL FUNCTIONS <table> <tr><td>MON</td><td>MEMORY ON</td></tr> <tr><td>MOF</td><td>MEMORY OFF</td></tr> <tr><td>MIN</td><td>MINIMUM</td></tr> <tr><td>MAX</td><td>MAXIMUM</td></tr> <tr><td>PMN</td><td>PEDESTRIAN AND MINIMUM</td></tr> <tr><td>PMX</td><td>PEDESTRIAN AND MAXIMUM</td></tr> </table>								MON	MEMORY ON	MOF	MEMORY OFF	MIN	MINIMUM	MAX	MAXIMUM	PMN	PEDESTRIAN AND MINIMUM	PMX	PEDESTRIAN AND MAXIMUM	
MON	MEMORY ON																			
MOF	MEMORY OFF																			
MIN	MINIMUM																			
MAX	MAXIMUM																			
PMN	PEDESTRIAN AND MINIMUM																			
PMX	PEDESTRIAN AND MAXIMUM																			
Note 1: Runs Max II during coordination																				
Note 2:																				
Note 3: OLA=Φ1+Φ2; OLB=Φ5+Φ6																				

Emergency Preemption Sequence



HCM 2010 Signalized Intersection Summary 2017 Existing AM

I-10 WB at Acadian

6/25/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	597	8	644	40	510	0	0	1031	100
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1881	1882	1863	1759	1863	0	0	1881	1881
Adj Flow Rate, veh/h				648	0	0	43	548	0	0	1109	0
Adj No. of Lanes				2	0	1	1	2	0	0	2	1
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				1	0	2	8	2	0	0	1	1
Cap, veh/h				786	0	347	58	2349	0	0	2044	914
Arrive On Green				0.22	0.00	0.00	0.03	0.66	0.00	0.00	0.57	0.00
Sat Flow, veh/h				3583	0	1583	1675	3632	0	0	3668	1599
Grp Volume(v), veh/h				648	0	0	43	548	0	0	1109	0
Grp Sat Flow(s),veh/h/ln				1792	0	1583	1675	1770	0	0	1787	1599
Q Serve(g_s), s				17.2	0.0	0.0	2.5	6.2	0.0	0.0	19.3	0.0
Cycle Q Clear(g_c), s				17.2	0.0	0.0	2.5	6.2	0.0	0.0	19.3	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				786	0	347	58	2349	0	0	2044	914
V/C Ratio(X)				0.82	0.00	0.00	0.74	0.23	0.00	0.00	0.54	0.00
Avail Cap(c_a), veh/h				1039	0	459	122	2349	0	0	2044	914
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				37.2	0.0	0.0	47.8	6.7	0.0	0.0	13.3	0.0
Incr Delay (d2), s/veh				4.9	0.0	0.0	22.3	0.2	0.0	0.0	1.0	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				14.0	0.0	0.0	2.8	5.5	0.0	0.0	14.8	0.0
LnGrp Delay(d),s/veh				42.0	0.0	0.0	70.1	6.9	0.0	0.0	14.3	0.0
LnGrp LOS				D			E	A			B	
Approach Vol, veh/h					648			591			1109	
Approach Delay, s/veh					42.0			11.5			14.3	
Approach LOS					D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.2	62.9		27.9		72.1						
Change Period (Y+Rc), s	5.7	5.7		6.0		5.7						
Max Green Setting (Gmax), s	7.3	46.3		29.0		59.3						
Max Q Clear Time (g_c+I1), s	4.5	21.3		19.2		8.2						
Green Ext Time (p_c), s	0.0	21.5		2.7		38.9						
Intersection Summary												
HCM 2010 Ctrl Delay				21.3								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

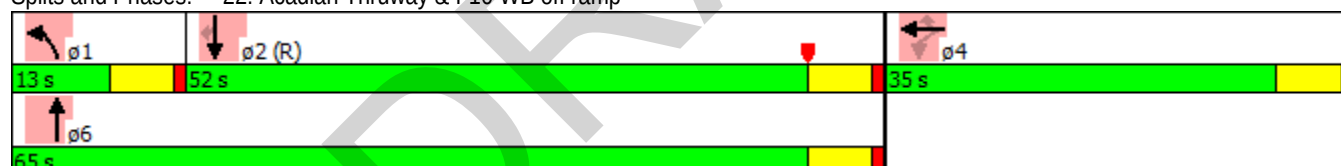


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	597	8	644	40	510	1031	100
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		4		1	6	2	
Permitted Phases	4		4				2
Detector Phase	4	4	4	1	6	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	15.0	15.0	15.0
Minimum Split (s)	11.0	11.0	11.0	10.7	21.7	21.7	21.7
Total Split (s)	35.0	35.0	35.0	13.0	65.0	52.0	52.0
Total Split (%)	35.0%	35.0%	35.0%	13.0%	65.0%	52.0%	52.0%
Yellow Time (s)	5.0	5.0	5.0	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?				Yes			
Recall Mode	None	None	None	None	Min	C-Min	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 42 (42%), Referenced to phase 2:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 22: Acadian Thruway & I-10 WB off ramp



HCM 2010 Signalized Intersection Summary 2017 Existing PM

I-10 WB at Acadian

6/25/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	532	21	672	56	519	0	0	1206	112
Number				7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1900	1900	1863	1881	0	0	1900	1881
Adj Flow Rate, veh/h				570	0	0	58	541	0	0	1256	0
Adj No. of Lanes				2	0	1	1	2	0	0	2	1
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				0	0	0	2	1	0	0	0	1
Cap, veh/h				707	0	316	75	2458	0	0	2124	941
Arrive On Green				0.20	0.00	0.00	0.04	0.69	0.00	0.00	0.59	0.00
Sat Flow, veh/h				3619	0	1615	1774	3668	0	0	3705	1599
Grp Volume(v), veh/h				570	0	0	58	541	0	0	1256	0
Grp Sat Flow(s),veh/h/ln				1810	0	1615	1774	1787	0	0	1805	1599
Q Serve(g_s), s				15.0	0.0	0.0	3.2	5.6	0.0	0.0	22.0	0.0
Cycle Q Clear(g_c), s				15.0	0.0	0.0	3.2	5.6	0.0	0.0	22.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				707	0	316	75	2458	0	0	2124	941
V/C Ratio(X)				0.81	0.00	0.00	0.78	0.22	0.00	0.00	0.59	0.00
Avail Cap(c_a), veh/h				1013	0	452	130	2458	0	0	2124	941
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				38.4	0.0	0.0	47.4	5.7	0.0	0.0	13.0	0.0
Incr Delay (d2), s/veh				4.0	0.0	0.0	21.3	0.1	0.0	0.0	1.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln				12.5	0.0	0.0	3.7	4.9	0.0	0.0	16.7	0.0
LnGrp Delay(d),s/veh				42.4	0.0	0.0	68.7	5.8	0.0	0.0	14.2	0.0
LnGrp LOS				D			E	A			B	
Approach Vol, veh/h					570			599			1256	
Approach Delay, s/veh					42.4			11.9			14.2	
Approach LOS					D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	64.6		25.5		74.5						
Change Period (Y+Rc), s	5.7	5.7		6.0		5.7						
Max Green Setting (Gmax), s	7.3	47.3		28.0		60.3						
Max Q Clear Time (g_c+l1), s	5.2	24.0		17.0		7.6						
Green Ext Time (p_c), s	0.0	20.2		2.5		39.6						
Intersection Summary												
HCM 2010 Ctrl Delay				20.3								
HCM 2010 LOS				C								
Notes												
User approved volume balancing among the lanes for turning movement.												

