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**To:** Mercer County Planning Department  
**From:** Kelsey McElduff, DVRPC ([kmcelduff@dvrpc.org](mailto:kmcelduff@dvrpc.org))  
**Date:** March 21, 2022  
**Subject:** CR 535 Multimodal Intersection Analysis (TM21047)

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### **Purpose**

This memo presents the findings of an ongoing program of technical assistance in support of the implementation of bicycle facilities on county roads, as recommended in the Mercer County 2020 Bicycle Master Plan, as part of regularly scheduled repaving projects. The project team identified specific locations and worked to develop planning-level design concepts as presented in this document.

Mercer County is planning to restripe CR 535 (Edinburg Road) with bicycle lanes when it is due for repaving as part of the Mercer County 2020 Bicycle Master Plan. These bicycle facilities are anticipated to serve as key elements in the local network and enhance connectivity for cyclists throughout Mercer County.

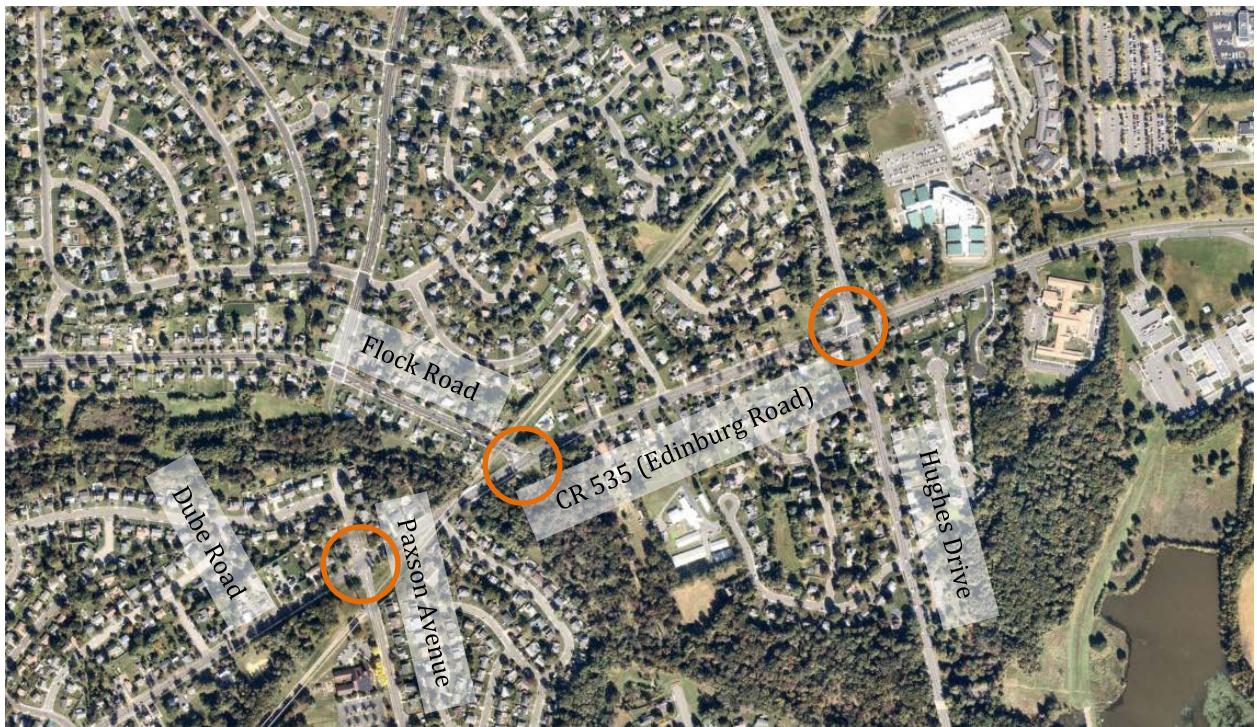
CR 535 (Edinburg Road) provides a wide cartway and is designed for higher speeds and volume than it currently serves, making the roadway a candidate for bicycle lane installation. However, connecting the proposed bicycle lanes through major intersections presents significant safety and connectivity challenges. Design alternatives must be considered at major intersections to ensure the network is safe and comprehensive.

Three signalized intersections along CR 535 within Ewing Township were chosen to be evaluated for potential bike lane installation:

- CR 535 (Edinburg Road) and Paxson Avenue;
- CR 535 (Edinburg Road) and Flock Road; and
- CR 535 (Edinburg Road) and Hughes Drive.

The three study intersections were analyzed with microsimulation under the existing conditions and repavement. An aerial view of the study intersections is shown in **Figure 1**.

**Figure 1: Study Intersections**



### **Existing Conditions**

West of Dube Road, CR 535 provides one lane in each direction. Between its intersections with Dube Road and Paxson Avenue, CR 535 converts to a four-lane cross-section with two lanes in each direction. This configuration continues through Hughes Drive. In order to install bicycle lanes along CR 535, a road diet would need to be incorporated along the portion that currently supports a four-lane cross-section.

**CR 535 and Paxson Avenue:** At the intersection of CR 535 and Paxson Avenue, the eastbound (EB) approach of CR 535 currently provides one designated left-turn lane, one designated through lane, and one shared through/right-turn lane. The westbound (WB) approach of CR 535 currently provides one designated left-turn lane, one designated through lane, and one shared through/right-turn lane. In order to incorporate bike lanes in both directions through the intersection without increasing the cartway width, both the EB and WB designated through lanes would need to be removed. The existing signal phasing order is CR 535 EB and WB permitted/protected lead left-turns, CR 535 EB and WB right-of-way (ROW), and Paxson Avenue northbound (NB) and southbound (SB) ROW. An aerial of the intersection of CR 535 and Paxson Avenue is shown in **Figure 2**.

**Figure 2: CR 535 and Paxson Avenue**



Imagery: Nearmap, 2021

**CR 535 and Flock Road:** At the intersection of CR 535 and Flock Road, the EB approach of CR 535 provides a designated left-turn lane and two designated through lanes. The WB approach of CR 535 provides a designated through lane and a shared through/right-turn lane. The SB approach of Flock Road provides a designated left-turn lane and a designated right-turn lane with channelization. The existing signal phasing order is CR 535 EB permitted/protected left-turns, CR 535 EB and WB ROW, and Flock Road SB ROW. An aerial of the intersection of CR 535 and Flock Road is shown in **Figure 3**.

**Figure 3: CR 535 and Flock Road**



Imagery: Nearmap, 2021

**CR 535 and Hughes Drive:** At the intersection of CR 535 and Hughes Drive, the EB approach of CR 535 provides a designated left-turn lane, a designated through lane, and a shared through/right-turn lane. The WB approach of CR 535 provides a designated left-turn lane, a designated through lane, and a shared through/right-turn lane. The SB approach of Hughes Drive provides a shared left-turn/through lane and a shared through/right-turn lane with channelization. The NB approach of Hughes Drive provides a shared left-turn/through lane and a shared through/right-turn lane. The existing signal phasing order is CR 535 EB and WB permitted/protected left-turns, CR 535 EB and WB ROW, Hughes Drive NB ROW, and Hughes Drive SB ROW. An aerial of the intersection of CR 535 and Hughes Drive is shown in **Figure 4**.

**Figure 4: CR 535 and Hughes Drive**



Imagery: Nearmap, 2021

### Traffic Counts

Turning movement counts were recorded at the study intersections in 15-minute intervals via video on typical weekdays in May 2021. The morning peak hour was found to be from 7:30 AM to 8:30 AM, and the evening peak hour was found to be from 4:30 PM to 5:30 PM. The peak-hour turning movement volumes are shown in **Tables 1–3**.

**Table 1: Peak-Hour Intersection Turning Movement Counts—CR 535 and Paxson Avenue**

Intersection	Approach	Movement	Volume	
			AM Peak Hour	PM Peak Hour
CR 535 and Paxson Avenue	CR 535	EB	L	1
			T	321
			R	18
	WB	WB	L	78
			T	173
			R	5
	Paxson Avenue	NB	L	30
			T	11
			R	158
	SB	SB	L	12
			T	8
			R	1

The hourly peak-hour volumes along the CR 535 at its intersection with Paxson Avenue indicate that the AM peak has heavier EB traffic and the PM peak has heavier WB traffic. Paxson Avenue has significantly less volume than CR 535, with most of the vehicles turning right. During the AM peak hour, one pedestrian and zero bikes were observed at the intersection of CR 535 and Paxson Avenue. Three pedestrians and zero bikes were observed at the intersection during the PM peak hour.

