



Appendix F:

Synrho Capacity/Queue Analysis



ETHD.00004

Suburban T-Intersection (2 lanes)

Cloverleaf Road (SR 4025) & Mt. Pleasant Road (SR 4010)

Critical Headway

Existing/Base/Projected

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	SB L	4.3	1	24%	0	-1	0	4.5
	PM	SB L	4.3	1	0%	0	-1	0	4.3
minor right	AM	WB R	6.2	1	0%	0.1	-1	0	6.1
	PM	WB R	6.2	1	13%	0.1	-1	0	6.2
minor left	AM	WB L	7.1	1	17%	0.2	-1	0.7	6.4
	PM	WB L	7.1	1	20%	0.2	-1	0.7	6.4

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	24%	3.2
	PM	SB L	3	0.9	0%	3.0
minor right	AM	WB R	3.1	0.9	0%	3.1
	PM	WB R	3.1	0.9	13%	3.2
minor left	AM	WB L	3	0.9	17%	3.2
	PM	WB L	3	0.9	20%	3.2

ETHD.00004

Suburban T-Intersection (2 lanes)

Cloverleaf Road (SR 4025) & Steel Way

Critical Headway

			Existing/Base						Base Crit
			tc base	tc hv	phv	t cg	G	t 3lt	
major left	AM	SB L	4.3	1	0%	0	-2	0	4.3
	PM	SB L	4.3	1	25%	0	-2	0	4.6
minor right	AM	WB R	6.2	1	0%	0.1	-5	0	5.7
	PM	WB R	6.2	1	2%	0.1	-5	0	5.7
minor left	AM	WB L	7.1	1	40%	0.2	-5	0.7	5.8
	PM	WB L	7.1	1	3%	0.2	-5	0.7	5.4

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	0%	3.0
	PM	SB L	3	0.9	25%	3.2
minor right	AM	WB R	3.1	0.9	0%	3.1
	PM	WB R	3.1	0.9	2%	3.1
minor left	AM	WB L	3	0.9	40%	3.4
	PM	WB L	3	0.9	3%	3.0

Critical Headway

			Projected						Base Crit
			tc base	tc hv	phv	t cg	G	t 3lt	
major left	AM	SB L	4.3	1	0%	0	-2	0	4.3
	PM	SB L	4.3	1	25%	0	-2	0	4.6
minor right	AM	WB R	6.2	1	0%	0.1	-5	0	5.7
	PM	WB R	6.2	1	2%	0.1	-5	0	5.7
minor left	AM	WB L	7.1	1	54%	0.2	-5	0.7	5.9
	PM	WB L	7.1	1	12%	0.2	-5	0.7	5.5

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	0%	3.0
	PM	SB L	3	0.9	25%	3.2
minor right	AM	WB R	3.1	0.9	0%	3.1
	PM	WB R	3.1	0.9	2%	3.1
minor left	AM	WB L	3	0.9	54%	3.5
	PM	WB L	3	0.9	12%	3.1

ETHD.00004

Suburban T-Intersection (2 lanes)

Cloverleaf Road (SR 4025) & Route 283 East Ramps

Critical Headway

			Existing						Base Crit
			tc base	tc hv	phv	t cg	G	t 3lt	
major left	AM	SB L	4.3	1	12%	0	-2	0	4.4
	PM	SB L	4.3	1	2%	0	-2	0	4.3
minor right	AM	EB R	6.2	1	7%	0.1	-1	0	6.2
	PM	EB R	6.2	1	1%	0.1	-1	0	6.1
minor left	AM	EB L	7.1	1	22%	0.2	-1	0.7	6.4
	PM	EB L	7.1	1	7%	0.2	-1	0.7	6.3

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	12%	3.1
	PM	SB L	3	0.9	2%	3.0
minor right	AM	EB R	3.1	0.9	7%	3.2
	PM	EB R	3.1	0.9	1%	3.1
minor left	AM	EB L	3	0.9	22%	3.2
	PM	EB L	3	0.9	7%	3.1

Critical Headway

			Base						Base Crit
			tc base	tc hv	phv	t cg	G	t 3lt	
major left	AM	SB L	4.3	1	12%	0	-2	0	4.4
	PM	SB L	4.3	1	2%	0	-2	0	4.3
minor right	AM	EB R	6.2	1	7%	0.1	-1	0	6.2
	PM	EB R	6.2	1	1%	0.1	-1	0	6.1
minor left	AM	EB L	7.1	1	22%	0.2	-1	0.7	6.4
	PM	EB L	7.1	1	7%	0.2	-1	0.7	6.3

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	12%	3.1
	PM	SB L	3	0.9	2%	3.0
minor right	AM	EB R	3.1	0.9	7%	3.2
	PM	EB R	3.1	0.9	1%	3.1
minor left	AM	EB L	3	0.9	22%	3.2
	PM	EB L	3	0.9	7%	3.1

Critical Headway

			Projected						Base Crit
			tc base	tc hv	phv	t cg	G	t 3lt	
major left	AM	SB L	4.3	1	17%	0	-2	0	4.5
	PM	SB L	4.3	1	10%	0	-2	0	4.4
minor right	AM	EB R	6.2	1	7%	0.1	-1	0	6.2
	PM	EB R	6.2	1	1%	0.1	-1	0	6.1
minor left	AM	EB L	7.1	1	27%	0.2	-1	0.7	6.5
	PM	EB L	7.1	1	17%	0.2	-1	0.7	6.4

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	SB L	3	0.9	17%	3.2
	PM	SB L	3	0.9	10%	3.1
minor right	AM	EB R	3.1	0.9	7%	3.2
	PM	EB R	3.1	0.9	1%	3.1
minor left	AM	EB L	3	0.9	27%	3.2
	PM	EB L	3	0.9	17%	3.2

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Suburban T-Intersection (2 lanes)

Cloverleaf Road (SR 4025) & Merts Drive

Critical Headway

Existing/Base/Projected

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	NB L	4.3	1	0%	0	-2	0	4.3
	PM	NB L	4.3	1	0%	0	-2	0	4.3
minor right	AM	EB R	6.2	1	11%	0.1	0	0	6.3
	PM	EB R	6.2	1	0%	0.1	0	0	6.2
minor left	AM	EB L	7.1	1	0%	0.2	0	0.7	6.4
	PM	EB L	7.1	1	13%	0.2	0	0.7	6.5

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	0%	3.0
minor right	AM	EB R	3.1	0.9	11%	3.2
	PM	EB R	3.1	0.9	0%	3.1
minor left	AM	EB L	3	0.9	0%	3.0
	PM	EB L	3	0.9	13%	3.1