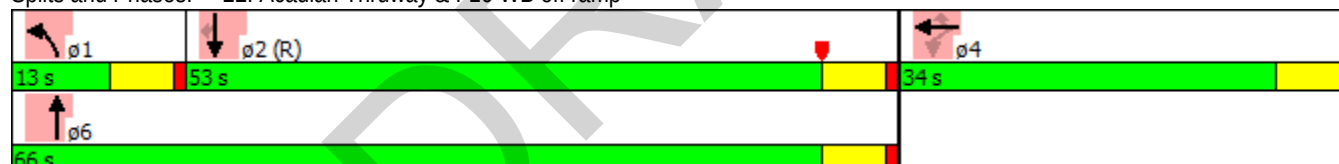


Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Volume (vph)	532	21	672	56	519	1206	112
Turn Type	Perm	NA	Perm	Prot	NA	NA	Perm
Protected Phases		4		1	6	2	
Permitted Phases	4		4				2
Detector Phase	4	4	4	1	6	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	15.0	15.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	21.0	21.0
Total Split (s)	34.0	34.0	34.0	13.0	66.0	53.0	53.0
Total Split (%)	34.0%	34.0%	34.0%	13.0%	66.0%	53.0%	53.0%
Yellow Time (s)	5.0	5.0	5.0	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag				Lead		Lag	Lag
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	None	C-Min	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 22: Acadian Thruway & I-10 WB off ramp



HCM 2010 Signalized Intersection Summary 2017 Existing AM

I-10 EB at Acadian

6/25/2019

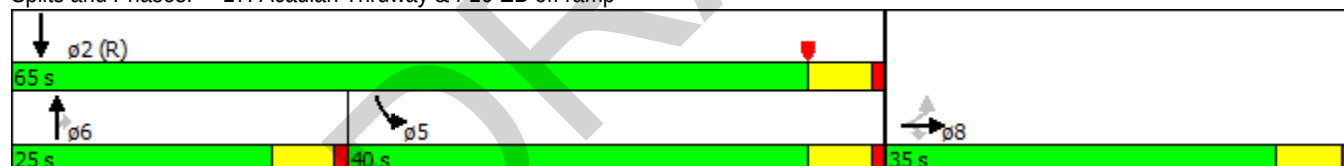
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	2	87	0	0	0	0	459	728	535	1113	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1827	1900	1881	1881	0
Adj Flow Rate, veh/h	62	2	0				0	499	0	582	1210	0
Adj No. of Lanes	0	1	1				0	2	1	1	2	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0				0	4	0	1	1	0
Cap, veh/h	85	3	79				0	610	284	1078	2982	0
Arrive On Green	0.05	0.05	0.00				0.00	0.18	0.00	0.60	0.83	0.00
Sat Flow, veh/h	1756	57	1615				0	3563	1615	1792	3668	0
Grp Volume(v), veh/h	64	0	0				0	499	0	582	1210	0
Grp Sat Flow(s),veh/h/ln	1812	0	1615				0	1736	1615	1792	1787	0
Q Serve(g_s), s	3.5	0.0	0.0				0.0	13.8	0.0	19.2	8.5	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0				0.0	13.8	0.0	19.2	8.5	0.0
Prop In Lane	0.97		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	88	0	79				0	610	284	1078	2982	0
V/C Ratio(X)	0.73	0.00	0.00				0.00	0.82	0.00	0.54	0.41	0.00
Avail Cap(c_a), veh/h	526	0	468				0	670	312	1078	2982	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	46.9	0.0	0.0				0.0	39.7	0.0	11.8	2.1	0.0
Incr Delay (d2), s/veh	14.9	0.0	0.0				0.0	10.4	0.0	0.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.8	0.0	0.0				0.0	12.0	0.0	14.7	7.6	0.0
LnGrp Delay(d),s/veh	61.8	0.0	0.0				0.0	50.1	0.0	12.5	2.5	0.0
LnGrp LOS	E							D		B	A	
Approach Vol, veh/h		64						499			1792	
Approach Delay, s/veh		61.8						50.1			5.7	
Approach LOS		E						D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		89.1			65.9	23.3		10.9				
Change Period (Y+Rc), s		5.7			5.7	5.7		6.0				
Max Green Setting (Gmax), s		59.3			34.3	19.3		29.0				
Max Q Clear Time (g_c+I1), s		10.5			21.2	15.8		5.5				
Green Ext Time (p_c), s		34.2			11.5	1.7		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									

	→	↘	↑	↗	↙	↓
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↕	↗	↕	↗	↙	↕
Volume (vph)	2	87	459	728	535	1113
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		6		5	2
Permitted Phases		8		6		
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	15.0
Minimum Split (s)	22.0	22.0	21.7	21.7	10.7	21.7
Total Split (s)	35.0	35.0	25.0	25.0	40.0	65.0
Total Split (%)	35.0%	35.0%	25.0%	25.0%	40.0%	65.0%
Yellow Time (s)	5.0	5.0	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	None	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 42 (42%), Referenced to phase 2:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 17: Acadian Thruway & I-10 EB off ramp



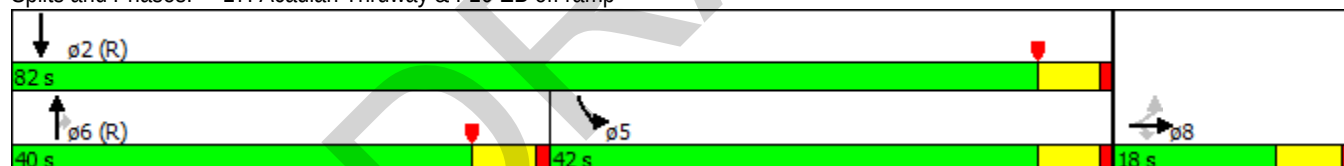
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	1	74	0	0	0	0	557	793	591	1145	0
Number	3	8	18				1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1779	1881				0	1881	1900	1900	1881	0
Adj Flow Rate, veh/h	31	1	0				0	568	0	603	1168	0
Adj No. of Lanes	0	1	1				0	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	0	1				0	1	0	0	1	0
Cap, veh/h	48	2	47				0	846	382	1013	3051	0
Arrive On Green	0.03	0.03	0.00				0.00	0.24	0.00	0.56	0.85	0.00
Sat Flow, veh/h	1644	53	1599				0	3668	1615	1810	3668	0
Grp Volume(v), veh/h	32	0	0				0	568	0	603	1168	0
Grp Sat Flow(s),veh/h/ln	1697	0	1599				0	1787	1615	1810	1787	0
Q Serve(g_s), s	1.9	0.0	0.0				0.0	14.4	0.0	22.0	7.1	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.0				0.0	14.4	0.0	22.0	7.1	0.0
Prop In Lane	0.97		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	50	0	47				0	846	382	1013	3051	0
V/C Ratio(X)	0.64	0.00	0.00				0.00	0.67	0.00	0.60	0.38	0.00
Avail Cap(c_a), veh/h	204	0	192				0	1226	554	1013	3051	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	48.0	0.0	0.0				0.0	34.6	0.0	14.5	1.6	0.0
Incr Delay (d2), s/veh	17.8	0.0	0.0				0.0	4.2	0.0	1.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.0	0.0				0.0	12.1	0.0	16.7	6.4	0.0
LnGrp Delay(d),s/veh	65.8	0.0	0.0				0.0	38.9	0.0	15.7	2.0	0.0
LnGrp LOS	E							D		B	A	
Approach Vol, veh/h		32						568			1771	
Approach Delay, s/veh		65.8						38.9			6.6	
Approach LOS		E						D			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.1			61.7	29.4		8.9				
Change Period (Y+Rc), s		5.7			5.7	5.7		6.0				
Max Green Setting (Gmax), s		76.3			36.3	34.3		12.0				
Max Q Clear Time (g_c+l1), s		9.1			24.0	16.4		3.9				
Green Ext Time (p_c), s		26.1			9.4	7.2		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			15.1									
HCM 2010 LOS			B									