**Table 2: Peak-Hour Intersection Turning Movement Counts—CR 535 and Flock Road**

Intersection	Approach	Movement	Volume	
			AM Peak Hour	PM Peak Hour
CR 535 and Flock Road	CR 535	EB	L	137
			T	363
		WB	T	192
	Flock Road	SB	R	315
			L	303
			R	66

The peak-hour traffic volumes at CR 535 and Flock Road also indicate heavier volumes EB in the morning and WB in the evening. The CR 535 WB right-turning volumes are high during both peak hours, which would impact traffic if the designated through lane was removed. During the AM and PM peak hours, no pedestrians or bikes were observed at the intersection of CR 535 and Flock Road.

**Table 3: Peak-Hour Intersection Turning Movement Counts—CR 535 and Hughes Drive**

Intersection	Approach	Movement	Volume	
			AM Peak Hour	PM Peak Hour
CR 535 and Hughes Drive	CR 535	EB	L	130
			T	439
			R	70
	WB	WB	L	28
			T	337
			R	94
	Hughes Drive	NB	L	124
			T	347
			R	66
		SB	L	70
			T	180
			R	41

The volumes at the intersection of CR 535 and Hughes Drive are the highest of the three study intersections. During the AM peak hour, one pedestrian and zero bikes were observed at the intersection of CR 535 and Hughes Drive. Four pedestrians and one bike were observed at the intersection during the PM peak hour.

### **Proposed Repavement**

In order to accommodate the proposed bike lanes along CR 535, lane geometry at the study intersections would need to be adjusted. Concept plans for the proposed repavement scenario are provided along with this report.

The proposed restriping consists of a road diet along CR 535 from west of Paxson Avenue to east of Hughes Drive, with one lane in each direction and a center turn lane, one shared left-turn/through lane, and one designated right-turn lane.

At the intersection of Paxson Avenue, the dedicated through lanes on CR 535 in both the EB and WB directions are removed, providing one dedicated left-turn lane and one shared through/right-turn lane on both approaches. No adjustments to signal timing are necessary. The existing conditions at the intersection of CR 535 and Paxson Avenue is shown in **Figure 5**, adjacent to the proposed restriping in **Figure 6**.

The dedicated through lane on the EB and WB approaches of CR 353 at its intersection with Flock Road are also removed to accommodate the bike lanes. The EB approach would provide a dedicated left-turn lane and dedicated through lane. The WB approach would provide a shared through/right-turn lane. The heavy right-turning volumes on the WB approach impact the delay at the intersection with the lane removal. In order to accommodate the delay increase, three seconds of green time were removed from the Flock Road SB ROW phase and added to the CR 535 EB and WB ROW phase during the PM peak hour. The existing conditions at the intersection of CR 535 and Flock Road is shown in **Figure 7**, adjacent to the proposed restriping in **Figure 8**.

At its intersection with Hughes Drive, the CR 535 dedicated through lanes on both approaches were removed to accommodate the proposed bike lanes. The revised geometry is one dedicated left-turn lane and one shared through/right-turn lane on the EB and WB approaches. No signal timing adjustments are necessary at this intersection. The existing conditions at the intersection of CR 535 and Hughes Drive is shown in **Figure 9**, adjacent to the proposed restriping in **Figure 10**.

## **Analysis**

Traffic analysis was conducted for the existing and proposed repavement scenarios in Synchro, using the intersection turning movement counts and traffic signal plans provided by the New Jersey Department of Transportation (NJDOT). Peak hours were identified based on 15-minute volumes at the three study intersections. Level of service (LOS) and average vehicle delay were calculated for each movement and for the overall intersections. Synchro reports are provided along with this report. The results are shown in **Table 4**.

**Table 4: Intersection LOS and Delay—Existing Conditions and Proposed Repavement**

Intersection	Approach	Movement	Existing Conditions				Proposed Repavement				
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
			LOS	Delay(s)	LOS	Delay(s)	LOS	Delay(s)	LOS	Delay(s)	
CR 535 and Paxson Avenue	CR 535	EB	L	A	6.7	A	6.4	A	6.7	A	6.4
			TR	A	8.0	A	7.5	A	9.5	A	8.7
		WB	L	A	4.7	A	4.6	A	5.2	A	5.1
			TR	A	5.3	A	5.3	A	5.8	A	6.2
	Paxson Avenue	NB	L	C	31.5	C	32.9	C	31.5	C	32.9
			TR	D	36.6	D	37.1	D	36.6	D	37.1
		SB	L	D	39.5	D	39.3	D	39.5	D	39.3
			TR	C	30.6	C	31.6	C	30.5	C	31.6
	Overall			B	14.6	B	11.9	B	15.4	B	12.6
CR 535 and Flock Road	CR 535	EB	L	B	13.9	B	14.1	B	17.8	C	21.9
			T	B	11.9	B	11.5	B	14.4	B	11.5
		WB	TR	B	19.6	B	19.7	C	28.2	D	39.3
			L	C	31.7	C	34.6	C	31.7	D	41.0
	Flock Road	SB	R	A	0.0	A	0.0	A	0.0	A	0.0
			Overall			B	19.3	C	21.2	C	24.1
	Overall			C		C		C		C	32.6
CR 535 and Hughes Drive	CR 535	EB	L	B	16.5	B	17.1	B	19.9	C	21.3
			TR	C	20.4	C	21.6	C	28.8	C	33.3
		WB	L	B	18.0	B	17.2	C	20.3	C	20.3
			TR	C	22.8	C	22.7	C	30.3	D	39.0
	Hughes Drive	NB	LT	D	35.2	D	40.1	D	35.2	D	42.0
			TR	C	34.1	D	37.3	C	34.1	D	38.9
		SB	LT	D	40.4	D	35.9	D	40.4	D	37.0
			TR	D	39.5	C	34.9	D	39.5	D	35.9
	Overall			C	27.3	C	27.8	C	31.6	D	36.1

Under existing conditions during the AM and PM peak hours, all movements at the intersection of CR 535 and Paxson Avenue perform at LOS D or better. The overall intersection operates at LOS B during both peak hours under existing conditions. With the proposed restriping and signal adjustments, levels of service are maintained with minimal increase in delay during both peak hours and the overall intersection operates at LOS B during both peak hours.

Under existing conditions, all movements at the intersection of CR 535 and Flock Road operate at LOS C or better during both peak hours, and the overall intersection operates at LOS B during the AM peak hour and LOS C during the PM peak hour. The proposed restriping increases delay at the intersection, especially on the WB approach during the PM peak hour. In order to minimally impact delay, three seconds of green time were removed from the Flock Road SB ROW phase and added to the CR 535 EB and WB ROW phase. With these improvements, all movements at the intersection of CR 535 and Flock Road operate at LOS D or better during both peak hours, and the overall intersection operates at LOS C during both peak hours.

Under existing conditions during the AM and PM peak hours, all movements at the intersection of CR 535 and Paxson Avenue perform at LOS D or better. The overall intersection operates at LOS C during both peak hours under existing conditions. With the proposed restriping, levels of service are maintained with minimal increase in delay during both peak hours, and the overall intersection operates at LOS C during the AM peak hour and LOS D during the PM peak hour.

## **Conclusion**

In order to accommodate the proposed bike lanes along CR 535, the geometry at its intersections with Paxson Avenue, Flock Road, and Hughes Drive will need to be adjusted. With the proposed concepts and traffic signal timing adjustments, the intersections will operate at similar levels of service with all movements operating at LOS D or better during both the AM and PM peak hours.

DVRPC serves strictly as an advisory agency. Any planning or design concepts as prepared by DVRPC are conceptual and may require engineering design and feasibility analysis. Actual authority for carrying out any planning proposals rest solely with the governing bodies of the states, local governments or authorities that have the primary responsibility to own, manage or maintain any transportation facility.

Please contact Kelsey McElduff ([kmcelduff@dvrpc.org](mailto:kmcelduff@dvrpc.org)) with any questions.