ETHD.00004

Suburban 4-Leg Intersection (2 lanes)

Schwanger Road/Campus Road & Merts Drive/Schwanger Road

Critical Headway

Critical Headway			Existing/Base/Projected						
	Movement	tc base	tc hv	phv	t cg	G	t 3lt	Base Crit	
major left	AM	EB L	4.3	1	17%	0	0	0	4.5
	PM	EB L	4.3	1	0%	0	0	0	4.3
	AM	WB L	4.3	1	5%	0	-1	0	4.4
	PM	WB L	4.3	1	1%	0	-1	0	4.3
minor right	AM	NB R	6.2	1	3%	0.1	1	0	6.3
	PM	NB R	6.2	1	3%	0.1	1	0	6.3
	AM	SB R	6.2	1	4%	0.1	-3	0	5.9
	PM	SB R	6.2	1	6%	0.1	-3	0	6.0
minor left	AM	NB L	7.1	1	0%	0.2	1	0	7.3
	PM	NB L	7.1	1	0%	0.2	1	0	7.3
	AM	SB L	7.1	1	5%	0.2	-3	0	6.6
	PM	SB L	7.1	1	6%	0.2	-3	0	6.6

Follow-up headway

		Movement	t fbase	t fhv	phv	Follow-up
major left	AM	EB L	3	0.9	17%	3.2
	PM	EB L	3	0.9	0%	3.0
	AM	WB L	3	0.9	5%	3.0
	PM	WB L	3	0.9	1%	3.0
minor right	AM	NB R	3.1	0.9	3%	3.1
	PM	NB R	3.1	0.9	3%	3.1
	AM	SB R	3.1	0.9	4%	3.1
	PM	SB R	3.1	0.9	6%	3.2
minor left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	0%	3.0
	AM	SB L	3	0.9	5%	3.0
	PM	SB L	3	0.9	6%	3.1

ETHD.00004

Suburban T-Intersection (2 lanes)

Mt. Pleasant Road (SR 4010) & Schwanger Road

Critical Headway

Existing/Base/Projected

			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	WB L	4.3	1	19%	0	0	0	4.5
	PM	WB L	4.3	1	15%	0	0	0	4.5
minor right	AM	NB R	6.2	1	5%	0.1	0	0	6.3
	PM	NB R	6.2	1	4%	0.1	0	0	6.2
minor left	AM	NB L	7.1	1	0%	0.2	0	0.7	6.4
	PM	NB L	7.1	1	25%	0.2	0	0.7	6.7

Follow-up headway

			t fbase	t fhv	phv	Follow-up
major left	AM	WB L	3	0.9	19%	3.2
	PM	WB L	3	0.9	15%	3.1
minor right	AM	NB R	3.1	0.9	5%	3.1
	PM	NB R	3.1	0.9	4%	3.1
minor left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	25%	3.2

ETHD.00004

Suburban T-Intersection (2 lanes)

Mt. Pleasant Road (SR 4010) & Proposed Eastern Driveway

Critical Headway

Critical Headway			Proposed						
			tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	EB L	4.3	1	2%	0	2	0	4.3
	PM	EB L	4.3	1	2%	0	2	0	4.3
minor right	AM	SB R	6.2	1	2%	0.1	0	0	6.2
	PM	SB R	6.2	1	2%	0.1	0	0	6.2
minor left	AM	SB L	7.1	1	2%	0.2	0	0.7	6.4
	PM	SB L	7.1	1	2%	0.2	0	0.7	6.4

Follow-up headway

		t fbase	t fhv	phv	Follow-up	
major left	AM	EB L	3	0.9	2%	3.0
	PM	EB L	3	0.9	2%	3.0
minor right	AM	SB R	3.1	0.9	2%	3.1
	PM	SB R	3.1	0.9	2%	3.1
minor left	AM	SB L	3	0.9	2%	3.0
	PM	SB L	3	0.9	2%	3.0

ETHD.00004

Suburban 4-Leg Intersection (2 lanes)

Mt. Pleasant Road (SR 4010) & Proposed Western Driveway/Archers Lane

Critical Headway

		Movement	tc base	tc hv	phv	t cg	G	t 3lt	Base Crit
major left	AM	EB L	4.3	1	2%	0	0	0	4.3
	PM	EB L	4.3	1	2%	0	0	0	4.3
	AM	WB L	4.3	1	2%	0	-1	0	4.3
	PM	WB L	4.3	1	2%	0	-1	0	4.3
minor right	AM	NB R	6.2	1	2%	0.1	0	0	6.2
	PM	NB R	6.2	1	2%	0.1	0	0	6.2
	AM	SB R	6.2	1	2%	0.1	0	0	6.2
	PM	SB R	6.2	1	2%	0.1	0	0	6.2
minor left	AM	NB L	7.1	1	0%	0.2	0	0	7.1
	PM	NB L	7.1	1	0%	0.2	0	0	7.1
	AM	SB L	7.1	1	0%	0.2	0	0	7.1
	PM	SB L	7.1	1	0%	0.2	0	0	7.1

Follow-up headway

		Movement	t fbase	t fhv	phv	Follow-up
major left	AM	EB L	3	0.9	2%	3.0
	PM	EB L	3	0.9	2%	3.0
	AM	WB L	3	0.9	2%	3.0
	PM	WB L	3	0.9	2%	3.0
minor right	AM	NB R	3.1	0.9	2%	3.1
	PM	NB R	3.1	0.9	2%	3.1
	AM	SB R	3.1	0.9	2%	3.1
	PM	SB R	3.1	0.9	2%	3.1
minor left	AM	NB L	3	0.9	0%	3.0
	PM	NB L	3	0.9	0%	3.0
	AM	SB L	3	0.9	0%	3.0
	PM	SB L	3	0.9	0%	3.0



2025 Existing Conditions



1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	42	6	140	15	21	216
Future Volume (vph)	42	6	140	15	21	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4494		1057			908
Travel Time (s)	76.6		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	19%	27%	24%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	168	0	0	258
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	6	140	15	21	216
Future Vol, veh/h	42	6	140	15	21	216
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	0	19	27	24	8
Mvmt Flow	46	7	152	16	23	235

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	441	160	0
Stage 1	160	-	-
Stage 2	280	-	-
Critical Hdwy	6.37	6.1	-
Critical Hdwy Stg 1	5.37	-	-
Critical Hdwy Stg 2	5.37	-	-
Follow-up Hdwy	3.2	3.1	-
Pot Cap-1 Maneuver	623	948	-
Stage 1	950	-	-
Stage 2	837	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	607	948	-
Mov Cap-2 Maneuver	607	-	-
Stage 1	925	-	-
Stage 2	837	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.17	0	0.78
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	635	159
HCM Lane V/C Ratio	-	-	0.082	0.023
HCM Ctrl Dly (s/v)	-	-	11.2	8.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