	→	↘	↑	↗	↙	↓
Lane Group	EBT	EBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↗	↕	↗	↙	↕
Volume (vph)	1	74	557	793	591	1145
Turn Type	NA	Perm	NA	Perm	Prot	NA
Protected Phases	8		6		5	2
Permitted Phases		8		6		
Detector Phase	8	8	6	6	5	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	5.0	5.0
Minimum Split (s)	11.0	11.0	21.0	21.0	11.0	11.0
Total Split (s)	18.0	18.0	40.0	40.0	42.0	82.0
Total Split (%)	18.0%	18.0%	40.0%	40.0%	42.0%	82.0%
Yellow Time (s)	5.0	5.0	4.7	4.7	4.7	4.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.7	5.7	5.7	5.7
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	None	C-Max

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 17: Acadian Thruway & I-10 EB off ramp



HCM 2010 Signalized Intersection Summary

2017 Existing AM

Acadian at Acadian Centre

6/25/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1	0	3	0	99	0	1091	7	88	1054	3
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1267	1900	1900	1900	1900	1900	1900	1863	1667	1900	1880	1900
Adj Flow Rate, veh/h	2	1	0	3	0	110	0	1212	8	98	1171	3
Adj No. of Lanes	1	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	50	0	0	100	100	0	2	2	14	0	1	1
Cap, veh/h	5	8	0	147	0	185	0	2411	1079	372	2796	7
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.68	0.68	0.03	0.76	0.76
Sat Flow, veh/h	1206	1900	0	1809	0	1615	0	3632	1416	1810	3655	9
Grp Volume(v), veh/h	2	1	0	3	0	110	0	1212	8	98	572	602
Grp Sat Flow(s),veh/h/ln	1206	1900	0	1810	0	1615	0	1770	1416	1810	1786	1878
Q Serve(g_s), s	0.2	0.1	0.0	0.2	0.0	6.5	0.0	16.6	0.1	1.5	11.1	11.1
Cycle Q Clear(g_c), s	0.2	0.1	0.0	0.2	0.0	6.5	0.0	16.6	0.1	1.5	11.1	11.1
Prop In Lane	1.00		0.00	1.00		1.00	0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	5	8	0	147	0	185	0	2411	1079	372	1366	1437
V/C Ratio(X)	0.41	0.13	0.00	0.02	0.00	0.59	0.00	0.50	0.01	0.26	0.42	0.42
Avail Cap(c_a), veh/h	109	171	0	163	0	200	0	2411	1079	474	1366	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	49.6	0.0	42.3	0.0	42.0	0.0	7.7	2.8	5.9	4.1	4.1
Incr Delay (d2), s/veh	48.3	7.6	0.0	0.1	0.0	4.1	0.0	0.8	0.0	0.4	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.1	0.0	0.1	0.0	5.6	0.0	12.8	0.1	1.4	9.7	10.1
LnGrp Delay(d),s/veh	98.0	57.2	0.0	42.3	0.0	46.1	0.0	8.5	2.9	6.3	5.0	5.0
LnGrp LOS	F	E		D		D		A	A	A	A	A
Approach Vol, veh/h	3			113			1220			1272		
Approach Delay, s/veh	84.4			46.0			8.4			5.1		
Approach LOS	F			D			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	81.5			13.1			73.1			5.4		
Change Period (Y+Rc), s	5.0			5.0			5.0			5.0		
Max Green Setting (Gmax), s	67.0			9.0			53.0			9.0		
Max Q Clear Time (g_c+l1), s	13.1			8.5			18.6			2.2		
Green Ext Time (p_c), s	50.4			0.0			0.1			32.9		
Intersection Summary												
HCM 2010 Ctrl Delay	8.5											
HCM 2010 LOS	A											



Lane Group	EBL	EBT	WBT	WBR	NBT	NBR	SBL	SBT
Lane Configurations								
Volume (vph)	2	1	0	99	1091	7	88	1054
Turn Type	Split	NA	NA	pm+ov	NA	pm+ov	pm+pt	NA
Protected Phases	8	8	4	5	6	4	5	2
Permitted Phases				4		6	2	
Detector Phase	8	8	4	5	6	4	5	2
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	3.0	10.0	5.0	3.0	15.0
Minimum Split (s)	10.0	10.0	10.0	8.0	21.0	10.0	8.0	21.0
Total Split (s)	14.0	14.0	14.0	14.0	58.0	14.0	14.0	72.0
Total Split (%)	14.0%	14.0%	14.0%	14.0%	58.0%	14.0%	14.0%	72.0%
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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag				Lead	Lag		Lead	
Lead-Lag Optimize?				Yes	Yes		Yes	
Recall Mode	None	None	None	None	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 44 (44%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Acadian Thruway & Steakhouse Dwy/Acadian Centre

ø2 (R)	ø4	ø8	ø5	ø6 (R)	
72 s	14 s	14 s	14 s	58 s	

HCM 2010 Signalized Intersection Summary 2017 Existing PM

Acadian at Acadian Centre

6/25/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	12	1	9	13	8	59	14	1291	28	52	1116	40
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1863	1900	1881	1900	1900	1882	1900
Adj Flow Rate, veh/h	12	1	9	13	8	60	14	1317	29	53	1139	41
Adj No. of Lanes	1	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	2	1	1	0	0	1	1
Cap, veh/h	41	4	34	58	36	117	46	2429	1217	328	2733	98
Arrive On Green	0.02	0.02	0.02	0.05	0.05	0.05	0.70	0.70	0.70	0.02	0.78	0.78
Sat Flow, veh/h	1810	164	1476	1141	702	1583	14	3454	1614	1810	3520	127
Grp Volume(v), veh/h	12	0	10	21	0	60	708	623	29	53	578	602
Grp Sat Flow(s),veh/h/ln	1810	0	1640	1843	0	1583	1841	1626	1614	1810	1788	1859
Q Serve(g_s), s	0.7	0.0	0.6	1.1	0.0	3.6	0.0	18.4	0.5	0.8	10.7	10.7
Cycle Q Clear(g_c), s	0.7	0.0	0.6	1.1	0.0	3.6	17.9	18.4	0.5	0.8	10.7	10.7
Prop In Lane	1.00		0.90	0.62		1.00	0.02		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	41	0	37	94	0	117	1332	1144	1217	328	1388	1444
V/C Ratio(X)	0.29	0.00	0.27	0.22	0.00	0.51	0.53	0.54	0.02	0.16	0.42	0.42
Avail Cap(c_a), veh/h	163	0	148	129	0	147	1332	1144	1217	413	1388	1444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	0.0	48.0	45.6	0.0	44.6	7.1	7.1	3.1	5.7	3.7	3.7
Incr Delay (d2), s/veh	3.8	0.0	3.7	1.2	0.0	3.4	1.5	1.9	0.0	0.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	0.6	1.1	0.0	3.1	14.9	13.6	0.5	0.7	9.3	9.6
LnGrp Delay(d),s/veh	51.9	0.0	51.8	46.8	0.0	48.0	8.6	9.0	3.1	5.9	4.6	4.6
LnGrp LOS	D		D	D		D	A	A	A	A	A	A
Approach Vol, veh/h	22				81		1360				1233	
Approach Delay, s/veh	51.8				47.7		8.7				4.7	
Approach LOS	D				D		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		5		6		8			
Phs Duration (G+Y+Rc), s	82.6		10.1		7.3		75.3		7.3			
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0		5.0			
Max Green Setting (Gmax), s	69.0		7.0		7.0		57.0		9.0			
Max Q Clear Time (g_c+l1), s	12.7		5.6		2.8		20.4		2.7			
Green Ext Time (p_c), s	53.3		0.0		0.0		35.3		0.0			
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									



Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations									
Volume (vph)	12	1	8	59	14	1291	28	52	1116
Turn Type	Split	NA	NA	pm+ov	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	8	8	4	5		6	4	5	2
Permitted Phases				4	6		6	2	
Detector Phase	8	8	4	5	6	6	4	5	2
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	3.0	10.0	10.0	5.0	3.0	15.0
Minimum Split (s)	10.0	10.0	10.0	8.0	21.0	21.0	10.0	8.0	21.0
Total Split (s)	14.0	14.0	12.0	12.0	62.0	62.0	12.0	12.0	74.0
Total Split (%)	14.0%	14.0%	12.0%	12.0%	62.0%	62.0%	12.0%	12.0%	74.0%
Yellow Time (s)	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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0
Lead/Lag				Lead	Lag	Lag		Lead	
Lead-Lag Optimize?				Yes	Yes	Yes		Yes	
Recall Mode	None	None	None	None	C-Min	C-Min	None	None	C-Min

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Acadian Thruway & Steakhouse Dwy/Acadian Centre

02 (R)						04	08
74 s						12 s	14 s
05	06 (R)						
12 s	62 s						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	212	573	51	141	870	243	227	633	100	245	672	47
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1881	1892	1900	1881	1863	1845	1827	1881	1900	1863	1900	1863
Adj Flow Rate, veh/h	223	603	54	148	916	256	239	666	105	258	707	49
Adj No. of Lanes	2	2	0	2	2	1	1	2	1	2	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	0	0	1	2	3	4	1	0	2	0	2
Cap, veh/h	280	1142	102	205	1135	649	265	1145	613	322	945	541
Arrive On Green	0.08	0.34	0.34	0.06	0.32	0.32	0.15	0.32	0.32	0.09	0.26	0.26
Sat Flow, veh/h	3476	3338	298	3476	3539	1568	1740	3574	1615	3442	3610	1580
Grp Volume(v), veh/h	223	324	333	148	916	256	239	666	105	258	707	49
Grp Sat Flow(s),veh/h/ln	1738	1798	1839	1738	1770	1568	1740	1787	1615	1721	1805	1580
Q Serve(g_s), s	7.6	17.4	17.4	5.0	28.5	13.7	16.2	18.7	5.2	8.8	21.6	2.5
Cycle Q Clear(g_c), s	7.6	17.4	17.4	5.0	28.5	13.7	16.2	18.7	5.2	8.8	21.6	2.5
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	280	615	629	205	1135	649	265	1145	613	322	945	541
V/C Ratio(X)	0.80	0.53	0.53	0.72	0.81	0.39	0.90	0.58	0.17	0.80	0.75	0.09
Avail Cap(c_a), veh/h	333	615	629	333	1135	649	281	1145	613	556	945	541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	31.7	31.7	55.5	37.4	24.6	50.0	34.1	24.7	53.3	40.7	26.8
Incr Delay (d2), s/veh	10.1	3.2	3.2	3.5	6.2	1.8	28.5	0.9	0.2	3.5	5.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.2	14.2	14.5	4.5	21.2	10.3	15.0	14.4	4.2	7.8	17.0	2.1
LnGrp Delay(d),s/veh	64.3	34.9	34.9	59.0	43.6	26.4	78.5	35.0	24.9	56.8	46.1	27.1
LnGrp LOS	E	C	C	E	D	C	E	C	C	E	D	C
Approach Vol, veh/h		880			1320			1010			1014	
Approach Delay, s/veh		42.3			42.0			44.2			47.9	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	46.5	23.9	37.0	15.2	44.0	16.8	44.0				
Change Period (Y+Rc), s	5.5	5.5	5.6	5.6	5.5	5.5	5.6	5.6				
Max Green Setting (Gmax), s	11.5	35.5	19.4	31.4	11.5	35.5	19.4	31.4				
Max Q Clear Time (g_c+I1), s	7.0	19.4	18.2	23.6	9.6	30.5	10.8	20.7				
Green Ext Time (p_c), s	0.1	12.0	0.1	5.9	0.1	4.3	0.4	7.7				
Intersection Summary												
HCM 2010 Ctrl Delay			44.0									
HCM 2010 LOS			D									
Notes												
User approved changes to right turn type.												

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	212	573	141	870	243	227	633	100	245	672	47
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	1	7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	6 7	3	8	8 1	7	4	4 5
Switch Phase											
Minimum Initial (s)	5.0	12.0	5.0	12.0	5.0	5.0	12.0	5.0	5.0	12.0	5.0
Minimum Split (s)	10.5	17.5	10.5	17.5	10.6	10.6	17.6	10.5	10.6	17.6	10.5
Total Split (s)	17.0	41.0	17.0	41.0	25.0	25.0	37.0	17.0	25.0	37.0	17.0
Total Split (%)	14.2%	34.2%	14.2%	34.2%	20.8%	20.8%	30.8%	14.2%	20.8%	30.8%	14.2%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.5	4.6	4.6	4.5
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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.5	5.6	5.6	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 68 (57%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Acadian Thruway & Perkins Road

			
17 s	41 s	25 s	37 s
			
17 s	41 s	25 s	37 s

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	295	881	54	163	874	202	158	783	139	380	477	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1900	1900	1900	1881	1881	1881	1881	1900	1881	1900	1900
Adj Flow Rate, veh/h	298	890	55	165	883	204	160	791	140	384	482	41
Adj No. of Lanes	2	2	0	2	2	1	1	2	1	2	2	1
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	1	1	1	1	0	1	0	0
Cap, veh/h	349	1443	89	215	1358	804	183	892	502	428	978	597
Arrive On Green	0.10	0.42	0.42	0.06	0.38	0.38	0.10	0.25	0.25	0.12	0.27	0.27
Sat Flow, veh/h	3510	3454	213	3510	3574	1599	1792	3574	1615	3476	3610	1611
Grp Volume(v), veh/h	298	465	480	165	883	204	160	791	140	384	482	41
Grp Sat Flow(s),veh/h/ln	1755	1805	1862	1755	1787	1599	1792	1787	1615	1738	1805	1611
Q Serve(g_s), s	12.5	30.3	30.3	6.9	30.5	10.9	13.2	32.0	9.8	16.3	16.9	2.5
Cycle Q Clear(g_c), s	12.5	30.3	30.3	6.9	30.5	10.9	13.2	32.0	9.8	16.3	16.9	2.5
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	349	754	778	215	1358	804	183	892	502	428	978	597
V/C Ratio(X)	0.85	0.62	0.62	0.77	0.65	0.25	0.88	0.89	0.28	0.90	0.49	0.07
Avail Cap(c_a), veh/h	456	754	778	456	1358	804	232	939	523	450	978	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.5	34.2	34.2	69.3	38.3	21.2	66.4	54.2	39.0	64.8	46.0	30.5
Incr Delay (d2), s/veh	10.9	3.8	3.6	4.2	2.4	0.8	23.5	10.2	0.4	19.5	1.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.8	22.4	23.0	6.3	22.0	8.6	12.3	23.9	7.9	13.9	13.5	2.0
LnGrp Delay(d),s/veh	77.4	38.0	37.9	73.6	40.7	22.0	89.9	64.4	39.4	84.3	47.8	30.8
LnGrp LOS	E	D	D	E	D	C	F	E	D	F	D	C
Approach Vol, veh/h	1243				1252			1091			907	
Approach Delay, s/veh	47.4				42.0			65.0			62.5	
Approach LOS	D				D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	68.2	20.9	46.2	20.4	62.5	24.1	43.1				
Change Period (Y+Rc), s	5.5	5.5	5.6	5.6	5.5	5.5	5.6	5.6				
Max Green Setting (Gmax), s	19.5	49.5	19.4	39.4	19.5	49.5	19.4	39.4				
Max Q Clear Time (g_c+I1), s	8.9	32.3	15.2	18.9	14.5	32.5	18.3	34.0				
Green Ext Time (p_c), s	0.3	13.6	0.1	11.8	0.4	13.5	0.1	3.5				
Intersection Summary												
HCM 2010 Ctrl Delay	53.2											
HCM 2010 LOS	D											
Notes												