**Figure 5: CR 535 and Paxson Avenue—Existing Conditions**



Concept created in Remix, 2021

**Figure 6: CR 535 and Paxson Avenue—Restriping**



Concept created in Remix, 2021

**Figure 7: CR 535 and Flock Road—Existing Conditions**



Concept created in Remix, 2021

**Figure 8: CR 535 and Flock Road—Restriping**



Concept created in Remix, 2021

**Figure 9: CR 535 and Hughes Drive—Existing Conditions**



Concept created in Remix, 2021

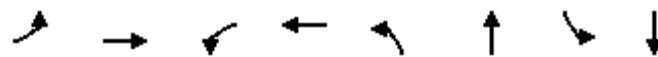
**Figure 10: CR 535 and Hughes Drive—Restriping**



Concept created in Remix, 2021

Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑	↑↓	↑	↑↓	↑	↓	↑	↓
Traffic Volume (vph)	1	321	78	173	30	11	12	8
Future Volume (vph)	1	321	78	173	30	11	12	8
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6	5	2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	50.0	6.0	50.0	9.0	9.0	9.0	9.0
Minimum Split (s)	9.0	57.0	9.0	57.0	15.0	15.0	15.0	15.0
Total Split (s)	15.0	57.0	15.0	57.0	29.0	29.0	29.0	29.0
Total Split (%)	14.9%	56.4%	14.9%	56.4%	28.7%	28.7%	28.7%	28.7%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	None	None	None	None

#### Intersection Summary

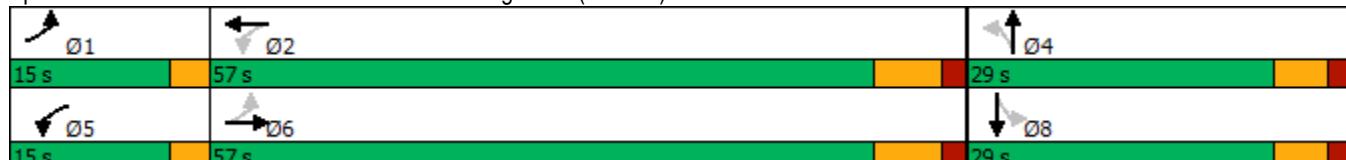
Cycle Length: 101

Actuated Cycle Length: 79.9

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Paxson Avenue & Edinburg Road (CR 535)



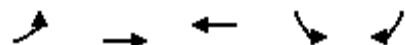
Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↓		↑	↑↓		↑	↑		↑	↑	
Traffic Volume (veh/h)	1	321	18	78	173	5	30	11	158	12	8	1
Future Volume (veh/h)	1	321	18	78	173	5	30	11	158	12	8	1
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1796	1796	1826	1767	1767	1900	1900	1900	1781	1707	1707
Adj Flow Rate, veh/h	1	361	20	88	194	6	34	12	178	13	9	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	7	7	5	9	9	0	0	0	8	13	13
Cap, veh/h	808	1967	109	731	2189	67	289	15	225	126	223	25
Arrive On Green	0.00	0.60	0.60	0.06	0.66	0.66	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	3288	182	1739	3322	102	1424	102	1520	1135	1509	168
Grp Volume(v), veh/h	1	187	194	88	98	102	34	0	190	13	0	10
Grp Sat Flow(s), veh/h/ln	1810	1706	1764	1739	1678	1746	1424	0	1623	1135	0	1677
Q Serve(g_s), s	0.0	4.1	4.2	1.4	1.8	1.8	1.8	0.0	9.4	0.9	0.0	0.4
Cycle Q Clear(g_c), s	0.0	4.1	4.2	1.4	1.8	1.8	2.2	0.0	9.4	10.4	0.0	0.4
Prop In Lane	1.00		0.10	1.00		0.06	1.00		0.94	1.00		0.10
Lane Grp Cap(c), veh/h	808	1021	1055	731	1106	1151	289	0	240	126	0	248
V/C Ratio(X)	0.00	0.18	0.18	0.12	0.09	0.09	0.12	0.00	0.79	0.10	0.00	0.04
Avail Cap(c_a), veh/h	1065	1021	1055	872	1106	1151	471	0	447	270	0	461
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	7.6	7.6	4.6	5.2	5.2	31.5	0.0	34.4	39.4	0.0	30.5
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.0	0.2	0.2	0.1	0.0	2.2	0.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	2.6	2.7	0.7	1.0	1.1	1.1	0.0	6.8	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.7	8.0	8.0	4.7	5.3	5.3	31.5	0.0	36.6	39.5	0.0	30.6
LnGrp LOS	A	A	A	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		382			288			224			23	
Approach Delay, s/veh		8.0			5.1			35.8			35.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	3.1	62.1		18.4	8.2	57.0		18.4				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		6.0	3.0	7.0		6.0				
Max Green Setting (Gmax), s	12.0	50.0		23.0	12.0	50.0		23.0				
Max Q Clear Time (g_c+l1), s	2.0	3.8		11.4	3.4	6.2		12.4				
Green Ext Time (p_c), s	0.0	0.8		0.6	0.1	1.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Existing Conditions  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↑	↑↑	↑↑	↑	↑
Traffic Volume (vph)	137	363	192	303	66
Future Volume (vph)	137	363	192	303	66
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	35.0	35.0	10.0	10.0
Minimum Split (s)	15.0	42.0	42.0	37.0	37.0
Total Split (s)	15.0	57.0	42.0	37.0	37.0
Total Split (%)	16.0%	60.6%	44.7%	39.4%	39.4%
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Max	None	Max	Max

#### Intersection Summary

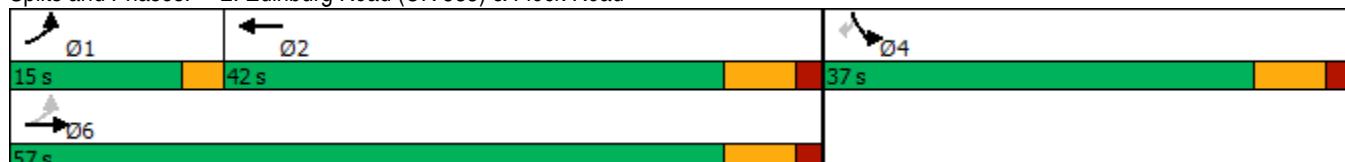
Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 95

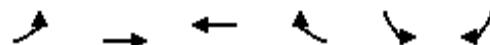
Control Type: Semi Act-Uncoord

Splits and Phases: 2: Edinburg Road (CR 535) & Flock Road



Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Existing Conditions  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑↑	↑↑		↑	↑
Traffic Volume (veh/h)	137	363	192	315	303	66
Future Volume (veh/h)	137	363	192	315	303	66
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1811	1767	1767	1796	1826
Adj Flow Rate, veh/h	147	390	206	339	326	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	6	9	9	7	5
Cap, veh/h	426	1830	732	653	546	
Arrive On Green	0.06	0.53	0.44	0.44	0.32	0.00
Sat Flow, veh/h	1795	3532	1767	1497	1711	1547
Grp Volume(v), veh/h	147	390	206	339	326	0
Grp Sat Flow(s), veh/h/ln	1795	1721	1678	1497	1711	1547
Q Serve(g_s), s	4.0	5.6	7.4	15.5	15.1	0.0
Cycle Q Clear(g_c), s	4.0	5.6	7.4	15.5	15.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	426	1830	732	653	546	
V/C Ratio(X)	0.34	0.21	0.28	0.52	0.60	
Avail Cap(c_a), veh/h	542	1830	732	653	546	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.7	11.6	17.0	19.3	26.9	0.0
Incr Delay (d2), s/veh	0.2	0.3	0.1	0.3	4.8	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	2.8	3.8	5.0	9.0	11.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	13.9	11.9	17.1	19.6	31.7	0.0
LnGrp LOS	B	B	B	B	C	
Approach Vol, veh/h		537	545		326	A
Approach Delay, s/veh		12.4	18.7		31.7	
Approach LOS		B	B		C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+R <sub>c</sub> ), s	9.0	48.0		37.0		57.0
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0		7.0
Max Green Setting (Gmax), s	12.0	35.0		30.0		50.0
Max Q Clear Time (g_c+l1), s	6.0	17.5		17.1		7.6
Green Ext Time (p_c), s	0.1	2.2		0.4		1.8
Intersection Summary						
HCM 6th Ctrl Delay			19.3			
HCM 6th LOS			B			

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↑	↑↓	↑	↑↓	↑↓	↑↓
Traffic Volume (vph)	130	439	28	337	347	180
Future Volume (vph)	130	439	28	337	347	180
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	1	6	5	2	4	8
Permitted Phases	6		2			
Detector Phase	1	6	5	2	4	8
Switch Phase						
Minimum Initial (s)	6.0	30.0	6.0	30.0	8.0	8.0
Minimum Split (s)	9.0	37.0	9.0	37.0	15.0	15.0
Total Split (s)	15.0	47.0	15.0	47.0	37.0	25.0
Total Split (%)	12.1%	37.9%	12.1%	37.9%	29.8%	20.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	Min	None	None

