Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	8	182	168	20	0	0
Future Volume (Veh/h)	8	182	168	20	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	198	183	22	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			949			
pX, platoon unblocked						
vC, conflicting volume	205				410	194
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	205				410	194
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	100
cM capacity (veh/h)	1366				594	847

Direction, Lane #	EB 1	WB 1
Volume Total	207	205
Volume Left	9	0
Volume Right	0	22
cSH	1366	1700
Volume to Capacity	0.01	0.12
Queue Length 95th (ft)	0	0
Control Delay (s)	0.4	0.0
Lane LOS	A	
Approach Delay (s)	0.4	0.0
Approach LOS		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	19.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	71	190	105	63	0	0
Future Volume (Veh/h)	71	190	105	63	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	77	207	114	68	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			1082			
pX, platoon unblocked						
vC, conflicting volume	182				509	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	182				509	148
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				100	100
cM capacity (veh/h)	1393				495	899

Direction, Lane #	EB 1	WB 1
Volume Total	284	182
Volume Left	77	0
Volume Right	0	68
cSH	1393	1700
Volume to Capacity	0.06	0.11
Queue Length 95th (ft)	4	0
Control Delay (s)	2.5	0.0
Lane LOS	A	
Approach Delay (s)	2.5	0.0
Approach LOS		

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	86	0	0	37	5	8
Future Vol, veh/h	86	0	0	37	5	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	0	0	40	5	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	133	93
Stage 1	-	-	-	-	93	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	861	964
Stage 1	-	0	0	-	931	-
Stage 2	-	0	0	-	982	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	861	964
Mov Cap-2 Maneuver	-	-	-	-	861	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	982	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	922	-	-
HCM Lane V/C Ratio	0.015	-	-
HCM Control Delay (s)	9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	12	0	0	42	63	74
Future Vol, veh/h	12	0	0	42	63	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	0	46	68	80

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	59	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	948	1067
Stage 1	-	0	0	-	1010	-
Stage 2	-	0	0	-	976	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	948	1067
Mov Cap-2 Maneuver	-	-	-	-	948	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	1009	-	-
HCM Lane V/C Ratio	0.148	-	-
HCM Control Delay (s)	9.2	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-

Appendix 6: Accumulation Assessment & Turn Lane Analysis

SCHOOLS VEHICULAR ACCUMULATION ASSESSMENT WORKSHEET

(This form is used to assess the impact of the accumulation of loading vehicles staged at arrival/dismissal time)

	Surrogate School Name[1]	Somerset Academy Gables (West Campus) (Existing)			
	Data Collection Date[2]	Wednesday, April 06, 2022			
	Surrogate Shifts	1	2	3	TOTALS
	Grades (Arrival)	PK-2	3-8		
	Arrival bell time	8:00 AM	8:30 AM		
	Grades (Dismissal)	PK-1	2	3-8	
	Dismissal bell time	2:00 PM	2:30 PM	3:00 PM	
	Enrollment[3] (Arrival)	97	129		226
	Enrollment[3] (Dismissal)	70	27	129	226
	Absentees[3]				
	Bused Students[3]				
	Beforecare Enrollment[3]				
	Aftercare Enrollment[3]				
COLLECTED	Net Arrival Enrollment	97	129		226
	95th %-ile accumulation[4]	10	10		
	Student's vehicles (HS only)	-	-	-	
	Net Dismissal Enrollment	70	27	129	226
	95th %-ile accumulation[4]	5	5	15	
	Student's vehicles (HS only)	-	-	-	

	New School Name	Somerset Academy Gables (West Campus) (Proposed)			
	Proposed Shifts	1	2	3	
	Grades (Arrival)	6-8	PK-2	3-5	
	Grades (Dismissal)	PK-2	6-8	3-5	
	Enrollment	150	150	150	450
	Queue Lanes Capacity[5]	12	12	12	
	Parked Stacking Capacity	5	5	5	
	Busing Commitment				
	Student's Parking Spaces				
	Beforecare Enrollment				
	Aftercare Enrollment				
PROJECTED	Net Arrival Enrollment	150	150	150	450
	Queued Veh. / % Accummocated[6]	12 146%	15 110%	12 146%	
	Student's parked vehicles	-	-	-	
	Net Dismissal Enrollment	150	150	150	450
	Queued Veh. / % Accummocated[6]	11 159%	17 100%	17 100%	
	Student's parked vehicles	-	-	-	

[1] The facility to be used as a surrogate school will be determined by MDPWD staff. The surrogate school data is used to form a basis for the projected accumulations.