2025 Existing Conditions
2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	1	140	75	16	266
Future Volume (vph)	20	1	140	75	16	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	40%	0%	21%	0%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	232	0	0	303
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	1	140	75	16	266
Future Vol, veh/h	20	1	140	75	16	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	40	0	21	0	0	11
Mvmt Flow	22	1	151	81	17	286

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	511	191	0
Stage 1	191	-	-
Stage 2	320	-	-
Critical Hdwy	5.8	5.7	-
Critical Hdwy Stg 1	4.8	-	-
Critical Hdwy Stg 2	4.8	-	-
Follow-up Hdwy	3.4	3.1	-
Pot Cap-1 Maneuver	586	931	-
Stage 1	897	-	-
Stage 2	800	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	574	931	-
Mov Cap-2 Maneuver	574	-	-
Stage 1	879	-	-
Stage 2	800	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.41	0	0.49
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	584	102
HCM Lane V/C Ratio	-	-	0.039	0.017
HCM Ctrl Dly (s/v)	-	-	11.4	8.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

2025 Existing Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	326	0	103	548	131	0	0	197	74
Future Volume (vph)	0	0	0	326	0	103	548	131	0	0	197	74
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	15%	4%	17%	0%	0%	14%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	351	111	589	141	0	0	212	80
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				24.5	24.5	24.5	22.0	78.0			56.0	56.0
Total Split (%)				23.9%	23.9%	23.9%	21.5%	76.1%			54.6%	54.6%
Maximum Green (s)				19.0	19.0	19.0	16.0	72.0			50.0	50.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					0.75	0.24	0.97	0.17			0.61	0.22
Control Delay (s/veh)					34.3	6.1	44.6	7.8			31.1	6.0

2025 Existing Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					34.3	6.1	44.6	7.8			31.1	6.0
Queue Length 50th (ft)					124	0	158	29			87	0
Queue Length 95th (ft)					#275	38	#402	59			156	28
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					468	454	607	1472			1180	1042
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.75	0.24	0.97	0.10			0.18	0.08

Intersection Summary

Area Type: Other

Cycle Length: 102.5

Actuated Cycle Length: 66.7

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2025 Existing Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	326	0	103	548	131	0	0	197	74
Future Volume (veh/h)	0	0	0	326	0	103	548	131	0	0	197	74
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1775	1875	1661	1722	1539	0	0	1675	1704
Adj Flow Rate, veh/h				351	0	0	589	141	0	0	212	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				7	0	15	4	17	0	0	14	12
Cap, veh/h				439	0		713	927	0	0	423	
Arrive On Green				0.23	0.00	0.00	0.27	0.60	0.00	0.00	0.25	0.00
Sat Flow, veh/h				1785	0	1408	1640	1539	0	0	1675	1444
Grp Volume(v), veh/h				351	0	0	589	141	0	0	212	0
Grp Sat Flow(s),veh/h/ln				1785	0	1408	1640	1539	0	0	1675	1444
Q Serve(g_s), s				11.6	0.0	0.0	15.4	2.5	0.0	0.0	6.8	0.0
Cycle Q Clear(g_c), s				11.6	0.0	0.0	15.4	2.5	0.0	0.0	6.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				439	0		713	927	0	0	423	
V/C Ratio(X)				0.80	0.00		0.83	0.15	0.00	0.00	0.50	
Avail Cap(c_a), veh/h				569	0		713	1789	0	0	1361	
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				22.7	0.0	0.0	10.9	5.5	0.0	0.0	20.1	0.0
Incr Delay (d2), s/veh				6.1	0.0	0.0	7.9	0.3	0.0	0.0	3.3	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				9.3	0.0	0.0	9.3	1.1	0.0	0.0	4.9	0.0
Unsig. Movement Delay, s/veh						8.30						
LnGrp Delay(d), s/veh				28.8	0.0	8.3	18.7	5.7	0.0	0.0	23.4	0.0
LnGrp LOS				C		A	B	A			C	
Approach Vol, veh/h					431			730			212	
Approach Delay, s/veh					25.0			16.2			23.4	
Approach LOS					C			B			C	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	42.8			22.0			20.8			20.0		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	72.0			16.0			50.0			19.0		
Max Q Clear Time (g_c+l1), s	5.0			17.9			9.3			13.6		
Green Ext Time (p_c), s	3.9			0.0			5.5			0.8		
Intersection Summary												
HCM 7th Control Delay, s/veh				20.1								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

2025 Existing Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	0	274	0	0	0	0	647	558	127	396	0
Future Volume (vph)	32	0	274	0	0	0	0	647	558	127	396	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	22%	0%	7%	0%	0%	0%	0%	5%	3%	12%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	0	308	0	0	0	0	727	627	143	445	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2025 Existing Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	0	274	0	0	0	0	647	558	127	396	0
Future Vol, veh/h	32	0	274	0	0	0	0	647	558	127	396	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	0	7	0	0	0	0	5	3	12	6	0
Mvmt Flow	36	0	308	0	0	0	0	727	627	143	445	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1457	- 445	- - - -	0 0 727 0 0
Stage 1	730	- - - -	- - - -	- - - -
Stage 2	727	- - - -	- - - -	- - - -
Critical Hdwy	6.42	- 6.17	- - - -	- - 4.4 - -
Critical Hdwy Stg 1	5.42	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.42	- - - -	- - - -	- - - -
Follow-up Hdwy	3.2	- 3.2	- - - -	- - 3.1 - -
Pot Cap-1 Maneuver	149	0 635	0 0 0 0	- - 643 - 0
Stage 1	509	0 - 0 0 0 0	- - - -	- - - -
Stage 2	511	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	116	0 635	- 0 - -	- - 643 - -
Mov Cap-2 Maneuver	116	0 - - 0 - -	- - - -	- - - -
Stage 1	396	0 - - 0 - -	- - - -	- - - -
Stage 2	511	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	19.38		0	2.96
HCM LOS	C	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	116	635	643	-
HCM Lane V/C Ratio	-	-	0.31	0.485	0.222	-
HCM Ctrl Dly (s/v)	-	-	49.4	15.9	12.2	-
HCM Lane LOS	-	-	E	C	B	-
HCM 95th %tile Q(veh)	-	-	1.2	2.6	0.8	-