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	295	881	163	874	202	158	783	139	380	477	41
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8	1	7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	1	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	12.0	5.0	12.0	5.0	5.0	12.0	5.0	5.0	12.0	5.0
Minimum Split (s)	10.5	18.0	10.5	18.0	10.6	10.6	18.0	10.5	10.6	18.0	10.5
Total Split (s)	25.0	55.0	25.0	55.0	25.0	25.0	45.0	25.0	25.0	45.0	25.0
Total Split (%)	16.7%	36.7%	16.7%	36.7%	16.7%	16.7%	30.0%	16.7%	16.7%	30.0%	16.7%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.5	4.6	4.6	4.5
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
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.5	5.6	5.6	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?											
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	Max	None

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 60 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Acadian Thruway & Perkins Road

			
25 s	55 s	25 s	45 s
			
25 s	55 s	25 s	45 s

HCM 2010 Signalized Intersection Summary

2017 Existing AM

I-10 at Perkins

6/25/2019

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Volume (veh/h)	45	606	476	703	299	28		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1881	1863	1863	1855	1900		
Adj Flow Rate, veh/h	46	618	486	0	305	0		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	0	1	2	2	0	0		
Cap, veh/h	593	2569	1194	1015	337	0		
Arrive On Green	0.03	0.72	0.64	0.00	0.19	0.00		
Sat Flow, veh/h	1810	3668	1863	1583	1761	0		
Grp Volume(v), veh/h	46	618	486	0	306	0		
Grp Sat Flow(s),veh/h/ln	1810	1787	1863	1583	1767	0		
Q Serve(g_s), s	1.0	7.1	15.2	0.0	20.3	0.0		
Cycle Q Clear(g_c), s	1.0	7.1	15.2	0.0	20.3	0.0		
Prop In Lane	1.00			1.00	1.00	0.00		
Lane Grp Cap(c), veh/h	593	2569	1194	1015	338	0		
V/C Ratio(X)	0.08	0.24	0.41	0.00	0.91	0.00		
Avail Cap(c_a), veh/h	610	2569	1194	1015	663	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	7.2	5.7	10.5	0.0	47.5	0.0		
Incr Delay (d2), s/veh	0.0	0.2	1.0	0.0	7.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.9	6.3	12.7	0.0	15.9	0.0		
LnGrp Delay(d),s/veh	7.2	6.0	11.5	0.0	54.5	0.0		
LnGrp LOS	A	A	B		D			
Approach Vol, veh/h		664	486		306			
Approach Delay, s/veh		6.1	11.5		54.5			
Approach LOS		A	B		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		91.6		28.4	9.3	82.3		
Change Period (Y+Rc), s		5.4		5.4	5.4	5.4		
Max Green Setting (Gmax), s		64.6		45.0	5.0	54.2		
Max Q Clear Time (g_c+I1), s		9.1		22.3	3.0	17.2		
Green Ext Time (p_c), s		20.0		0.6	0.0	17.1		
Intersection Summary								
HCM 2010 Ctrl Delay			18.0					
HCM 2010 LOS			B					
Notes								
User approved volume balancing among the lanes for turning movement.								

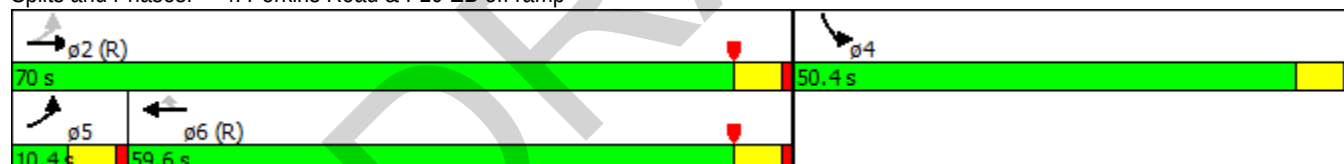


Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Volume (vph)	45	606	476	703	299
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	20.0	20.0	20.0	15.0
Minimum Split (s)	10.4	25.4	25.4	25.4	20.4
Total Split (s)	10.4	70.0	59.6	59.6	50.4
Total Split (%)	8.6%	58.1%	49.5%	49.5%	41.9%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Min	C-Min	C-Min	None

Intersection Summary

Cycle Length: 120.4
 Actuated Cycle Length: 120.4
 Offset: 83 (69%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Perkins Road & I-10 EB off ramp



								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Volume (veh/h)	30	973	609	495	128	19		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1881	1881	1863	1900	1900		
Adj Flow Rate, veh/h	33	1069	669	0	141	0		
Adj No. of Lanes	1	2	1	1	0	0		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	3	1	1	2	0	0		
Cap, veh/h	538	2840	1362	1146	214	0		
Arrive On Green	0.03	0.79	0.72	0.00	0.12	0.00		
Sat Flow, veh/h	1757	3668	1881	1583	1797	0		
Grp Volume(v), veh/h	33	1069	669	0	142	0		
Grp Sat Flow(s),veh/h/ln	1757	1787	1881	1583	1810	0		
Q Serve(g_s), s	0.6	11.0	19.0	0.0	9.4	0.0		
Cycle Q Clear(g_c), s	0.6	11.0	19.0	0.0	9.4	0.0		
Prop In Lane	1.00			1.00	0.99	0.00		
Lane Grp Cap(c), veh/h	538	2840	1362	1146	216	0		
V/C Ratio(X)	0.06	0.38	0.49	0.00	0.66	0.00		
Avail Cap(c_a), veh/h	771	2840	1362	1146	377	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	0.00		
Uniform Delay (d), s/veh	5.3	3.8	7.4	0.0	52.6	0.0		
Incr Delay (d2), s/veh	0.0	0.4	1.3	0.0	2.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	0.5	9.3	15.6	0.0	8.5	0.0		
LnGrp Delay(d),s/veh	5.3	4.1	8.7	0.0	55.2	0.0		
LnGrp LOS	A	A	A		E			
Approach Vol, veh/h		1102	669		142			
Approach Delay, s/veh		4.2	8.7		55.2			
Approach LOS		A	A		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		104.7		20.3	8.8	95.9		
Change Period (Y+Rc), s		5.4		5.4	5.4	5.4		
Max Green Setting (Gmax), s		88.6		26.0	20.0	63.2		
Max Q Clear Time (g_c+I1), s		13.0		11.4	2.6	21.0		
Green Ext Time (p_c), s		45.8		0.2	0.0	31.0		
Intersection Summary								
HCM 2010 Ctrl Delay			9.5					
HCM 2010 LOS			A					
Notes								
User approved volume balancing among the lanes for turning movement.								