Intersection Summary

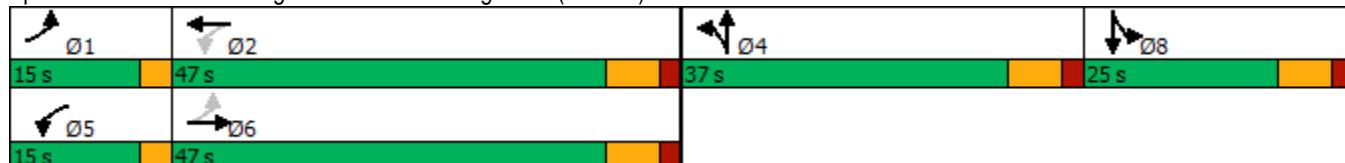
Cycle Length: 124

Actuated Cycle Length: 99.6

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Hughes Drive & Edinburg Road (CR 535)



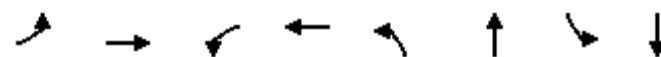
Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↓		↑	↑↓		↑↓	↑↓		↑↓	↑↓	
Traffic Volume (veh/h)	130	439	70	28	337	94	124	347	66	70	180	41
Future Volume (veh/h)	130	439	70	28	337	94	124	347	66	70	180	41
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1678	1856	1856	1633	1767	1767	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	141	477	76	30	366	102	135	377	72	76	196	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	3	3	18	9	9	2	2	2	3	3	3
Cap, veh/h	392	1155	183	333	881	242	165	486	97	102	283	
Arrive On Green	0.08	0.38	0.38	0.04	0.34	0.34	0.21	0.21	0.21	0.11	0.11	0.00
Sat Flow, veh/h	1598	3048	483	1555	2601	716	800	2349	467	947	2716	0
Grp Volume(v), veh/h	141	275	278	30	235	233	309	0	275	145	127	0
Grp Sat Flow(s), veh/h/ln	1598	1763	1769	1555	1678	1638	1830	0	1785	1808	1763	0
Q Serve(g_s), s	4.8	10.2	10.3	1.1	9.5	9.7	14.3	0.0	12.8	6.9	6.1	0.0
Cycle Q Clear(g_c), s	4.8	10.2	10.3	1.1	9.5	9.7	14.3	0.0	12.8	6.9	6.1	0.0
Prop In Lane	1.00		0.27	1.00		0.44	0.44		0.26	0.52		0.00
Lane Grp Cap(c), veh/h	392	668	670	333	569	555	378	0	369	195	190	
V/C Ratio(X)	0.36	0.41	0.41	0.09	0.41	0.42	0.82	0.00	0.75	0.74	0.67	
Avail Cap(c_a), veh/h	488	796	799	489	758	740	620	0	605	368	358	
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.3	20.2	20.3	17.9	22.5	22.6	33.5	0.0	32.9	38.3	38.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.0	0.2	0.2	1.7	0.0	1.1	2.1	1.5	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	3.1	7.3	7.4	0.7	6.6	6.6	10.5	0.0	9.4	5.6	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.5	20.4	20.4	18.0	22.7	22.8	35.2	0.0	34.1	40.4	39.5	0.0
LnGrp LOS	B	C	C	B	C	C	D	A	C	D	D	
Approach Vol, veh/h		694			498			584		272		A
Approach Delay, s/veh		19.6			22.4			34.6		40.0		
Approach LOS		B			C			C		D		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	9.7	37.0		25.3	6.1	40.6		16.5				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	12.0	40.0		30.0	12.0	40.0		18.0				
Max Q Clear Time (g_c+l1), s	6.8	11.7		16.3	3.1	12.3		8.9				
Green Ext Time (p_c), s	0.1	1.9		2.1	0.0	2.3		0.7				
Intersection Summary												
HCM 6th Ctrl Delay		27.3										
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑ ↘	↑ ↗ ↘	↑ ↘	↑ ↗ ↘	↑ ↘	↗ ↘	↑ ↘	↗ ↘
Traffic Volume (vph)	3	259	232	327	38	5	9	15
Future Volume (vph)	3	259	232	327	38	5	9	15
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6	5	2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	50.0	6.0	50.0	9.0	9.0	9.0	9.0
Minimum Split (s)	9.0	57.0	9.0	57.0	15.0	15.0	15.0	15.0
Total Split (s)	15.0	57.0	15.0	57.0	29.0	29.0	29.0	29.0
Total Split (%)	14.9%	56.4%	14.9%	56.4%	28.7%	28.7%	28.7%	28.7%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	None	None	None	None

#### Intersection Summary

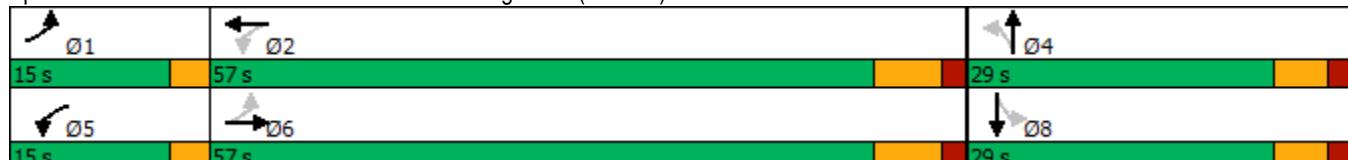
Cycle Length: 101

Actuated Cycle Length: 84.5

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Paxson Avenue & Edinburg Road (CR 535)



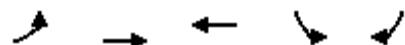
Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↓		↑	↑↓		↑	↑		↑	↑	
Traffic Volume (veh/h)	3	259	45	232	327	13	38	5	149	9	15	1
Future Volume (veh/h)	3	259	45	232	327	13	38	5	149	9	15	1
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1411	1870	1870	1900	1870	1870	1900	1900	1900	1574	1900	1900
Adj Flow Rate, veh/h	3	276	48	247	348	14	40	5	159	10	16	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	33	2	2	0	2	2	0	0	0	22	0	0
Cap, veh/h	556	1826	313	822	2336	94	262	6	206	121	233	15
Arrive On Green	0.00	0.60	0.60	0.07	0.67	0.67	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1344	3032	520	1810	3482	140	1415	49	1565	1027	1769	111
Grp Volume(v), veh/h	3	160	164	247	177	185	40	0	164	10	0	17
Grp Sat Flow(s), veh/h/ln	1344	1777	1776	1810	1777	1845	1415	0	1614	1027	0	1880
Q Serve(g_s), s	0.1	3.3	3.4	3.9	3.0	3.0	2.1	0.0	8.2	0.8	0.0	0.7
Cycle Q Clear(g_c), s	0.1	3.3	3.4	3.9	3.0	3.0	2.8	0.0	8.2	8.9	0.0	0.7
Prop In Lane	1.00		0.29	1.00		0.08	1.00		0.97	1.00		0.06
Lane Grp Cap(c), veh/h	556	1070	1069	822	1192	1238	262	0	212	121	0	247
V/C Ratio(X)	0.01	0.15	0.15	0.30	0.15	0.15	0.15	0.00	0.77	0.08	0.00	0.07
Avail Cap(c_a), veh/h	744	1070	1069	950	1192	1238	467	0	447	270	0	521
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	7.2	7.2	4.6	5.0	5.0	32.8	0.0	34.9	39.2	0.0	31.6
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.1	0.3	0.3	0.1	0.0	2.3	0.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	2.2	2.2	2.1	1.8	1.9	1.3	0.0	5.9	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.4	7.5	7.5	4.6	5.3	5.2	32.9	0.0	37.1	39.3	0.0	31.6
LnGrp LOS	A	A	A	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		327			609			204			27	
Approach Delay, s/veh		7.5			5.0			36.3			34.5	
Approach LOS		A			A			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	3.4	62.7		16.9	9.1	57.0		16.9				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		6.0	3.0	7.0		6.0				
Max Green Setting (Gmax), s	12.0	50.0		23.0	12.0	50.0		23.0				
Max Q Clear Time (g_c+l1), s	2.1	5.0		10.2	5.9	5.4		10.9				
Green Ext Time (p_c), s	0.0	1.4		0.5	0.2	1.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									

Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Existing Conditions  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↑	↑↑	↑↑	↑	↑
Traffic Volume (vph)	146	293	401	367	199
Future Volume (vph)	146	293	401	367	199
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	35.0	35.0	10.0	10.0
Minimum Split (s)	15.0	42.0	42.0	37.0	37.0
Total Split (s)	15.0	57.0	42.0	37.0	37.0
Total Split (%)	16.0%	60.6%	44.7%	39.4%	39.4%
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Max	None	Max	Max

Intersection Summary

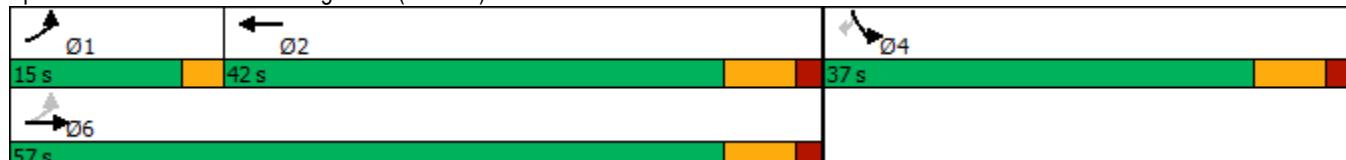
Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 95

Control Type: Semi Act-Uncoord

Splits and Phases: 2: Edinburg Road (CR 535) & Flock Road



Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Existing Conditions  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑↑	↑↑		↑	↑
Traffic Volume (veh/h)	146	293	401	298	367	199
Future Volume (veh/h)	146	293	401	298	367	199
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1870	1870	1870	1885	1900
Adj Flow Rate, veh/h	157	315	431	320	395	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	2	1	0
Cap, veh/h	391	1890	844	623	573	
Arrive On Green	0.07	0.53	0.43	0.43	0.32	0.00
Sat Flow, veh/h	1795	3647	2044	1438	1795	1610
Grp Volume(v), veh/h	157	315	392	359	395	0
Grp Sat Flow(s), veh/h/ln	1795	1777	1777	1611	1795	1610
Q Serve(g_s), s	4.3	4.3	15.1	15.3	18.1	0.0
Cycle Q Clear(g_c), s	4.3	4.3	15.1	15.3	18.1	0.0
Prop In Lane	1.00			0.89	1.00	1.00
Lane Grp Cap(c), veh/h	391	1890	769	698	573	
V/C Ratio(X)	0.40	0.17	0.51	0.51	0.69	
Avail Cap(c_a), veh/h	500	1890	769	698	573	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.8	11.3	19.4	19.4	27.9	0.0
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.3	6.7	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	3.0	3.0	10.1	9.4	13.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	14.1	11.5	19.6	19.7	34.6	0.0
LnGrp LOS	B	B	B	B	C	
Approach Vol, veh/h		472	751		395	A
Approach Delay, s/veh		12.4	19.7		34.6	
Approach LOS		B	B		C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+R <sub>c</sub> ), s	9.3	47.7		37.0		57.0
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0		7.0
Max Green Setting (Gmax), s	12.0	35.0		30.0		50.0
Max Q Clear Time (g_c+l1), s	6.3	17.3		20.1		6.3
Green Ext Time (p_c), s	0.1	3.1		0.5		1.5
Intersection Summary						
HCM 6th Ctrl Delay			21.2			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘
Traffic Volume (vph)	88	397	47	500	247	381
Future Volume (vph)	88	397	47	500	247	381
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	1	6	5	2	4	8
Permitted Phases	6		2			
Detector Phase	1	6	5	2	4	8
Switch Phase						
Minimum Initial (s)	6.0	30.0	6.0	30.0	8.0	8.0
Minimum Split (s)	9.0	37.0	9.0	37.0	15.0	15.0
Total Split (s)	15.0	47.0	15.0	47.0	25.0	37.0
Total Split (%)	12.1%	37.9%	12.1%	37.9%	20.2%	29.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	Min	None	None

#### Intersection Summary

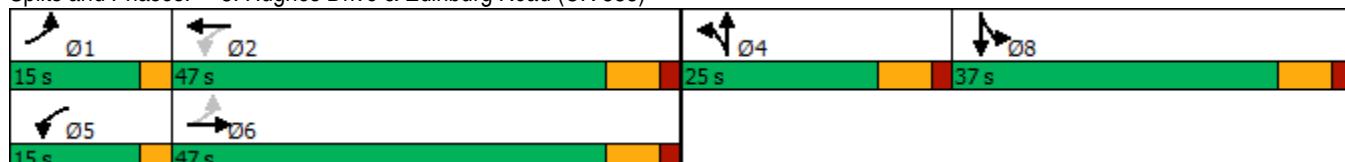
Cycle Length: 124

Actuated Cycle Length: 96.9

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Hughes Drive & Edinburg Road (CR 535)



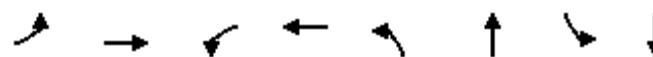
Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Existing Conditions  
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑↓		↑	↑↓		↑↓	↑↓		↑↓	↑↓	
Traffic Volume (veh/h)	88	397	146	47	500	66	78	247	55	89	381	95
Future Volume (veh/h)	88	397	146	47	500	66	78	247	55	89	381	95
Initial Q (Q <sub>b</sub> ), 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		0.99	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1870	1870	1900	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	414	152	49	521	69	81	257	57	93	397	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	2	2	0	3	3	0	0	0	0	0	0
Cap, veh/h	371	915	332	369	1079	142	102	338	78	117	531	
Arrive On Green	0.06	0.36	0.36	0.05	0.34	0.34	0.14	0.14	0.14	0.18	0.18	0.00
Sat Flow, veh/h	1795	2553	927	1810	3131	413	722	2387	551	665	3102	0
Grp Volume(v), veh/h	92	287	279	49	293	297	209	0	186	261	229	0
Grp Sat Flow(s), veh/h/ln	1795	1777	1703	1810	1763	1781	1864	0	1795	1867	1805	0
Q Serve(g_s), s	2.8	10.8	11.0	1.5	11.4	11.4	9.5	0.0	8.6	11.7	10.4	0.0
Cycle Q Clear(g_c), s	2.8	10.8	11.0	1.5	11.4	11.4	9.5	0.0	8.6	11.7	10.4	0.0
Prop In Lane	1.00		0.54	1.00		0.23	0.39		0.31	0.36		0.00
Lane Grp Cap(c), veh/h	371	637	610	369	607	614	264	0	254	330	319	
V/C Ratio(X)	0.25	0.45	0.46	0.13	0.48	0.48	0.79	0.00	0.73	0.79	0.72	
Avail Cap(c_a), veh/h	508	816	783	532	810	818	385	0	371	643	622	
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.9	21.4	21.4	17.1	22.4	22.4	36.1	0.0	35.8	34.3	33.8	0.0
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.1	0.2	0.2	4.0	0.0	1.5	1.6	1.1	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	2.0	7.8	7.6	1.1	8.1	8.2	8.0	0.0	6.9	9.1	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.1	21.6	21.6	17.2	22.6	22.7	40.1	0.0	37.3	35.9	34.9	0.0
LnGrp LOS	B	C	C	B	C	C	D	A	D	D	C	
Approach Vol, veh/h		658			639			395			490	A
Approach Delay, s/veh		21.0			22.2			38.8			35.5	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	8.4	37.0		19.3	7.2	38.2		22.4				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	12.0	40.0		18.0	12.0	40.0		30.0				
Max Q Clear Time (g_c+l1), s	4.8	13.4		11.5	3.5	13.0		13.7				
Green Ext Time (p_c), s	0.1	2.4		0.9	0.0	2.4		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			27.8									
HCM 6th LOS			C									
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Build  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗	↑ ↘	↑ ↗
Traffic Volume (vph)	1	321	78	173	30	11	12	8
Future Volume (vph)	1	321	78	173	30	11	12	8
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6	5	2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	50.0	6.0	50.0	9.0	9.0	9.0	9.0
Minimum Split (s)	9.0	57.0	9.0	57.0	15.0	15.0	15.0	15.0
Total Split (s)	15.0	57.0	15.0	57.0	29.0	29.0	29.0	29.0
Total Split (%)	14.9%	56.4%	14.9%	56.4%	28.7%	28.7%	28.7%	28.7%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	None	None	None	None