2025 Existing Conditions
5: Cloverleaf Rd. (SR 4025) & Merts Drive

Timing Plan: A.M. Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	8	1201	653	17
Future Volume (vph)	4	9	8	1201	653	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	11%	0%	5%	9%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	1300	720	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	9	8	1201	653	17
Future Vol, veh/h	4	9	8	1201	653	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	11	0	5	9	6
Mvmt Flow	4	10	9	1291	702	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2020	711	720
Stage 1	711	-	-
Stage 2	1309	-	-
Critical Hdwy	6.4	6.31	4.3
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3	3.2	3
Pot Cap-1 Maneuver	68	436	675
Stage 1	547	-	-
Stage 2	277	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	65	436	675
Mov Cap-2 Maneuver	65	-	-
Stage 1	523	-	-
Stage 2	277	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	29.85	0.07	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	12	-	159	-	-
HCM Lane V/C Ratio	0.013	-	0.088	-	-
HCM Ctrl Dly (s/v)	10.4	0	29.8	-	-
HCM Lane LOS	B	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

2025 Existing Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	291	26	55	7	14	69	24	844	7	16	511	144
Future Volume (vph)	291	26	55	7	14	69	24	844	7	16	511	144
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	310	87	0	7	88	0	26	905	0	17	697	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%		64.3%	64.3%	
Maximum Green (s)	19.0	19.0		19.0	19.0		38.5	38.5		38.5	38.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.92	0.17		0.02	0.18		0.10	0.97		0.15	0.77	
Control Delay (s/veh)	60.5	9.6		18.3	7.9		8.4	40.4		11.0	18.6	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow, Master Intersection
Natural Cycle:	90
Control Type:	Actuated-Coordinated
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

#6 Ø2 (R) 45 s	#6 Ø4 25 s
#6 Ø6 (R) 45 s	#6 Ø8 25 s

2025 Existing Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	26	55	7	14	69	24	844	7	16	511	144
Future Volume (veh/h)	291	26	55	7	14	69	24	844	7	16	511	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	310	28	28	7	15	58	26	898	7	17	544	135
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	464	271	271	444	93	361	328	1013	8	190	782	194
Arrive On Green	0.29	0.29	0.27	0.29	0.29	0.27	0.56	0.56	0.55	0.56	0.56	0.55
Sat Flow, veh/h	1399	948	948	1261	327	1265	778	1796	14	642	1387	344
Grp Volume(v), veh/h	310	0	56	7	0	73	26	0	905	17	0	679
Grp Sat Flow(s),veh/h/ln	1399	0	1895	1261	0	1592	778	0	1810	642	0	1731
Q Serve(g_s), s	14.8	0.0	1.5	0.3	0.0	2.4	1.7	0.0	30.5	1.6	0.0	19.8
Cycle Q Clear(g_c), s	16.7	0.0	1.5	1.3	0.0	2.4	21.0	0.0	30.5	31.7	0.0	19.8
Prop In Lane	1.00		0.50	1.00		0.79	1.00		0.01	1.00		0.20
Lane Grp Cap(c), veh/h	464	0	541	444	0	455	328	0	1021	190	0	977
V/C Ratio(X)	0.67	0.00	0.10	0.02	0.00	0.16	0.08	0.00	0.89	0.09	0.00	0.70
Avail Cap(c_a), veh/h	464	0	541	444	0	455	328	0	1021	190	0	977
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.8	0.0	18.6	18.7	0.0	19.0	18.3	0.0	13.3	26.9	0.0	11.0
Incr Delay (d2), s/veh	3.7	0.0	0.1	0.0	0.0	0.2	0.5	0.0	11.3	0.9	0.0	4.1
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	8.6	0.0	1.2	0.1	0.0	1.5	0.6	0.0	18.3	0.5	0.0	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.4	0.0	18.7	18.7	0.0	19.2	18.8	0.0	24.5	27.8	0.0	15.1
LnGrp LOS	C		B	B		B	B		C	C		B
Approach Vol, veh/h	366			80			931			696		
Approach Delay, s/veh	26.9			19.1			24.4			15.4		
Approach LOS	C			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	45.0			25.0			45.0			25.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	38.5			19.0			38.5			19.0		
Max Q Clear Time (g_c+I1), s	32.5			19.2			21.8			4.4		
Green Ext Time (p_c), s	5.5			0.0			12.1			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	21.6											
HCM 7th LOS	C											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	216	1	19	161	4	0	4	34	38	4	23
Future Volume (vph)	12	216	1	19	161	4	0	4	34	38	4	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	2%	0%	5%	1%	0%	0%	0%	3%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	246	0	22	188	0	0	44	0	0	74	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	216	1	19	161	4	0	4	34	38	4	23
Future Vol, veh/h	12	216	1	19	161	4	0	4	34	38	4	23
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	17	2	0	5	1	0	0	0	3	5	0	4
Mvmt Flow	14	245	1	22	183	5	0	5	39	43	5	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	189	0	0	247	0	0	502	505	246	504	503	186
Stage 1	-	-	-	-	-	-	273	273	-	229	229	-
Stage 2	-	-	-	-	-	-	228	232	-	275	274	-
Critical Hdwy	4.5	-	-	4.4	-	-	7.3	6.7	6.33	6.6	5.9	5.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Follow-up Hdwy	3.2	-	-	3	-	-	3	4	3.1	3	4	3.1
Pot Cap-1 Maneuver	965	-	-	982	-	-	531	459	836	583	515	924
Stage 1	-	-	-	-	-	-	832	677	-	926	746	-
Stage 2	-	-	-	-	-	-	884	707	-	879	719	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	964	-	-	982	-	-	493	443	836	530	496	923
Mov Cap-2 Maneuver	-	-	-	-	-	-	493	443	-	530	496	-
Stage 1	-	-	-	-	-	-	820	667	-	904	729	-
Stage 2	-	-	-	-	-	-	834	691	-	821	709	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.46			0.9			9.99			11.58		
HCM LOS							A			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	765	964	-	-	982	-	-	621
HCM Lane V/C Ratio	0.056	0.014	-	-	0.022	-	-	0.119
HCM Ctrl Dly (s/v)	10	8.8	-	-	8.7	-	-	11.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.4

2025 Existing Conditions
8: Schwanger Rd. & Mt. Pleasant Rd. (SR 4010)

Timing Plan: A.M. Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	31	4	16	43	2	20
Future Volume (vph)	31	4	16	43	2	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4494			1252	852	
Travel Time (s)	76.6			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	19%	7%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	47	0	0	80	30	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	31	4	16	43	2	20
Future Vol, veh/h	31	4	16	43	2	20
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, %	-2	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	0	19	7	0	5
Mvmt Flow	42	5	22	58	3	27