Lane Group	EBL	EBT	WBT	WBR	SBL
Lane Configurations					
Volume (vph)	30	973	609	495	128
Turn Type	pm+pt	NA	NA	Perm	Prot
Protected Phases	5	2	6		4
Permitted Phases	2			6	
Detector Phase	5	2	6	6	4
Switch Phase					
Minimum Initial (s)	5.0	20.0	20.0	20.0	15.0
Minimum Split (s)	25.4	25.4	25.4	25.4	20.4
Total Split (s)	25.4	94.0	68.6	68.6	31.4
Total Split (%)	20.3%	75.0%	54.7%	54.7%	25.0%
Yellow Time (s)	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.4	5.4	5.4
Lead/Lag	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes		Yes	Yes	
Recall Mode	None	C-Min	C-Min	C-Min	None

Intersection Summary

Cycle Length: 125.4
 Actuated Cycle Length: 125.4
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 4: Perkins Road & I-10 EB off ramp



HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/4/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB west of Perkins off ramp		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5356	Heavy Vehicle Adjustment Factor (fhv)	0.885
Peak Hour Factor	0.96	Flow Rate (Vp), pc/h/ln	2101
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.93
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.8
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	39.8
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/4/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB west of Perkins off ramp		

Geometric Data

Number of Lanes, In	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4848	Heavy Vehicle Adjustment Factor (fhv)	0.901
Peak Hour Factor	0.96	Flow Rate (Vp), pc/h/ln	1868
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.83
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	54.9
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	34.0
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

HCS7 Freeway Diverge Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA- I-10 EB Diverge at Perkins Rd		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	30.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	150
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5356	327
Peak Hour Factor (PHF)	0.96	0.92
Total Trucks, %	13.00	2.40
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.885	0.977
Flow Rate (v _i), pc/h	6304	364
Capacity (c), pc/h	6900	1900
Volume-to-Capacity Ratio (v/c)	0.91	0.19

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	36.0
Distance to Upstream Ramp (L _{UP}), ft	4700	Speed Index (D _s)	0.526
Downstream Equilibrium Distance (L _{EQ}), ft	227.1	Flow Outer Lanes (V _{OA}), pc/h/ln	2459
Distance to Downstream Ramp (L _{DOWN}), ft	850	Off-Ramp Influence Area Speed (S _R), mi/h	50.5
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.586	Outer Lanes Freeway Speed (S _O), mi/h	60.1
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3845	Ramp Junction Speed (S), mi/h	53.9
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	39.0
Level of Service (LOS)	E		

HCS7 Freeway Diverge Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA- I-10 EB Diverge at Perkins Rd		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	30.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	150
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4848	147
Peak Hour Factor (PHF)	0.96	0.67
Total Trucks, %	11.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.901	1.000
Flow Rate (v _i), pc/h	5605	219
Capacity (c), pc/h	6900	1900
Volume-to-Capacity Ratio (v/c)	0.81	0.12

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	33.0
Distance to Upstream Ramp (L _{UP}), ft	4700	Speed Index (D _s)	0.513
Downstream Equilibrium Distance (L _{EQ}), ft	140.8	Flow Outer Lanes (V _{OA}), pc/h/ln	2101
Distance to Downstream Ramp (L _{DOWN}), ft	850	Off-Ramp Influence Area Speed (S _R), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.610	Outer Lanes Freeway Speed (S _O), mi/h	61.5
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3504	Ramp Junction Speed (S), mi/h	54.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.4
Level of Service (LOS)	D		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB between Perkins and Acadian		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.1
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5029	Heavy Vehicle Adjustment Factor (fHV)	0.885
Peak Hour Factor	0.96	Flow Rate (Vp), pc/h/ln	1973
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2231
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2231
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	52.8
Right-Side Lateral Clearance Adj. (fRLC)	2.4	Density (D), pc/mi/ln	37.4
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFSadj), mi/h	53.1		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB between Perkins and Acadian		

Geometric Data

Number of Lanes, In	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.50
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	53.1
Right-Side Lateral Clearance, ft	0		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4701	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.96	Flow Rate (Vp), pc/h/ln	1812
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2231
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2231
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	53.1
Right-Side Lateral Clearance Adj. (fRLC)	2.4	Density (D), pc/mi/ln	34.1
Total Ramp Density Adjustment	4.5	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	53.1		

HCS7 Freeway Diverge Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA- I-10 EB Diverge at Acadian Thruway		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	30.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	110
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	5029	146
Peak Hour Factor (PHF)	0.96	0.79
Total Trucks, %	13.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.885	1.000
Flow Rate (v _i), pc/h	5919	185
Capacity (c), pc/h	6900	1900
Volume-to-Capacity Ratio (v/c)	0.86	0.10

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	34.6
Distance to Upstream Ramp (L _{UP}), ft	850	Speed Index (D _s)	0.510
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (V _{OA}), pc/h/ln	2271
Distance to Downstream Ramp (L _{DOWN}), ft	1930	Off-Ramp Influence Area Speed (S _R), mi/h	50.8
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.604	Outer Lanes Freeway Speed (S _O), mi/h	60.9
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3648	Ramp Junction Speed (S), mi/h	54.3
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	36.3
Level of Service (LOS)	D		

HCS7 Freeway Diverge Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA- I-10 EB Diverge at Acadian Thruway		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	30.0
Segment Length (L) / Deceleration Length (L _D), ft	1500	110
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V _i), veh/h	4701	105
Peak Hour Factor (PHF)	0.96	0.86
Total Trucks, %	11.00	2.60
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f _{HV})	0.901	0.975
Flow Rate (v _i), pc/h	5435	125
Capacity (c), pc/h	6900	1900
Volume-to-Capacity Ratio (v/c)	0.79	0.07

Speed and Density

Upstream Equilibrium Distance (L _{EQ}), ft	-	Density in Ramp Influence Area (D _R), pc/mi/ln	32.6
Distance to Upstream Ramp (L _{UP}), ft	850	Speed Index (D _s)	0.504
Downstream Equilibrium Distance (L _{EQ}), ft	-	Flow Outer Lanes (V _{OA}), pc/h/ln	2028
Distance to Downstream Ramp (L _{DOWN}), ft	1930	Off-Ramp Influence Area Speed (S _R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P _{FD})	0.618	Outer Lanes Freeway Speed (S _O), mi/h	61.8
Flow in Lanes 1 and 2 (v ₁₂), pc/h	3407	Ramp Junction Speed (S), mi/h	54.5
Flow Entering Ramp-Infl. Area (v _{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.2
Level of Service (LOS)	D		

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #1		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4883	624	641	0
Peak Hour Factor (PHF)	0.96	0.93	0.89	0.96
Total Trucks, %	13.00	0.60	2.00	13.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.885	0.994	0.980	0.885
Flow Rate (v _i), pc/h	5747	675	735	0
Weaving Flow Rate (v _w), pc/h	675	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	6482	Density-Based Capacity (c _{IDL}), pc/h/ln		2097
Total Flow Rate (v), pc/h	7157	Demand Flow-Based Capacity (c _W), pc/h		25532
Volume Ratio (VR)	0.094	Weaving Segment Capacity (c _w), veh/h		7423
Minimum Lane Change Rate (LC _{MIN}), lc/h	675	Adjusted Weaving Area Capacity, pc/h		8201
Maximum Weaving Length (L _{MAX}), ft	3481	Volume-to-Capacity Ratio (v/c)		0.87

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	896	Average Weaving Speed (S _w), mi/h	45.9
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	1014	Average Non-Weaving Speed (S _{NW}), mi/h	46.6
Weaving Lane Change Rate (LC _w), lc/h	990	Average Speed (S), mi/h	46.5
Total Lane Change Rate (LC _{all}), lc/h	2004	Density (D), pc/mi/ln	38.5
Weaving Intensity Factor (W)	0.454	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #1		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4596	891	494	0
Peak Hour Factor (PHF)	0.96	0.94	0.77	0.96
Total Trucks, %	11.00	0.50	2.00	11.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.901	0.995	0.980	0.901
Flow Rate (v _i), pc/h	5314	953	655	0
Weaving Flow Rate (v _w), pc/h	953	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	5969	Density-Based Capacity (c _{IDL}), pc/h/ln		2064
Total Flow Rate (v), pc/h	6922	Demand Flow-Based Capacity (c _W), pc/h		17391
Volume Ratio (VR)	0.138	Weaving Segment Capacity (c _w), veh/h		7439
Minimum Lane Change Rate (LC _{MIN}), lc/h	953	Adjusted Weaving Area Capacity, pc/h		8075
Maximum Weaving Length (L _{MAX}), ft	3912	Volume-to-Capacity Ratio (v/c)		0.86