[2] Collect school accumulation data of staged loading vehicles at or around arrival/dismissal time on a Tuesday, Wednesday or Thursday

[3] Enrollment information to be verified by school staff on same date as data collection.

[4] These are all school related loading vehicles (including commercial vans) which are, legally or illegally, staged or parked, on or neighboring the school site. Attach data collection raw data and a sketch of the areas where accumulation data was collected from.

[5] Information must be obtained from a field survey or proposed site plan indicating the total spaces to be provided for each vehicle type at 22 linear feet per passenger vehicle and/or commercial van, and 50 linear feet per large school bus.

[6] This is calculated as, [(Provided Spaces / Projected Accumulations) x 100], for each vehicle type. MDPWD requires all of the large school bus and student vehicle (if applicable) to be accommodated within the school site.

Signature of Data Collector

Data collector's name	
Email Address	
Phone number	

TABLE: A8

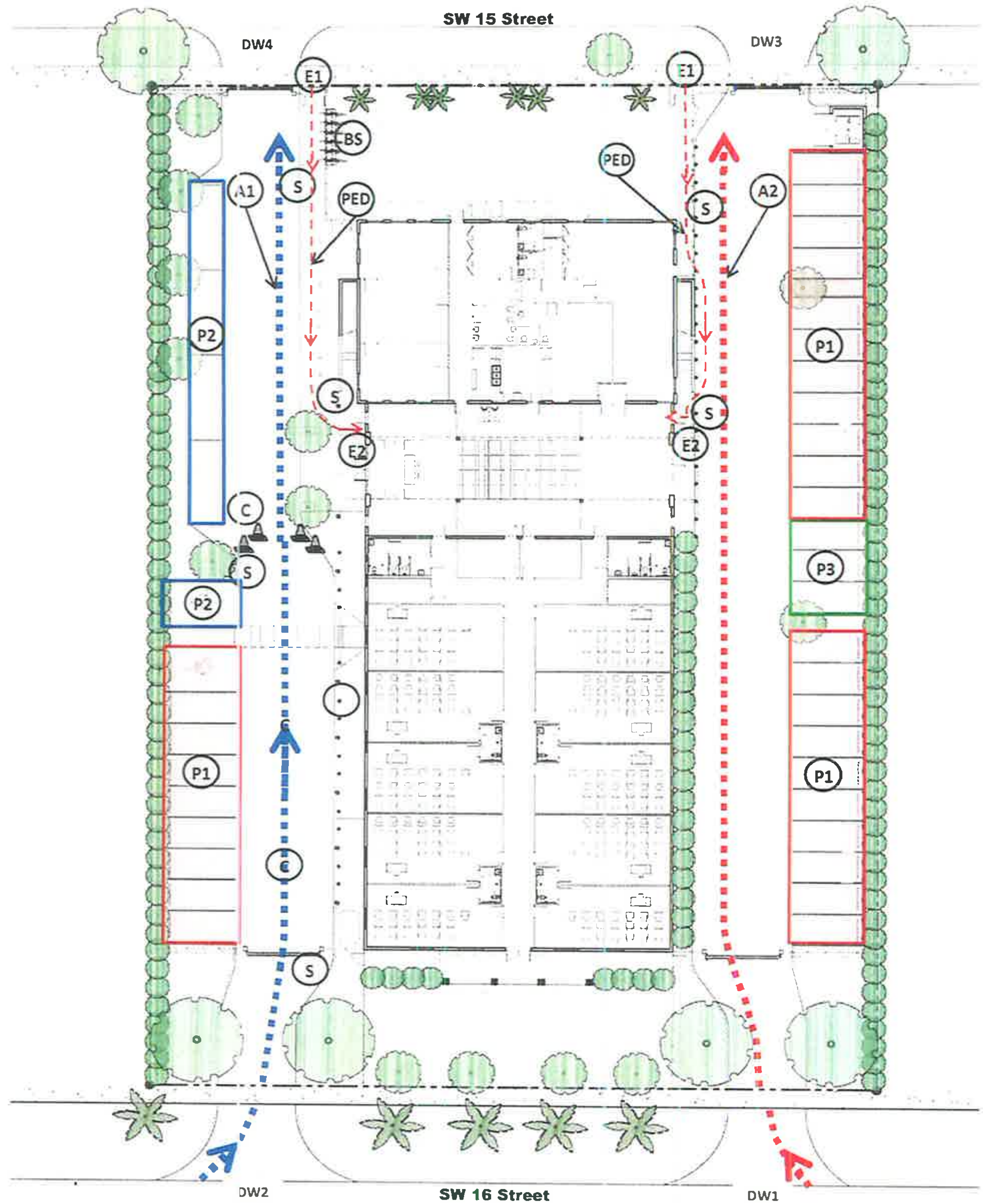
Vehicular Stacking Capacity

Project Name: Somerset Academy Gables West Campus

Area	Proposed Stacking			Vehicle		
	Description	**Distance**	**Units**	**Type**	**Length (ft)**	**Capacity**
1	Car Stacking Area	265	LF	Car	22	12
2	Parking Spaces for Stacking	Typ. Parking Space		Typ. Car/ Van		5
3	Supplemental Car Stacking Area*	265	LF	Car	22	12
					Total Stacking Capacity for Cars	**29**