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	47
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.2
Pot Cap-1 Maneuver	-	-	1083
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1083
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.28	8.42
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1082	-	-	488	-
HCM Lane V/C Ratio	0.027	-	-	0.02	-
HCM Ctrl Dly (s/v)	8.4	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	103	131	0	0	0
Future Volume (vph)	0	103	131	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	184		118			92
Travel Time (s)	5.0		2.0			1.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	15%	17%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	111	141	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	103	131	0	0	0
Future Vol, veh/h	0	103	131	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	15	17	0	0	0
Mvmt Flow	0	111	141	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	141	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	1197	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	
Mov Cap-1 Maneuver	-	1197	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.31	0	
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1
Capacity (veh/h)	- 1197
HCM Lane V/C Ratio	- 0.092
HCM Ctrl Dly (s/v)	- 8.3
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.3

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	15	273	49	19	165
Future Volume (vph)	15	15	273	49	19	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4494		1057			908
Travel Time (s)	76.6		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	13%	5%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	342	0	0	196
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	273	49	19	165
Future Vol, veh/h	15	15	273	49	19	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	13	5	2	0	3
Mvmt Flow	16	16	290	52	20	176

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	532	316	0
Stage 1	316	-	-
Stage 2	216	-	-
Critical Hdwy	6.4	6.23	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.2	3.2	-
Pot Cap-1 Maneuver	548	746	-
Stage 1	803	-	-
Stage 2	894	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	535	746	-
Mov Cap-2 Maneuver	535	-	-
Stage 1	783	-	-
Stage 2	894	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.09	0	0.93
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	623	186
HCM Lane V/C Ratio	-	-	0.051	0.022
HCM Ctrl Dly (s/v)	-	-	11.1	9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

2025 Existing Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	138	58	240	13	4	176
Future Volume (vph)	138	58	240	13	4	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	2%	11%	31%	25%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	0	337	0	0	240
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	138	58	240	13	4	176
Future Vol, veh/h	138	58	240	13	4	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	2	11	31	25	7
Mvmt Flow	184	77	320	17	5	235

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	574	329	0
Stage 1	329	-	-
Stage 2	245	-	-
Critical Hdwy	5.43	5.72	-
Critical Hdwy Stg 1	4.43	-	-
Critical Hdwy Stg 2	4.43	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	635	791	-
Stage 1	915	-	-
Stage 2	981	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	631	791	-
Mov Cap-2 Maneuver	631	-	-
Stage 1	909	-	-
Stage 2	981	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.75	0	0.21
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	671	40
HCM Lane V/C Ratio	-	-	0.39	0.006
HCM Ctrl Dly (s/v)	-	-	13.7	9.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.8	0

2025 Existing Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	569	0	143	283	180	0	0	189	49
Future Volume (vph)	0	0	0	569	0	143	283	180	0	0	189	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	3%	0%	6%	6%	7%	0%	0%	3%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	593	149	295	188	0	0	197	51
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				49.5	49.5	49.5	22.0	66.0			44.0	44.0
Total Split (%)				42.9%	42.9%	42.9%	19.0%	57.1%			38.1%	38.1%
Maximum Green (s)				44.0	44.0	44.0	16.0	60.0			38.0	38.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					0.81	0.21	0.66	0.27			0.62	0.16
Control Delay (s/veh)					31.1	3.5	26.3	18.0			43.1	4.1

2025 Existing Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					31.1	3.5	26.3	18.0			43.1	4.1
Queue Length 50th (ft)					267	0	121	73			110	0
Queue Length 95th (ft)					#478	35	188	122			185	16
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					846	782	450	1139			772	669
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					0.70	0.19	0.66	0.17			0.26	0.08

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 87.4

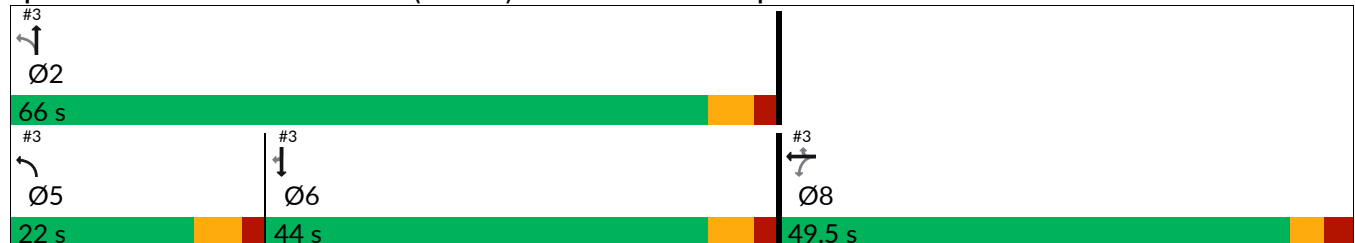
Natural Cycle: 60

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2025 Existing Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	569	0	143	283	180	0	0	189	49
Future Volume (veh/h)	0	0	0	569	0	143	283	180	0	0	189	49
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1832	1875	1789	1693	1679	0	0	1832	1761
Adj Flow Rate, veh/h				593	0	0	295	188	0	0	197	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	6	6	7	0	0	3	8
Cap, veh/h				707	0		524	783	0	0	384	
Arrive On Green				0.38	0.00	0.00	0.18	0.47	0.00	0.00	0.21	0.00
Sat Flow, veh/h				1785	0	1516	1613	1679	0	0	1832	1492
Grp Volume(v), veh/h				593	0	0	295	188	0	0	197	0
Grp Sat Flow(s),veh/h/ln				1785	0	1516	1613	1679	0	0	1832	1492
Q Serve(g_s), s				20.8	0.0	0.0	8.8	4.6	0.0	0.0	6.6	0.0
Cycle Q Clear(g_c), s				20.8	0.0	0.0	8.8	4.6	0.0	0.0	6.6	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		524	783	0	0	384	
V/C Ratio(X)				0.84	0.00		0.56	0.24	0.00	0.00	0.51	
Avail Cap(c_a), veh/h				1166	0		625	1487	0	0	1037	
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				19.3	0.0	0.0	14.5	11.0	0.0	0.0	24.1	0.0
Incr Delay (d2), s/veh				2.9	0.0	0.0	1.0	0.6	0.0	0.0	3.8	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				13.5	0.0	0.0	5.1	2.8	0.0	0.0	5.4	0.0
Unsig. Movement Delay, s/veh						8.60						
LnGrp Delay(d), s/veh				22.3	0.0	8.6	15.5	11.6	0.0	0.0	27.9	0.0
LnGrp LOS				C		A	B	B			C	
Approach Vol, veh/h					683			483			197	
Approach Delay, s/veh					20.5			14.0			27.9	
Approach LOS					C			B			C	
Timer - Assigned Phs	2			5		6	8					
Phs Duration (G+Y+Rc), s	37.1			17.7		19.5	31.8					
Change Period (Y+Rc), s	6.0			6.0		6.0	5.5					
Max Green Setting (Gmax), s	60.0			16.0		38.0	44.0					
Max Q Clear Time (g_c+I1), s	7.1			11.3		9.1	22.8					
Green Ext Time (p_c), s	5.2			0.4		4.4	3.4					
Intersection Summary												
HCM 7th Control Delay, s/veh				19.2								
HCM 7th LOS				B								
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