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	825	Average Weaving Speed (S _w), mi/h	45.3
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	908	Average Non-Weaving Speed (S _{NW}), mi/h	44.8
Weaving Lane Change Rate (LC _w), lc/h	1268	Average Speed (S), mi/h	44.9
Total Lane Change Rate (LC _{AI}), lc/h	2176	Density (D), pc/mi/ln	38.5
Weaving Intensity Factor (W)	0.484	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #2		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4242	1265	0	641
Peak Hour Factor (PHF)	0.96	0.93	0.89	0.96
Total Trucks, %	13.00	0.60	2.00	13.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.885	0.994	0.980	0.885
Flow Rate (v _i), pc/h	4993	1368	0	754
Weaving Flow Rate (v _w), pc/h	2122	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	4993	Density-Based Capacity (c _{IDL}), pc/h/ln		1938
Total Flow Rate (v), pc/h	7115	Demand Flow-Based Capacity (c _W), pc/h		8054
Volume Ratio (VR)	0.298	Weaving Segment Capacity (c _w), veh/h		6861
Minimum Lane Change Rate (LC _{MIN}), lc/h	2122	Adjusted Weaving Area Capacity, pc/h		7572
Maximum Weaving Length (L _{MAX}), ft	5562	Volume-to-Capacity Ratio (v/c)		0.94

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	-	Average Weaving Speed (S _w), mi/h	-
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	-	Average Non-Weaving Speed (S _{NW}), mi/h	-
Weaving Lane Change Rate (LC _w), lc/h	-	Average Speed (S), mi/h	-
Total Lane Change Rate (LC _{AI}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #2		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4102	1385	0	494
Peak Hour Factor (PHF)	0.96	0.94	0.77	0.96
Total Trucks, %	11.00	0.50	2.00	11.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.901	0.995	0.980	0.901
Flow Rate (v _i), pc/h	4742	1481	0	571
Weaving Flow Rate (v _w), pc/h	2052	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	4742	Density-Based Capacity (c _{IDL}), pc/h/ln		1935
Total Flow Rate (v), pc/h	6794	Demand Flow-Based Capacity (c _W), pc/h		7947
Volume Ratio (VR)	0.302	Weaving Segment Capacity (c _w), veh/h		6974
Minimum Lane Change Rate (LC _{MIN}), lc/h	2052	Adjusted Weaving Area Capacity, pc/h		7568
Maximum Weaving Length (L _{MAX}), ft	5605	Volume-to-Capacity Ratio (v/c)		0.90

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	-	Average Weaving Speed (S _w), mi/h	-
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	-	Average Non-Weaving Speed (S _{NW}), mi/h	-
Weaving Lane Change Rate (LC _w), lc/h	-	Average Speed (S), mi/h	-
Total Lane Change Rate (LC _{AI}), lc/h	-	Density (D), pc/mi/ln	-
Weaving Intensity Factor (W)	-	Level of Service (LOS)	F

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #3		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4563	944	321	320
Peak Hour Factor (PHF)	0.96	0.93	0.89	0.96
Total Trucks, %	13.00	0.60	2.00	13.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.885	0.994	0.980	0.885
Flow Rate (v _i), pc/h	5371	1021	368	377
Weaving Flow Rate (v _w), pc/h	1398	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	5739	Density-Based Capacity (c _{IDL}), pc/h/ln		2019
Total Flow Rate (v), pc/h	7137	Demand Flow-Based Capacity (c _W), pc/h		12245
Volume Ratio (VR)	0.196	Weaving Segment Capacity (c _w), veh/h		7147
Minimum Lane Change Rate (LC _{MIN}), lc/h	1398	Adjusted Weaving Area Capacity, pc/h		7893
Maximum Weaving Length (L _{MAX}), ft	4495	Volume-to-Capacity Ratio (v/c)		0.90

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	794	Average Weaving Speed (S _w), mi/h	44.0
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	861	Average Non-Weaving Speed (S _{NW}), mi/h	41.4
Weaving Lane Change Rate (LC _w), lc/h	1713	Average Speed (S), mi/h	41.9
Total Lane Change Rate (LC _{AI}), lc/h	2574	Density (D), pc/mi/ln	42.6
Weaving Intensity Factor (W)	0.553	Level of Service (LOS)	E

HCS7 Freeway Weaving Report

Project Information

Analyst	SJT	Date	6/5/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 EB Weave b/w Acadian and College - Case #3		

Geometric Data

Number of Lanes (N), ln	4	Segment Type	Freeway
Short Length (L _s), ft	828	Number of Maneuver Lanes (N _{WL}), ln	2
Weaving Configuration	One-Sided	Ramp-to-Freeway Lane Changes (LC _{RF}), lc	1
Terrain Type	Level	Freeway-to-Ramp Lane Changes (LC _{FR}), lc	1
Percent Grade, %	-	Ramp-to-Ramp Lane Changes (LC _{RR}), lc	0
Interchange Density (ID), int/mi	1.67	Cross Weaving Managed Lane	No

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

	FF	RF	RR	FR
Demand Volume (V _i), veh/h	4349	1138	247	247
Peak Hour Factor (PHF)	0.96	0.94	0.77	0.96
Total Trucks, %	11.00	0.50	2.00	11.00
Heavy Vehicle Adjustment Factor (f _{HV})	0.901	0.995	0.980	0.901
Flow Rate (v _i), pc/h	5028	1217	327	286
Weaving Flow Rate (v _w), pc/h	1503	Freeway Max Capacity (c _{IFL}), pc/h/ln		2300
Non-Weaving Flow Rate (v _{NW}), pc/h	5355	Density-Based Capacity (c _{IDL}), pc/h/ln		2001
Total Flow Rate (v), pc/h	6858	Demand Flow-Based Capacity (c _W), pc/h		10959
Volume Ratio (VR)	0.219	Weaving Segment Capacity (c _w), veh/h		7212
Minimum Lane Change Rate (LC _{MIN}), lc/h	1503	Adjusted Weaving Area Capacity, pc/h		7827
Maximum Weaving Length (L _{MAX}), ft	4731	Volume-to-Capacity Ratio (v/c)		0.88

Speed and Density

Non-Weaving Vehicle Index (I _{NW})	740	Average Weaving Speed (S _w), mi/h	43.9
Non-Weaving Lane Change Rate (LC _{NW}), lc/h	782	Average Non-Weaving Speed (S _{NW}), mi/h	40.9
Weaving Lane Change Rate (LC _w), lc/h	1818	Average Speed (S), mi/h	41.5
Total Lane Change Rate (LC _{AI}), lc/h	2600	Density (D), pc/mi/ln	41.3
Weaving Intensity Factor (W)	0.557	Level of Service (LOS)	E

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at College		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	4	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	5907	456
Peak Hour Factor (PHF)	0.94	0.81
Total Trucks, %	6.00	1.20
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.988
Flow Rate (v_i), pc/h	6664	570
Capacity (c), pc/h	9200	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.29

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0
Distance to Upstream Ramp (L_{UP}), ft	1000	Speed Index (M_s)	0.336
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1999
Distance to Downstream Ramp (L_{DOWN}), ft	2650	On-Ramp Influence Area Speed (S_R), mi/h	54.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.147	Outer Lanes Freeway Speed (S_o), mi/h	54.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2666	Ramp Junction Speed (S), mi/h	54.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3236	Average Density (D), pc/mi/ln	33.3
Level of Service (LOS)	C		

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at College		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	4	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	1200
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	5446	359
Peak Hour Factor (PHF)	0.99	0.88
Total Trucks, %	8.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	1.000
Flow Rate (v_i), pc/h	5941	408
Capacity (c), pc/h	9200	2000
Volume-to-Capacity Ratio (v/c)	0.69	0.20

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	19.6
Distance to Upstream Ramp (L_{UP}), ft	1000	Speed Index (M_s)	0.300
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1783
Distance to Downstream Ramp (L_{DOWN}), ft	2650	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.167	Outer Lanes Freeway Speed (S_o), mi/h	55.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2376	Ramp Junction Speed (S), mi/h	55.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2784	Average Density (D), pc/mi/ln	28.9
Level of Service (LOS)	B		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB between College and Acadian		