Note: * Supplemental car stacking area was not utilized in the analysis.

TOP Exhibit



A1	Car Stacking Lane & Drop-Off (West)	E2	Pedestrian Building Entrance
A2	Car Stacking Lane & Drop-Off (East)	P1	Staff Parking
C	Cones To Merge Stacking Lane Traffic	P2	Visitors / Supplemental Parking for Stacking
DW1	Entrance Only: Parking & Supplemental Car Stacking / Drop-Off	P3	Open / Parking for Stacking
DW2	Entrance Only: Parking & Car Stacking / Drop-Off	S	Staff / Traffic Personnel
DW3	Exit Only	BS	Bicycle Storage
DW4	Exit Only	PED	Pedestrian Pathway
E1	Pedestrian Off-Site Entrance		

Vehicle Queuing Data / Observations (AM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
Beginning of Count	3	-
7:00 AM	3	0
7:01 AM	3	0
7:02 AM	3	0
7:03 AM	3	0
7:04 AM	4	0
7:05 AM	4	0
7:06 AM	3	0
7:07 AM	3	0
7:08 AM	3	0
7:09 AM	3	0
7:10 AM	3	0
7:11 AM	3	0
7:12 AM	4	0
7:13 AM	4	0
7:14 AM	4	0
7:15 AM	5	0
7:16 AM	4	0
7:17 AM	5	0
7:18 AM	5	0
7:19 AM	6	0
7:20 AM	7	0
7:21 AM	6	0
7:22 AM	7	0
7:23 AM	7	0
7:24 AM	6	0
7:25 AM	5	0
7:26 AM	6	0
7:27 AM	4	0
7:28 AM	4	0
7:29 AM	4	0

Vehicle Queuing Data / Observations (AM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
7:30 AM	4	0
7:31 AM	3	0
7:32 AM	3	0
7:33 AM	3	0
7:34 AM	3	0
7:35 AM	3	0
7:36 AM	3	0
7:37 AM	3	0
7:38 AM	3	0
7:39 AM	3	0
7:40 AM	4	0
7:41 AM	3	0
7:42 AM	3	0
7:43 AM	3	0
7:44 AM	3	0
7:45 AM	3	0
7:46 AM	3	0
7:47 AM	3	0
7:48 AM	3	0
7:49 AM	3	0
7:50 AM	4	0
7:51 AM	5	
7:52 AM	7	0
7:53 AM	9	0
7:54 AM	**10**	0
7:55 AM	11	0
7:56 AM	11	0
7:57 AM	10	0
7:58 AM	10	0
7:59 AM	14	0

95TH PERCENTILE QUEUE (1ST ARRIVAL)