2025 Existing Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	0	506	0	0	0	0	393	413	84	674	0
Future Volume (vph)	70	0	506	0	0	0	0	393	413	84	674	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	1%	0%	0%	0%	0%	6%	3%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	0	516	0	0	0	0	401	421	86	688	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2025 Existing Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 23.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↱	↱	↰	↱	
Traffic Vol, veh/h	70	0	506	0	0	0	0	393	413	84	674	0
Future Vol, veh/h	70	0	506	0	0	0	0	393	413	84	674	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	7	0	1	0	0	0	0	6	3	2	2	0
Mvmt Flow	71	0	516	0	0	0	0	401	421	86	688	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1260	- 688	- - - -	0 0 401 0 0
Stage 1	859	- - - -	- - - -	- - - -
Stage 2	401	- - - -	- - - -	- - - -
Critical Hdwy	6.27	- 6.11	- - - -	- - 4.3 - -
Critical Hdwy Stg 1	5.27	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.27	- - - -	- - - -	- - - -
Follow-up Hdwy	3.1	- 3.1	- - - -	- - 3 - -
Pot Cap-1 Maneuver	212	0 ~ 479	0 0 0 0	- - 874 - 0
Stage 1	467	0 - 0 0 0 0	- - - -	- - - -
Stage 2	764	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	191	0 ~ 479	- 0 - -	- - 874 - -
Mov Cap-2 Maneuver	191	0 - - 0 - -	- - - -	- - - -
Stage 1	421	0 - - 0 - -	- - - -	- - - -
Stage 2	764	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	85.89		0	1.06
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	191	479	874	-
HCM Lane V/C Ratio	-	-	0.374	1.078	0.098	-
HCM Ctrl Dly (s/v)	-	-	34.6	93	9.6	-
HCM Lane LOS	-	-	D	F	A	-
HCM 95th %tile Q(veh)	-	-	1.6	16.4	0.3	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
+: Computation Not Defined *: All major volume in platoon

2025 Existing Conditions
 5: Cloverleaf Rd. (SR 4025) & Merts Drive

Timing Plan: P.M. Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	12	4	791	1179	1
Future Volume (vph)	15	12	4	791	1179	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	0%	0%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	837	1242	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	4	791	1179	1
Future Vol, veh/h	15	12	4	791	1179	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	13	0	0	4	3	0
Mvmt Flow	16	13	4	833	1241	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2083	1242	1242
Stage 1	1242	-	-
Stage 2	841	-	-
Critical Hdwy	6.53	6.2	4.3
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.1	3.1	3
Pot Cap-1 Maneuver	57	223	437
Stage 1	281	-	-
Stage 2	448	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	56	223	437
Mov Cap-2 Maneuver	56	-	-
Stage 1	276	-	-
Stage 2	448	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	68.27	0.07	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	84	-	-
HCM Lane V/C Ratio	0.01	-	0.338	-	-
HCM Ctrl Dly (s/v)	13.3	0	68.3	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

2025 Existing Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	38	47	12	39	25	44	579	12	59	813	284
Future Volume (vph)	178	38	47	12	39	25	44	579	12	59	813	284
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	89	0	13	67	0	46	622	0	62	1155	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	17.0	17.0		17.0	17.0		43.0	43.0		43.0	43.0	
Total Split (%)	28.3%	28.3%		28.3%	28.3%		71.7%	71.7%		71.7%	71.7%	
Maximum Green (s)	11.0	11.0		11.0	11.0		36.5	36.5		36.5	36.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.79	0.24		0.06	0.19		0.40	0.59		0.17	1.09	
Control Delay (s/veh)	49.6	13.0		20.3	15.4		18.8	9.4		6.1	69.9	

2025 Existing Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	49.6	13.0		20.3	15.4		18.8	9.4		6.1	69.9	
Queue Length 50th (ft)	65	12		4	12		7	117		8	~499	
Queue Length 95th (ft)	#160	44		16	40		#49	203		23	#726	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	243	388		231	366		114	1059		375	1062	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.23		0.06	0.18		0.40	0.59		0.17	1.09	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow, Master Intersection

Natural Cycle: 90

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 	Ø2 (R)							#6 	Ø4
43 s								17 s	
#6 	Ø6 (R)							#6 	Ø8
43 s								17 s	