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6363	Heavy Vehicle Adjustment Factor (fHV)	0.943
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	1794
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	32.6
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB between College and Acadian		

Geometric Data

Number of Lanes, In	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5805	Heavy Vehicle Adjustment Factor (fHV)	0.926
Peak Hour Factor	0.99	Flow Rate (Vp), pc/h/ln	1583
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	55.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	28.8
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at Acadian		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	232
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	5114	148
Peak Hour Factor (PHF)	0.94	0.92
Total Trucks, %	6.00	3.10
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.970
Flow Rate (v_i), pc/h	5769	166
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.86	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	801.3	Density in Ramp Influence Area (D_R), pc/mi/ln	31.6
Distance to Upstream Ramp (L_{UP}), ft	2400	Speed Index (M_s)	0.439
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	2400
Distance to Downstream Ramp (L_{DOWN}), ft	1482	On-Ramp Influence Area Speed (S_R), mi/h	52.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.584	Outer Lanes Freeway Speed (S_o), mi/h	52.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	3369	Ramp Junction Speed (S), mi/h	52.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3535	Average Density (D), pc/mi/ln	37.8
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at Acadian		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	232
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	4580	189
Peak Hour Factor (PHF)	0.99	0.86
Total Trucks, %	8.00	1.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.990
Flow Rate (v_i), pc/h	4996	222
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.76	0.11

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	647.9	Density in Ramp Influence Area (D_R), pc/mi/ln	28.5
Distance to Upstream Ramp (L_{UP}), ft	2400	Speed Index (M_s)	0.395
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	2078
Distance to Downstream Ramp (L_{DOWN}), ft	1482	On-Ramp Influence Area Speed (S_R), mi/h	52.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.584	Outer Lanes Freeway Speed (S_o), mi/h	54.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2918	Ramp Junction Speed (S), mi/h	53.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3140	Average Density (D), pc/mi/ln	32.6
Level of Service (LOS)	D		

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at Perkins		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	441
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	5262	748
Peak Hour Factor (PHF)	0.94	0.90
Total Trucks, %	6.00	1.90
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.981
Flow Rate (v_i), pc/h	5936	847
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.98	0.42

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	36.5
Distance to Upstream Ramp (L_{UP}), ft	1440	Speed Index (M_s)	0.599
Downstream Equilibrium Distance (LEQ), ft	3668.9	Flow Outer Lanes (VOA), pc/h/ln	2410
Distance to Downstream Ramp (L_{DOWN}), ft	3373	On-Ramp Influence Area Speed (S_R), mi/h	49.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.594	Outer Lanes Freeway Speed (S_o), mi/h	52.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	3526	Ramp Junction Speed (S), mi/h	50.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4373	Average Density (D), pc/mi/ln	44.9
Level of Service (LOS)	E		

HCS7 Freeway Merge Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB Merge at Perkins		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	441
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (V_i), veh/h	4769	525
Peak Hour Factor (PHF)	0.99	0.79
Total Trucks, %	8.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.980
Flow Rate (v_i), pc/h	5202	678
Capacity (c), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.85	0.34

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	31.7
Distance to Upstream Ramp (L_{UP}), ft	1440	Speed Index (M_s)	0.455
Downstream Equilibrium Distance (LEQ), ft	2121.7	Flow Outer Lanes (VOA), pc/h/ln	2133
Distance to Downstream Ramp (L_{DOWN}), ft	3373	On-Ramp Influence Area Speed (S_R), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.590	Outer Lanes Freeway Speed (S_o), mi/h	54.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	3069	Ramp Junction Speed (S), mi/h	52.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3747	Average Density (D), pc/mi/ln	37.3
Level of Service (LOS)	D		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing AM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB west of Perkins on ramp		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6010	Heavy Vehicle Adjustment Factor (fHV)	0.943
Peak Hour Factor	0.94	Flow Rate (Vp), pc/h/ln	2260
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	1.00
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	-
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	-
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	F
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

HCS7 Basic Freeway Report

Project Information

Analyst	SJT	Date	6/12/2019
Agency	USI - 10-085-2	Analysis Year	2017
Jurisdiction	LADOTD	Time Period Analyzed	Existing PM
Project Description	I-10 Corridor Improvement Stage 1 EA - I-10 WB west of Perkins on ramp		

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	1.67
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	55.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5294	Heavy Vehicle Adjustment Factor (fhv)	0.926
Peak Hour Factor	0.99	Flow Rate (Vp), pc/h/ln	1925
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2250
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2250
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	54.6
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	35.3
Total Ramp Density Adjustment	5.0	Level of Service (LOS)	E
Adjusted Free-Flow Speed (FFSadj), mi/h	55.0		

April 26, 2018

Quality Assurance/Quality Control Form

I-10 Corridor Improvement Stage 1 Environmental Assessment

S.P. No. H.004100

Baton Rouge, Louisiana

Document: ***Acadian / Perkins – Existing Network Analysis***

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The information contained herein, and/or any document attached to this email was prepared solely for the purpose of identifying, evaluating and planning safety improvements on public roads which may be implemented utilizing federal aid highway funds; it may be exempt from discovery or admission into evidence pursuant to 23 U.S.C. 409.

Appendix B QAQC

Task	Chapter/Appendix	Done by and Date	Checked by and Date
Archive Appendix B pdf with "submittal" and the submittal date in the title U:\Projects\ENGPROJ\2010Proj\10-085-2 EA\Acadian Perkins IMR\PDF Acadian\Appendix B Existing Network Analysis\old	App B	SJT 6/3/2019	LTP 6/4/19
Delete pdf pages and data in tables that will be updated	App B	SJT 6/3/2019	LTP 6/4/19
Re-pdf reports in Existing AM and PM Synchro using HCM 10 report	App B	SJT 6/12/19	LTP 6/25/19
Replace new HCM 10 Synchro reports in Appendix	App B	SJT 6/12/19	LTP 6/25/20
Table 2.1 Existing MOE's updated to match HCM 10 reports -	App B	SJT 6/25/19	LTP 6/25/19
Update input parameters Table for Merge/Diverge/Freeway and add College DR and freeway segments	App B	SJT 6/3/2019	LTP 6/17/19
Update Summary of inputs for Merge/Diverge and add College and freeway	App B	SJT 6/3/2019	LTP 6/4/19
Prepare weave sensitivity volumes	App B	SJT 6/4/19	LTP 6/5/19
Prepare weave sensitivity figures	App B	LTP 6/5/19	SJT 6/24/19
Update appendix with weave sensitivity figures	App B	SJT 6/24/19	LTP 6/25/19
Update peak hour factors for any new freeway sections and College ramps	App B	SJT 6/3/2019	LTP 6/4/19
Update Existing Merge/Diverge/Freeway Analyses - see next tab for analyses	App B	SJT 6/4 - 6/12/2019	LTP 6/18/19
Update Appendix with new Merge/Diverge/Freeway analyses pdf's	App B	SJT 6/12/19	LTP 6/18/19
Table 2.2 Merge/Diverge Updated to match revised Analyses - COPY FROM CH 2 PUT BACK INTO APPENDIX	App B	SJT 6/24/2019	LTP 6/25/19
take #'s off appendix pages	App B	SJT 6/24/2019	LTP 6/25/19
create a pdf and print	App B	SJT 8/5/19	LTP 8/5/19
check the print copy	App B	SJT 8/5/19	LTP 8/5/19
Update QAQC	App B	SJT 8/5/19	LTP 8/5/19
Put analysis files in a Zip folder for electronic submittal	App B	SJT 8/6/19	LTP 8/6/19

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8/6/19
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8/6/19
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