Vehicle Queuing Data / Observations (AM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
8:00 AM	11	0
8:01 AM	8	0
8:02 AM	10	0
8:03 AM	10	0
8:04 AM	10	
8:05 AM	8	
8:06 AM	10	0
8:07 AM	4	0
8:08 AM	4	0
8:09 AM	5	0
8:10 AM	8	0
8:11 AM	8	0
8:12 AM	6	0
8:13 AM	7	0
8:14 AM	9	0
8:15 AM	5	0
8:16 AM	3	0
8:17 AM	5	0
8:18 AM	5	0
8:19 AM	7	0
8:20 AM	5	0
8:21 AM	4	0
8:22 AM	4	0
8:23 AM	4	0
8:24 AM	5	0
8:25 AM	6	0
8:26 AM	4	0
8:27 AM	3	0
8:28 AM	3	0
8:29 AM	3	0

95TH PERCENTILE QUEUE
(2ND ARRIVAL)

Vehicle Queuing Data / Observations (AM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
8:30 AM	3	0
8:31 AM	3	0
8:32 AM	3	0
8:33 AM	3	0
8:34 AM	4	0
8:35 AM	3	0
8:36 AM	4	0
8:37 AM	3	0
8:38 AM	3	0
8:39 AM	3	0
8:40 AM	3	0
8:41 AM	3	0
8:42 AM	3	0
8:43 AM	3	0
8:44 AM	4	0
8:45 AM	3	0
8:46 AM	3	0
8:47 AM	3	0
8:48 AM	3	0
8:49 AM	3	0
8:50 AM	4	0
8:51 AM	3	0
8:52 AM	0	0
8:53 AM	1	0
8:54 AM	0	0
8:55 AM	0	0
8:56 AM	0	0
8:57 AM	0	0
8:58 AM	0	0
8:59 AM	0	0

Vehicle Queuing Data / Observations (PM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
Beginning of Count	-	-
1:15 PM	0	0
1:16 PM	0	0
1:17 PM	1	0
1:18 PM	1	0
1:19 PM	1	0
1:20 PM	1	0
1:21 PM	1	0
1:22 PM	1	0
1:23 PM	0	0
1:24 PM	0	0
1:25 PM	0	0
1:26 PM	0	0
1:27 PM	0	0
1:28 PM	0	0
1:29 PM	0	0
1:30 PM	0	0
1:31 PM	0	0
1:32 PM	0	0
1:33 PM	0	0
1:34 PM	0	0
1:35 PM	0	0
1:36 PM	0	0
1:37 PM	0	0
1:38 PM	0	0
1:39 PM	0	0
1:40 PM	0	0
1:41 PM	0	0
1:42 PM	0	0
1:43 PM	0	0
1:44 PM	0	0

Vehicle Queuing Data / Observations (PM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
1:45 PM	0	0
1:46 PM	0	0
1:47 PM	0	0
1:48 PM	0	0
1:49 PM	0	0
1:50 PM	1	0
1:51 PM	3	0
1:52 PM	3	0
1:53 PM	4	0
1:54 PM	6	0
1:55 PM	7	0
1:56 PM	7	[illegible]
1:57 PM	4	0
1:58 PM	4	0
1:59 PM	5	0
2:00 PM	1	0
2:01 PM	4	0
2:02 PM	2	0
2:03 PM	2	0
2:04 PM	4	0
2:05 PM	2	0
2:06 PM	2	0
2:07 PM	0	0
2:08 PM	0	0
2:09 PM	0	0
2:10 PM	1	0
2:11 PM	2	0
2:12 PM	3	0
2:13 PM	1	0
2:14 PM	1	0

95TH PERCENTILE QUEUE (1ST DISMISSAL)

Vehicle Queuing Data / Observations (PM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
2:15 PM	1	0
2:16 PM	1	0
2:17 PM	0	0
2:18 PM	0	0
2:19 PM	0	0
2:20 PM	0	0
2:21 PM	1	0
2:22 PM	2	0
2:23 PM	2	0
2:24 PM	2	0
2:25 PM	2	[illegible]
2:26 PM	4	0
2:27 PM	4	0
2:28 PM	5	0
2:29 PM	5	0
2:30 PM	5	0
2:31 PM	2	0
2:32 PM	3	0
2:33 PM	3	0
2:34 PM	3	0
2:35 PM	3	0
2:36 PM	2	0
2:37 PM	2	0
2:38 PM	1	0
2:39 PM	2	0
2:40 PM	0	0
2:41 PM	0	0
2:42 PM	0	0
2:43 PM	3	0
2:44 PM	1	0