2025 Existing Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	38	47	12	39	25	44	579	12	59	813	284
Future Volume (veh/h)	178	38	47	12	39	25	44	579	12	59	813	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	187	40	36	13	41	11	46	609	12	62	856	283
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	379	198	178	333	273	73	124	1129	22	484	854	282
Arrive On Green	0.20	0.20	0.18	0.20	0.20	0.18	0.63	0.63	0.61	0.63	0.63	0.61
Sat Flow, veh/h	1426	1002	902	1238	1382	371	505	1799	35	818	1361	450
Grp Volume(v), veh/h	187	0	76	13	0	52	46	0	621	62	0	1139
Grp Sat Flow(s),veh/h/ln	1426	0	1903	1238	0	1753	505	0	1834	818	0	1811
Q Serve(g_s), s	7.4	0.0	2.0	0.5	0.0	1.5	0.5	0.0	11.4	2.7	0.0	37.6
Cycle Q Clear(g_c), s	8.4	0.0	2.0	2.0	0.0	1.5	37.6	0.0	11.4	13.7	0.0	37.6
Prop In Lane	1.00		0.47	1.00		0.21	1.00		0.02	1.00		0.25
Lane Grp Cap(c), veh/h	379	0	376	333	0	346	124	0	1151	484	0	1136
V/C Ratio(X)	0.49	0.00	0.20	0.04	0.00	0.15	0.37	0.00	0.54	0.13	0.00	1.00
Avail Cap(c_a), veh/h	382	0	381	336	0	351	124	0	1151	484	0	1136
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	20.3	20.8	0.0	20.0	30.0	0.0	6.3	10.0	0.0	11.3
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.0	0.0	0.2	8.3	0.0	1.8	0.5	0.0	27.3
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	4.3	0.0	1.5	0.3	0.0	1.0	1.6	0.0	5.9	0.8	0.0	24.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.1	0.0	20.6	20.8	0.0	20.2	38.3	0.0	8.1	10.5	0.0	38.6
LnGrp LOS	C		C	C		C	D		A	B		D
Approach Vol, veh/h	263			65			667			1201		
Approach Delay, s/veh	23.1			20.3			10.2			37.1		
Approach LOS	C			C			B			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.1			16.9			43.1			16.9		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	36.5			11.0			36.5			11.0		
Max Q Clear Time (g_c+I1), s	13.4			10.9			39.6			4.5		
Green Ext Time (p_c), s	14.1			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	26.8											
HCM 7th LOS	C											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	258	4	79	210	41	1	8	33	17	8	16
Future Volume (vph)	23	258	4	79	210	41	1	8	33	17	8	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	1%	2%	0%	13%	3%	6%	13%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	291	0	88	279	0	0	47	0	0	46	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	258	4	79	210	41	1	8	33	17	8	16
Future Vol, veh/h	23	258	4	79	210	41	1	8	33	17	8	16
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	1	1	2	0	13	3	6	13	6
Mvmt Flow	26	287	4	88	233	46	1	9	37	19	9	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	291	0	0	753	795	290	776	775	257
Stage 1	-	-	-	-	-	-	340	340	-	433	433	-
Stage 2	-	-	-	-	-	-	413	455	-	343	342	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.3	6.83	6.33	6.56	6.03	5.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.117	3.1	3.1	4.117	3.2
Pot Cap-1 Maneuver	963	-	-	955	-	-	351	294	788	387	360	822
Stage 1	-	-	-	-	-	-	760	609	-	713	606	-
Stage 2	-	-	-	-	-	-	688	537	-	789	655	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	962	-	-	955	-	-	296	260	788	316	318	821
Mov Cap-2 Maneuver	-	-	-	-	-	-	296	260	-	316	318	-
Stage 1	-	-	-	-	-	-	740	592	-	647	549	-
Stage 2	-	-	-	-	-	-	601	487	-	721	638	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.71	2.19	12.12	14.71
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	552	962	-	-	955	-	-	416
HCM Lane V/C Ratio	0.085	0.027	-	-	0.092	-	-	0.109
HCM Ctrl Dly (s/v)	12.1	8.8	-	-	9.2	-	-	14.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.3	-	-	0.4

2025 Existing Conditions
8: Schwanger Rd. & Mt. Pleasant Rd. (SR 4010)

Timing Plan: P.M. Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	69	6	26	30	4	23
Future Volume (vph)	69	6	26	30	4	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4494			1252	852	
Travel Time (s)	76.6			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	15%	3%	25%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	0	0	64	31	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	69	6	26	30	4	23
Future Vol, veh/h	69	6	26	30	4	23
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, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	0	15	3	25	4
Mvmt Flow	78	7	30	34	5	26

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	85
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	1083
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1083
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	3.91	8.67
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1011	-	-	836	-
HCM Lane V/C Ratio	0.03	-	-	0.027	-
HCM Ctrl Dly (s/v)	8.7	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	143	180	0	0	0
Future Volume (vph)	0	143	180	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	278		122			129
Travel Time (s)	7.6		2.1			2.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	149	188	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	143	180	0	0	0
Future Vol, veh/h	0	143	180	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	6	7	0	0	0
Mvmt Flow	0	149	188	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	188	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	1141	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	
Mov Cap-1 Maneuver	-	1141	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.63	0	
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1
Capacity (veh/h)	- 1141
HCM Lane V/C Ratio	- 0.131
HCM Ctrl Dly (s/v)	- 8.6
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.4



2030 Base (No-Build) Conditions



1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	6	187	15	21	258
Future Volume (vph)	43	6	187	15	21	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4452		1084			881
Travel Time (s)	75.9		18.5			17.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	19%	27%	24%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	0	219	0	0	303
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	6	187	15	21	258
Future Vol, veh/h	43	6	187	15	21	258
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	0	19	27	24	8
Mvmt Flow	47	7	203	16	23	280

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	538	211	0
Stage 1	211	-	-
Stage 2	326	-	-
Critical Hdwy	6.37	6.1	-
Critical Hdwy Stg 1	5.37	-	-
Critical Hdwy Stg 2	5.37	-	-
Follow-up Hdwy	3.2	3.1	-
Pot Cap-1 Maneuver	547	888	-
Stage 1	900	-	-
Stage 2	797	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	531	888	-
Mov Cap-2 Maneuver	531	-	-
Stage 1	874	-	-
Stage 2	797	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.12	0	0.67
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	558	135
HCM Lane V/C Ratio	-	-	0.095	0.024
HCM Ctrl Dly (s/v)	-	-	12.1	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

2030 Base (No-Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	1	187	77	16	309
Future Volume (vph)	20	1	187	77	16	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1084
Travel Time (s)	23.7		12.2			18.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	40%	0%	21%	0%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	0	284	0	0	349
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	20	1	187	77	16	309
Future Vol, veh/h	20	1	187	77	16	309
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	40	0	21	0	0	11
Mvmt Flow	22	1	201	83	17	332

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	609	242	0
Stage 1	242	-	-
Stage 2	367	-	-
Critical Hdwy	5.8	5.7	-
Critical Hdwy Stg 1	4.8	-	-
Critical Hdwy Stg 2	4.8	-	-
Follow-up Hdwy	3.4	3.1	-
Pot Cap-1 Maneuver	522	877	-
Stage 1	857	-	-
Stage 2	768	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	510	877	-
Mov Cap-2 Maneuver	510	-	-
Stage 1	839	-	-
Stage 2	768	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.23	0	0.43
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	521	89
HCM Lane V/C Ratio	-	-	0.043	0.018
HCM Ctrl Dly (s/v)	-	-	12.2	8.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

2030 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	437	0	105	673	178	0	0	239	76
Future Volume (vph)	0	0	0	437	0	105	673	178	0	0	239	76
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	15%	4%	17%	0%	0%	14%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	470	113	724	191	0	0	257	82
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				32.5	32.5	32.5	35.0	70.0			35.0	35.0
Total Split (%)				31.7%	31.7%	31.7%	34.1%	68.3%			34.1%	34.1%
Maximum Green (s)				27.0	27.0	27.0	29.0	64.0			29.0	29.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.00	0.25	1.11	0.22			0.76	0.22
Control Delay (s/veh)					77.4	7.1	90.4	9.2			48.4	6.9

2030 Base (No-Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					77.4	7.1	90.4	9.2			48.4	6.9
Queue Length 50th (ft)					~276	0	~412	55			158	0
Queue Length 95th (ft)					#547	47	#671	91			252	33
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					469	456	651	1028			497	491
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.00	0.25	1.11	0.19			0.52	0.17