### Intersection Summary

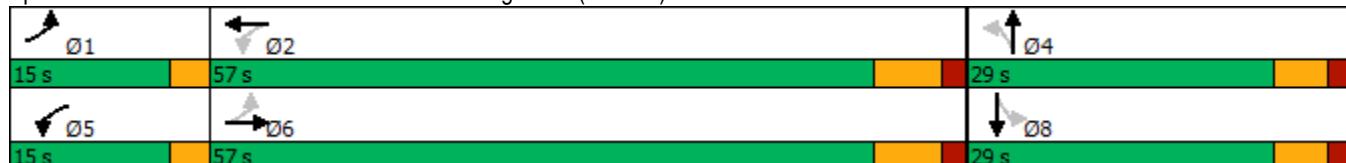
Cycle Length: 101

Actuated Cycle Length: 79.9

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Paxson Avenue & Edinburg Road (CR 535)



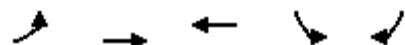
Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Build  
Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↓		↑	↓		↑	↓		↑	↓	
Traffic Volume (veh/h)	1	321	18	78	173	5	30	11	158	12	8	1
Future Volume (veh/h)	1	321	18	78	173	5	30	11	158	12	8	1
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1796	1796	1826	1767	1767	1900	1900	1900	1781	1707	1707
Adj Flow Rate, veh/h	1	361	20	88	194	6	34	12	178	13	9	1
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	7	7	5	9	9	0	0	0	8	13	13
Cap, veh/h	808	1008	56	673	1122	35	289	15	225	126	223	25
Arrive On Green	0.00	0.60	0.60	0.06	0.66	0.66	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1810	1686	93	1739	1703	53	1422	102	1518	1135	1509	168
Grp Volume(v), veh/h	1	0	381	88	0	200	34	0	190	13	0	10
Grp Sat Flow(s), veh/h/ln	1810	0	1779	1739	0	1756	1422	0	1621	1135	0	1676
Q Serve(g_s), s	0.0	0.0	9.2	1.4	0.0	3.7	1.8	0.0	9.5	0.9	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	9.2	1.4	0.0	3.7	2.2	0.0	9.5	10.4	0.0	0.4
Prop In Lane	1.00		0.05	1.00		0.03	1.00		0.94	1.00		0.10
Lane Grp Cap(c), veh/h	808	0	1064	673	0	1157	289	0	240	126	0	248
V/C Ratio(X)	0.00	0.00	0.36	0.13	0.00	0.17	0.12	0.00	0.79	0.10	0.00	0.04
Avail Cap(c_a), veh/h	1064	0	1064	814	0	1157	470	0	446	270	0	461
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	8.6	5.2	0.0	5.5	31.5	0.0	34.4	39.4	0.0	30.5
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.0	0.3	0.1	0.0	2.2	0.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	0.0	6.1	0.7	0.0	2.2	1.1	0.0	6.8	0.5	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.7	0.0	9.5	5.2	0.0	5.8	31.5	0.0	36.6	39.5	0.0	30.5
LnGrp LOS	A	A	A	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		382			288			224			23	
Approach Delay, s/veh		9.5			5.6			35.8			35.6	
Approach LOS		A			A			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	3.1	62.1		18.4	8.2	57.0		18.4				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		6.0	3.0	7.0		6.0				
Max Green Setting (Gmax), s	12.0	50.0		23.0	12.0	50.0		23.0				
Max Q Clear Time (g_c+l1), s	2.0	5.7		11.5	3.4	11.2		12.4				
Green Ext Time (p_c), s	0.0	0.8		0.6	0.1	1.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Build  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	137	363	192	303	66
Future Volume (vph)	137	363	192	303	66
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	35.0	35.0	10.0	10.0
Minimum Split (s)	15.0	42.0	42.0	37.0	37.0
Total Split (s)	15.0	57.0	42.0	37.0	37.0
Total Split (%)	16.0%	60.6%	44.7%	39.4%	39.4%
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Max	None	Max	Max

Intersection Summary

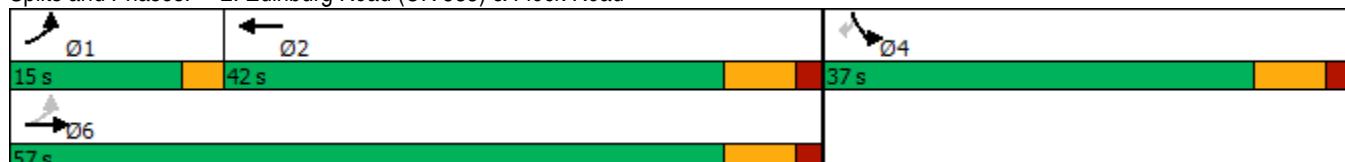
Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 95

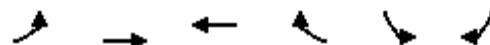
Control Type: Semi Act-Uncoord

Splits and Phases: 2: Edinburg Road (CR 535) & Flock Road



Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Build  
Timing Plan: AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Volume (veh/h)	137	363	192	315	303	66
Future Volume (veh/h)	137	363	192	315	303	66
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1811	1767	1767	1796	1826
Adj Flow Rate, veh/h	147	390	206	339	326	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	6	9	9	7	5
Cap, veh/h	314	963	262	431	546	
Arrive On Green	0.06	0.53	0.44	0.44	0.32	0.00
Sat Flow, veh/h	1795	1811	601	988	1711	1547
Grp Volume(v), veh/h	147	390	0	545	326	0
Grp Sat Flow(s), veh/h/ln	1795	1811	0	1589	1711	1547
Q Serve(g_s), s	4.0	12.1	0.0	27.7	15.1	0.0
Cycle Q Clear(g_c), s	4.0	12.1	0.0	27.7	15.1	0.0
Prop In Lane	1.00			0.62	1.00	1.00
Lane Grp Cap(c), veh/h	314	963	0	693	546	
V/C Ratio(X)	0.47	0.40	0.00	0.79	0.60	
Avail Cap(c_a), veh/h	429	963	0	693	546	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.4	13.1	0.0	22.7	26.9	0.0
Incr Delay (d2), s/veh	0.4	1.3	0.0	5.5	4.8	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	2.8	8.6	0.0	16.3	11.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	17.8	14.4	0.0	28.2	31.7	0.0
LnGrp LOS	B	B	A	C	C	
Approach Vol, veh/h		537	545		326	A
Approach Delay, s/veh		15.3	28.2		31.7	
Approach LOS		B	C		C	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+R <sub>c</sub> ), s	9.0	48.0		37.0		57.0
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0		7.0
Max Green Setting (Gmax), s	12.0	35.0		30.0		50.0
Max Q Clear Time (g_c+l1), s	6.0	29.7		17.1		14.1
Green Ext Time (p_c), s	0.1	1.3		0.4		1.6
Intersection Summary						
HCM 6th Ctrl Delay			24.1			
HCM 6th LOS			C			
Notes						
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.						

Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Build  
Timing Plan: AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↑	→	←	↑	→	↓
Traffic Volume (vph)	130	439	28	337	347	180
Future Volume (vph)	130	439	28	337	347	180
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	1	6	5	2	4	8
Permitted Phases	6		2			
Detector Phase	1	6	5	2	4	8
Switch Phase						
Minimum Initial (s)	6.0	30.0	6.0	30.0	8.0	8.0
Minimum Split (s)	9.0	37.0	9.0	37.0	15.0	15.0
Total Split (s)	15.0	47.0	15.0	47.0	37.0	25.0
Total Split (%)	12.1%	37.9%	12.1%	37.9%	29.8%	20.2%
Yellow Time (s)	3.0	5.0	3.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	Min	None	None

#### Intersection Summary

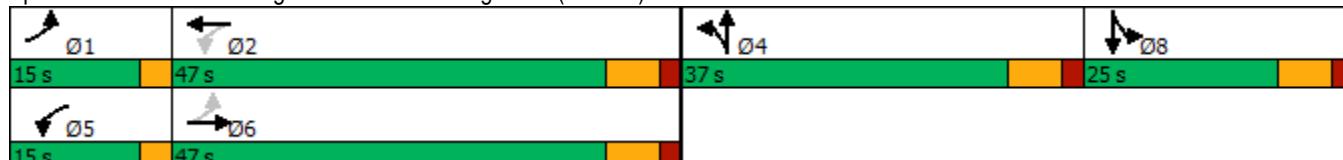
Cycle Length: 124

Actuated Cycle Length: 106.3

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Hughes Drive & Edinburg Road (CR 535)



Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

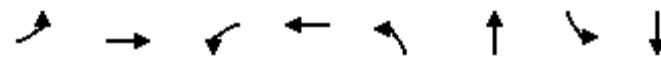
Build

Timing Plan: AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↓		↑	↓			↔			↔	
Traffic Volume (veh/h)	130	439	70	28	337	94	124	347	66	70	180	41
Future Volume (veh/h)	130	439	70	28	337	94	124	347	66	70	180	41
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1678	1856	1856	1633	1767	1767	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	141	477	76	30	366	102	135	377	72	76	196	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	15	3	3	18	9	9	2	2	2	3	3	3
Cap, veh/h	275	592	94	216	450	126	165	486	97	102	283	
Arrive On Green	0.08	0.38	0.38	0.04	0.34	0.34	0.21	0.21	0.21	0.11	0.11	0.00
Sat Flow, veh/h	1598	1562	249	1555	1329	370	800	2348	467	947	2716	0
Grp Volume(v), veh/h	141	0	553	30	0	468	309	0	275	145	127	0
Grp Sat Flow(s), veh/h/ln	1598	0	1811	1555	0	1700	1830	0	1785	1808	1763	0
Q Serve(g_s), s	4.8	0.0	24.2	1.1	0.0	22.2	14.3	0.0	12.8	6.9	6.1	0.0
Cycle Q Clear(g_c), s	4.8	0.0	24.2	1.1	0.0	22.2	14.3	0.0	12.8	6.9	6.1	0.0
Prop In Lane	1.00		0.14	1.00		0.22	0.44		0.26	0.52		0.00
Lane Grp Cap(c), veh/h	275	0	686	216	0	576	378	0	369	195	190	
V/C Ratio(X)	0.51	0.00	0.81	0.14	0.00	0.81	0.82	0.00	0.75	0.74	0.67	
Avail Cap(c_a), veh/h	371	0	818	371	0	768	620	0	605	368	358	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.4	0.0	24.6	20.2	0.0	26.7	33.5	0.0	32.9	38.3	38.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	4.2	0.1	0.0	3.7	1.7	0.0	1.1	2.1	1.5	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	3.1	0.0	16.0	0.7	0.0	14.2	10.5	0.0	9.4	5.6	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.9	0.0	28.8	20.3	0.0	30.3	35.2	0.0	34.1	40.4	39.5	0.0
LnGrp LOS	B	A	C	C	A	C	D	A	C	D	D	
Approach Vol, veh/h						498			584		272	A
Approach Delay, s/veh						29.7			34.6		40.0	
Approach LOS			C			C			C		D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	9.7	37.0		25.3	6.1	40.6		16.5				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	12.0	40.0		30.0	12.0	40.0		18.0				
Max Q Clear Time (g_c+l1), s	6.8	24.2		16.3	3.1	26.2		8.9				
Green Ext Time (p_c), s	0.1	1.8		2.1	0.0	2.1		0.7				
Intersection Summary												
HCM 6th Ctrl Delay				31.6								
HCM 6th LOS				C								
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Build  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑	↓	↑	↓	↑	↓	↑	↓
Traffic Volume (vph)	3	259	232	327	38	5	9	15
Future Volume (vph)	3	259	232	327	38	5	9	15
Turn Type	pm+pt	NA	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	1	6	5	2		4		8
Permitted Phases	6		2		4		8	
Detector Phase	1	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	6.0	50.0	6.0	50.0	9.0	9.0	9.0	9.0
Minimum Split (s)	9.0	57.0	9.0	57.0	15.0	15.0	15.0	15.0
Total Split (s)	15.0	57.0	15.0	57.0	29.0	29.0	29.0	29.0
Total Split (%)	14.9%	56.4%	14.9%	56.4%	28.7%	28.7%	28.7%	28.7%
Yellow Time (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes				
Recall Mode	None	Max	None	Max	None	None	None	None

#### Intersection Summary

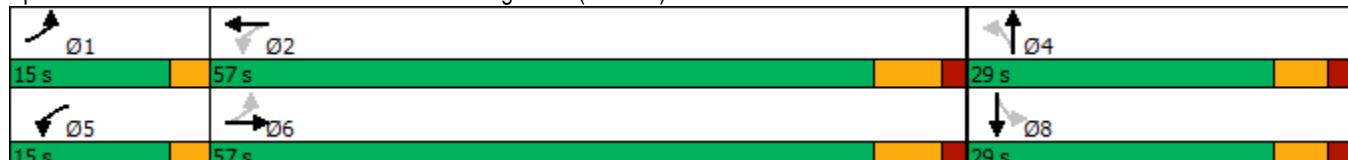
Cycle Length: 101

Actuated Cycle Length: 84.5

Natural Cycle: 85

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Paxson Avenue & Edinburg Road (CR 535)



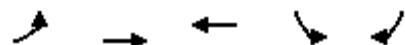
Mercer County CR 535 Intersection Analysis  
1: Paxson Avenue & Edinburg Road (CR 535)

Build  
Timing Plan: PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↓		↑	↓		↑	↓		↑	↓	
Traffic Volume (veh/h)	3	259	45	232	327	13	38	5	149	9	15	1
Future Volume (veh/h)	3	259	45	232	327	13	38	5	149	9	15	1
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1411	1870	1870	1900	1870	1870	1900	1900	1900	1574	1900	1900
Adj Flow Rate, veh/h	3	276	48	247	348	14	40	5	159	10	16	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	33	2	2	0	2	2	0	0	0	22	0	0
Cap, veh/h	547	934	162	773	1198	48	261	6	206	121	233	15
Arrive On Green	0.00	0.60	0.60	0.07	0.67	0.67	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1344	1551	270	1810	1785	72	1413	49	1563	1026	1769	111
Grp Volume(v), veh/h	3	0	324	247	0	362	40	0	164	10	0	17
Grp Sat Flow(s), veh/h/ln	1344	0	1821	1810	0	1857	1413	0	1612	1026	0	1880
Q Serve(g_s), s	0.1	0.0	7.2	3.9	0.0	6.6	2.1	0.0	8.2	0.8	0.0	0.7
Cycle Q Clear(g_c), s	0.1	0.0	7.2	3.9	0.0	6.6	2.8	0.0	8.2	9.0	0.0	0.7
Prop In Lane	1.00		0.15	1.00		0.04	1.00		0.97	1.00		0.06
Lane Grp Cap(c), veh/h	547	0	1097	773	0	1246	261	0	212	121	0	247
V/C Ratio(X)	0.01	0.00	0.30	0.32	0.00	0.29	0.15	0.00	0.77	0.08	0.00	0.07
Avail Cap(c_a), veh/h	735	0	1097	901	0	1246	467	0	446	270	0	521
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	0.0	8.0	5.0	0.0	5.6	32.8	0.0	34.9	39.2	0.0	31.6
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.1	0.0	0.6	0.1	0.0	2.3	0.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	0.0	0.0	4.8	2.1	0.0	4.2	1.3	0.0	5.9	0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.4	0.0	8.7	5.1	0.0	6.2	32.9	0.0	37.1	39.3	0.0	31.6
LnGrp LOS	A	A	A	A	A	A	C	A	D	D	A	C
Approach Vol, veh/h		327			609			204			27	
Approach Delay, s/veh		8.7			5.7			36.3			34.5	
Approach LOS		A			A			D			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	3.4	62.7		16.9	9.1	57.0		16.9				
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		6.0	3.0	7.0		6.0				
Max Green Setting (Gmax), s	12.0	50.0		23.0	12.0	50.0		23.0				
Max Q Clear Time (g_c+l1), s	2.1	8.6		10.2	5.9	9.2		11.0				
Green Ext Time (p_c), s	0.0	1.5		0.5	0.2	1.4		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			B									

Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Build  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	146	293	401	367	199
Future Volume (vph)	146	293	401	367	199
Turn Type	pm+pt	NA	NA	Prot	Perm
Protected Phases	1	6	2	4	
Permitted Phases	6				4
Detector Phase	1	6	2	4	4
Switch Phase					
Minimum Initial (s)	6.0	35.0	35.0	10.0	10.0
Minimum Split (s)	15.0	42.0	42.0	37.0	37.0
Total Split (s)	15.0	60.0	45.0	34.0	34.0
Total Split (%)	16.0%	63.8%	47.9%	36.2%	36.2%
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag		
Lead-Lag Optimize?	Yes		Yes		
Recall Mode	None	Max	None	Max	Max