95TH PERCENTILE QUEUE
(2ND DISMISSAL)

Vehicle Queuing Data / Observations (PM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
2:45 PM	1	0
2:46 PM	2	0
2:47 PM	2	0
2:48 PM	2	0
2:49 PM	4	0
2:50 PM	5	0
2:51 PM	7	0
2:52 PM	9	0
2:53 PM	10	0
2:54 PM	12	[illegible]
2:55 PM	13	[illegible]
2:56 PM	13	0
2:57 PM	**15**	0
2:58 PM	18	0
2:59 PM	19	0
3:00 PM	17	0
3:01 PM	15	0
3:02 PM	13	0
3:03 PM	9	0
3:04 PM	9	0
3:05 PM	9	0
3:06 PM	8	0
3:07 PM	6	0
3:08 PM	6	0
3:09 PM	6	0
3:10 PM	5	0
3:11 PM	6	0
3:12 PM	7	0
3:13 PM	8	0
3:14 PM	7	0

95TH PERCENTILE QUEUE (3RD DISMISSAL)

Vehicle Queuing Data / Observations (PM PEAK PERIOD)

School Name: Somerset Academy Gables (West Campus)
School Address: 5859 SW 16 Street, West Miami, FL
Location: On-site Drop-off / Off-Site
Weather: Clear
Date: 4/6/2022
Technician: CV

95TH PERCENTILE QUEUE

Time	Cars Queue	School Buses / Transportation Vans Queue
3:15 PM	8	0
3:16 PM	6	0
3:17 PM	6	0
3:18 PM	6	0
3:19 PM	3	0
3:20 PM	3	0
3:21 PM	4	0
3:22 PM	8	0
3:23 PM	8	0
3:24 PM	8	0
3:25 PM	4	0
3:26 PM	4	0
3:27 PM	5	0
3:28 PM	5	0
3:29 PM	3	0

Chapter 6: Turn Lanes and U-Turns

6.1 Overview

For driveways, medians and median openings, the placement and design of turn lanes and U-turns are critical to avoid potential traffic safety issues. For example, a median opening placed across a left-turn lane at an intersection could create conditions leading to a vehicular crash (See ***Figure 16*** or ***Figure 17***). The locating of these roadway openings is discussed in greater detail in ***Locating Roadway Openings***. This chapter will instead focus on where to locate and design turn lanes and U-turns and how they relate to driveways, medians and median openings.

6.2 Exclusive Right-Turn Lanes

Exclusive right-turn lanes are useful where a combination of high roadway speeds, and high right-turn volumes into a driveway are expected. Congestion on the roadway may also be a good reason to use an exclusive right-turn lane. If properly built, they remove the turning vehicle from the through lanes, thereby decreasing the operational and safety impact of right turning vehicles on the through traffic.

Previous requirements in Standard Index 301 were removed and placed into FDM 212 – Intersections. There is no specific guidance on warrants for right-turn lanes based on number of turns in and out of unsignalized driveways, but the guidelines in this chapter were developed to assist in the decision-making process. *FDM 212* does contain the standards needed to design right-turn lanes.

6.2.1 When to Consider Exclusive Right-Turn Lanes

Here are some additional situations when adding an exclusive right-turn lane may be required:

- Facilities having a high volume of buses, trucks or trailers (2 or 3 per hour)
- Poor internal site design of a driveway facility causing potential backups in the through lanes
- Heavier than normal peak flows on the main roadway
- Very high operating speeds (such as 55 mph or above) and in rural locations where turns are not expected by through drivers
- Highways with curves or hills where sight distance is impacted
- Gated entrances
- Crash experience, especially rear end collisions
- Intersections or driveways just after signalized intersections where acceleration or driver expectancy would make a separate right-turn lane desirable
- Severe skewed angle of intersection requiring right-turn vehicle to slow greatly