Intersection Summary

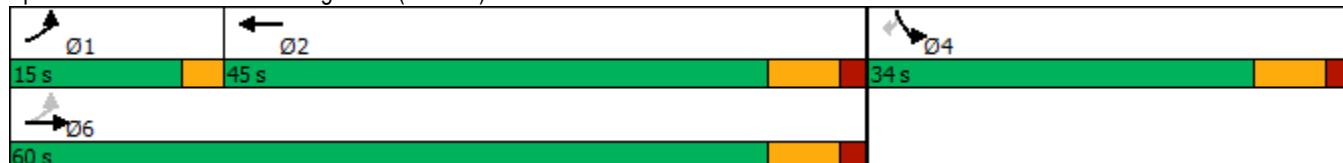
Cycle Length: 94

Actuated Cycle Length: 94

Natural Cycle: 95

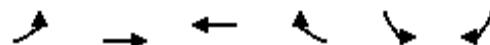
Control Type: Semi Act-Uncoord

Splits and Phases: 2: Edinburg Road (CR 535) & Flock Road



Mercer County CR 535 Intersection Analysis  
2: Edinburg Road (CR 535) & Flock Road

Build  
Timing Plan: PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	146	293	401	298	367	199
Future Volume (veh/h)	146	293	401	298	367	199
Initial Q (Q <sub>b</sub> ), 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
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1885	1870	1870	1870	1885	1900
Adj Flow Rate, veh/h	157	315	431	320	395	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	2	2	2	1	0
Cap, veh/h	237	1055	466	346	516	
Arrive On Green	0.06	0.56	0.47	0.47	0.29	0.00
Sat Flow, veh/h	1795	1870	997	740	1795	1610
Grp Volume(v), veh/h	157	315	0	751	395	0
Grp Sat Flow(s), veh/h/ln	1795	1870	0	1737	1795	1610
Q Serve(g_s), s	4.0	8.3	0.0	38.1	18.9	0.0
Cycle Q Clear(g_c), s	4.0	8.3	0.0	38.1	18.9	0.0
Prop In Lane	1.00			0.43	1.00	1.00
Lane Grp Cap(c), veh/h	237	1055	0	813	516	
V/C Ratio(X)	0.66	0.30	0.00	0.92	0.77	
Avail Cap(c_a), veh/h	351	1055	0	813	516	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.7	10.8	0.0	23.4	30.6	0.0
Incr Delay (d2), s/veh	1.2	0.7	0.0	15.8	10.4	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	2.9	6.2	0.0	25.1	14.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	21.9	11.5	0.0	39.3	41.0	0.0
LnGrp LOS	C	B	A	D	D	
Approach Vol, veh/h		472	751		395	A
Approach Delay, s/veh		14.9	39.3		41.0	
Approach LOS		B	D		D	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+R <sub>c</sub> ), s	9.0	51.0		34.0		60.0
Change Period (Y+R <sub>c</sub> ), s	3.0	7.0		7.0		7.0
Max Green Setting (Gmax), s	12.0	38.0		27.0		53.0
Max Q Clear Time (g_c+l1), s	6.0	40.1		20.9		10.3
Green Ext Time (p_c), s	0.1	0.0		0.4		1.3
Intersection Summary						
HCM 6th Ctrl Delay			32.6			
HCM 6th LOS			C			
Notes						

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Build  
Timing Plan: PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Configurations	↑	→	↑	→	↔	↔
Traffic Volume (vph)	88	397	47	500	247	381
Future Volume (vph)	88	397	47	500	247	381
Turn Type	pm+pt	NA	pm+pt	NA	NA	NA
Protected Phases	1	6	5	2	4	8
Permitted Phases	6		2			
Detector Phase	1	6	5	2	4	8
Switch Phase						
Minimum Initial (s)	6.0	30.0	6.0	30.0	8.0	8.0
Minimum Split (s)	9.0	37.0	9.0	37.0	15.0	15.0
Total Split (s)	15.0	47.0	15.0	47.0	25.0	37.0
Total Split (%)	12.1%	37.9%	12.1%	37.9%	20.2%	29.8%
Yellow Time (s)	3.0	5.0	3.0	5.0	5.0	5.0
All-Red Time (s)	0.0	2.0	0.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	3.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	Min	None	None

#### Intersection Summary

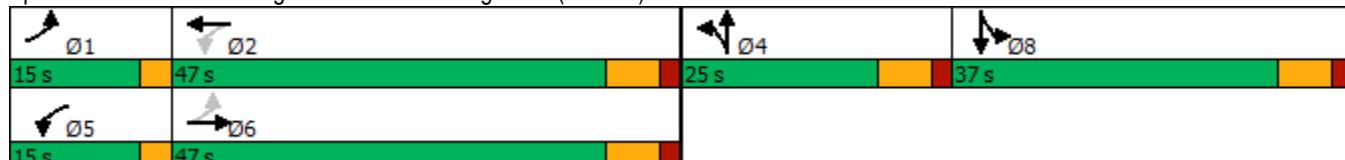
Cycle Length: 124

Actuated Cycle Length: 109.2

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Splits and Phases: 3: Hughes Drive & Edinburg Road (CR 535)



Mercer County CR 535 Intersection Analysis  
3: Hughes Drive & Edinburg Road (CR 535)

Build

Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑			↔		↔	↔	
Traffic Volume (veh/h)	88	397	146	47	500	66	78	247	55	89	381	95
Future Volume (veh/h)	88	397	146	47	500	66	78	247	55	89	381	95
Initial Q (Q <sub>b</sub> ), 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		0.99	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
Work Zone On Approach		No			No			No		No		No
Adj Sat Flow, veh/h/ln	1885	1870	1870	1900	1856	1856	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	92	414	152	49	521	69	81	257	57	93	397	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	2	2	0	3	3	0	0	0	0	0	0
Cap, veh/h	226	480	176	230	569	75	101	335	77	117	528	
Arrive On Green	0.06	0.37	0.37	0.05	0.35	0.35	0.14	0.14	0.14	0.18	0.18	0.00
Sat Flow, veh/h	1795	1305	479	1810	1605	213	721	2384	550	665	3102	0
Grp Volume(v), veh/h	92	0	566	49	0	590	209	0	186	261	229	0
Grp Sat Flow(s), veh/h/ln	1795	0	1784	1810	0	1817	1864	0	1792	1867	1805	0
Q Serve(g_s), s	2.8	0.0	26.2	1.5	0.0	27.7	9.7	0.0	8.9	12.0	10.7	0.0
Cycle Q Clear(g_c), s	2.8	0.0	26.2	1.5	0.0	27.7	9.7	0.0	8.9	12.0	10.7	0.0
Prop In Lane	1.00		0.27	1.00		0.12	0.39		0.31	0.36		0.00
Lane Grp Cap(c), veh/h	226	0	656	230	0	645	262	0	252	328	317	
V/C Ratio(X)	0.41	0.00	0.86	0.21	0.00	0.91	0.80	0.00	0.74	0.80	0.72	
Avail Cap(c_a), veh/h	359	0	799	387	0	814	375	0	361	627	606	
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(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.9	0.0	26.1	20.1	0.0	27.5	37.2	0.0	36.8	35.3	34.8	0.0
Incr Delay (d2), s/veh	0.4	0.0	7.1	0.2	0.0	11.4	4.8	0.0	2.1	1.7	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	0.0	0.0	0.0
%ile BackOfQ(95%), veh/ln	2.1	0.0	17.6	1.1	0.0	19.6	8.3	0.0	7.1	9.3	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	0.0	33.3	20.3	0.0	39.0	42.0	0.0	38.9	37.0	35.9	0.0
LnGrp LOS	C	A	C	C	A	D	D	A	D	D	D	
Approach Vol, veh/h		658			639			395			490	A
Approach Delay, s/veh		31.6			37.5			40.5			36.5	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	38.7		19.6	7.2	39.9		22.7				
Change Period (Y+Rc), s	3.0	7.0		7.0	3.0	7.0		7.0				
Max Green Setting (Gmax), s	12.0	40.0		18.0	12.0	40.0		30.0				
Max Q Clear Time (g_c+l1), s	4.8	29.7		11.7	3.5	28.2		14.0				
Green Ext Time (p_c), s	0.1	2.0		0.8	0.0	2.1		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			36.1									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												