When Not to Consider Exclusive Right-Turn Lanes

- Dense or built-out corridors with limited space
- Right-turn lane that would negatively impact pedestrians or bicyclists
- Vehicular movements from driveways or median openings that cross the right-turn lane resulting in multiple threat crashes
- *Context classifications C2T, C4, C5, or C6*

When Exclusive Right-Turn Lanes are Beneficial

There are instances when adding an exclusive right-turn lane for unsignalized driveways are beneficial to traffic operations and safety. ***Table 27*** provides some guidance for this situation based on the speed limit of the roadway and how many right turns occur per hour. Locations where the Auto and Truck Modal Emphasis is "High" may be appropriate for consideration of Exclusive Right Turn Lanes.

Table 27 – Recommended Guidelines for Exclusive Right-Turn Lanes to Unsignalized Driveway[10]

Roadway Posted Speed Limit	Number of Right Turns Per Hour
45 mph or less	80 – 125[1]
Over 45 mph	35 – 55[2]
Note: A posted speed limit of 45 mph may be used with these thresholds if the operating speeds are known to be over 45 mph during the time of peak right turn demand.	
Note on traffic projections: Projecting turning volumes is, at best, a knowledgeable estimate. Keep this in mind especially if the projections of right turns are close to meeting the guidelines. In that case, consider requiring the turn lane.	
[1] The lower threshold of 80 right-turn vehicles per hour would be most used for higher volume (greater than 600 vehicles per hour, per lane in one direction on the major roadway) or two-lane roads where lateral movement is restricted. The 125 right-turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with a large entry radius (50 feet or greater).	
[2] The lower threshold of 35 right-turn vehicles per hour would be most appropriately used on higher volume two-lane roadways where lateral movement is restricted. The 55 right-turn vehicles per hour upper threshold would be most appropriate on lower volume roadways, multilane highways, or driveways with large entry radius (50 feet or greater).	

Source: NCHRP Report 420 (Impacts of Access Management Techniques)

These recommendations are primarily based on the research done in NCHRP Report 420, Impacts of Access Management Techniques, Chapter 4 – Unsignalized Access Spacing (Technique 1B), and Use of Speed Differential as a Measure to Evaluate the Need for Right-Turn Deceleration Lane at Unsignalized Intersections.

In the *NCHRP Report 420*, the observed high-speed roads, 30 to 40 right-turn vehicles per hour caused evasive maneuvers on 5 - 10 percent of the following through vehicles. For lower speed roadways, 80 to 110 right-turn vehicles caused 15 - 20 percent of the following through vehicles to make evasive maneuvers. The choice of acceptable percentages of through vehicles impacted is a decision based on reasonable expectations of the different roadways.

In this study, by modeling speed differentials, a better understanding of the impacts of through volume and driveway radius was discovered.

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

Turn Lane Reference Criteria

Criteria	Publication	Reference				Title	Applicable
Left Turn Lane	AASHTO	Table	9-24	Figure	9-35	Arterials in Urban Areas	NO
Left Turn Lane	AASHTO	Table	9-25	Figure	9-36	Two-lane highways in Rural Areas	NO
Left Turn Lane	AASHTO	Table	9-26	Figure	9-37	Four-lane highways in Rural Areas	NO
Right Turn Lane	AASHTO	-	No	Figures	or	Tables available	N/A
Right Turn Lane	FDOT	Table	27-Jan	Page	98	Acc Mgmt GB for RTL @ DW	NO

Table 200.4.1 Context Classifications

Context Classification		Description of Adjacent Land Use
C1	**Natural**	Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.
C2	**Rural**	Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.
C2T	**Rural Town**	Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.
C3R	**Suburban Residential**	Mostly residential uses within large blocks and a disconnected/sparse roadway network.
C3C	**Suburban Commercial**	Mostly non-residential uses with large building footprints and large parking lots. Buildings are within large blocks and a disconnected/sparse roadway network.
C4	**Urban General**	Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.
C5	**Urban Center**	Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of the community, town, or city of a civic or economic center.
C6	**Urban Core**	Areas with the highest densities and with building heights typically greater than four floors within FDOT classified Large Urbanized Areas (population >1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network.