Intersection Summary

Area Type: Other

Cycle Length: 102.5

Actuated Cycle Length: 93.4

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2030 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	437	0	105	673	178	0	0	239	76
Future Volume (veh/h)	0	0	0	437	0	105	673	178	0	0	239	76
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1775	1875	1661	1722	1539	0	0	1675	1704
Adj Flow Rate, veh/h				470	0	0	724	191	0	0	257	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				7	0	15	4	17	0	0	14	12
Cap, veh/h				521	0		700	930	0	0	370	
Arrive On Green				0.28	0.00	0.00	0.33	0.60	0.00	0.00	0.22	0.00
Sat Flow, veh/h				1785	0	1408	1640	1539	0	0	1675	1444
Grp Volume(v), veh/h				470	0	0	724	191	0	0	257	0
Grp Sat Flow(s),veh/h/ln				1785	0	1408	1640	1539	0	0	1675	1444
Q Serve(g_s), s				23.2	0.0	0.0	30.0	5.1	0.0	0.0	12.9	0.0
Cycle Q Clear(g_c), s				23.2	0.0	0.0	30.0	5.1	0.0	0.0	12.9	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				521	0		700	930	0	0	370	
V/C Ratio(X)				0.90	0.00		1.03	0.21	0.00	0.00	0.69	
Avail Cap(c_a), veh/h				547	0		700	1095	0	0	550	
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				31.6	0.0	0.0	17.9	8.2	0.0	0.0	32.7	0.0
Incr Delay (d2), s/veh				17.7	0.0	0.0	43.3	0.4	0.0	0.0	8.2	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				18.2	0.0	0.0	25.5	2.8	0.0	0.0	9.8	0.0
Unsig. Movement Delay, s/veh						8.50						
LnGrp Delay(d), s/veh				49.3	0.0	8.5	61.1	8.6	0.0	0.0	40.9	0.0
LnGrp LOS				D		A	F	A			D	
Approach Vol, veh/h					552			915			257	
Approach Delay, s/veh					43.2			50.2			40.9	
Approach LOS					D			D			D	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	60.2			35.0			25.2			31.2		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	64.0			29.0			29.0			27.0		
Max Q Clear Time (g_c+I1), s	7.6			32.5			15.4			25.2		
Green Ext Time (p_c), s	5.4			0.0			3.8			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh				46.6								
HCM 7th LOS				D								
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	0	364	0	0	0	0	804	704	130	545	0
Future Volume (vph)	33	0	364	0	0	0	0	804	704	130	545	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	22%	0%	7%	0%	0%	0%	0%	5%	3%	12%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	0	409	0	0	0	0	903	791	146	612	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2030 Base (No-Build) Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	0	364	0	0	0	0	804	704	130	545	0
Future Vol, veh/h	33	0	364	0	0	0	0	804	704	130	545	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	0	7	0	0	0	0	5	3	12	6	0
Mvmt Flow	37	0	409	0	0	0	0	903	791	146	612	0

Major/Minor	Minor2	Minor1		Major1		Major2	
Conflicting Flow All	1808	-	612	-	-	0	0
Stage 1	904	-	-	-	-	-	-
Stage 2	903	-	-	-	-	-	-
Critical Hdwy	6.42	-	6.17	-	-	-	4.4
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	3.2	-	-	-	3.1
Pot Cap-1 Maneuver	90	0	511	0	0	0	554
Stage 1	419	0	-	0	0	0	-
Stage 2	420	0	-	0	0	0	-
Platoon blocked, %						-	-
Mov Cap-1 Maneuver	66	0	511	-	0	-	554
Mov Cap-2 Maneuver	66	0	-	-	0	-	-
Stage 1	309	0	-	-	0	-	-
Stage 2	420	0	-	-	0	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	41.23		0	2.66
HCM LOS	E	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	66	511	554	-
HCM Lane V/C Ratio	-	-	0.56	0.801	0.264	-
HCM Ctrl Dly (s/v)	-	-	113.6	34.7	13.8	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	2.3	7.6	1.1	-

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	8	1504	892	17
Future Volume (vph)	4	9	8	1504	892	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	11%	0%	5%	9%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	1626	977	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	9	8	1504	892	17
Future Vol, veh/h	4	9	8	1504	892	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	11	0	5	9	6
Mvmt Flow	4	10	9	1617	959	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2603	968	977
Stage 1	968	-	-
Stage 2	1634	-	-
Critical Hdwy	6.4	6.31	4.3
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3	3.2	3
Pot Cap-1 Maneuver	29	307	546
Stage 1	409	-	-
Stage 2	189	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	24	307	546
Mov Cap-2 Maneuver	24	-	-
Stage 1	346	-	-
Stage 2	189	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	72.34	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	10	-	67	-	-
HCM Lane V/C Ratio	0.016	-	0.209	-	-
HCM Ctrl Dly (s/v)	11.7	0	72.3	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

2030 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	427	45	96	7	20	71	43	1010	7	16	703	191
Future Volume (vph)	427	45	96	7	20	71	43	1010	7	16	703	191
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	454	150	0	7	97	0	46	1081	0	17	951	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.0	21.0		21.0	21.0		36.5	36.5		36.5	36.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.22	0.26		0.02	0.18		0.47	1.23		0.17	1.11	
Control Delay (s/veh)	148.6	8.3		16.9	7.7		31.0	132.5		13.7	85.2	

2030 Base (No-Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	148.6	8.3		16.9	7.7		31.0	132.5		13.7	85.2	
Queue Length 50th (ft)	~248	14		2	7		11	~626		3	~517	
Queue Length 95th (ft)	#415	53		10	37		#59	#866		16	#757	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	371	583		344	547		97	881		98	856	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.22	0.26		0.02	0.18		0.47	1.23		0.17	1.11	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2030 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	45	96	7	20	71	43	1010	7	16	703	191
Future Volume (veh/h)	427	45	96	7	20	71	43	1010	7	16	703	191
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	454	48	71	7	21	61	46	1074	7	17	748	185
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	497	236	350	429	129	375	107	963	6	107	743	184
Arrive On Green	0.31	0.31	0.30	0.31	0.31	0.30	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1388	752	1113	1191	411	1194	613	1798	12	544	1388	343
Grp Volume(v), veh/h	454	0	119	7	0	82	46	0	1081	17	0	933
Grp Sat Flow(s),veh/h/ln	1388	0	1865	1191	0	1605	613	0	1810	544	0	1731
Q Serve(g_s), s	19.9	0.0	3.3	0.3	0.0	2.6	0.5	0.0	37.5	0.5	0.0	37.5
Cycle Q Clear(g_c), s	22.0	0.0	3.3	3.1	0.0	2.6	37.5	0.0	37.5	37.5	0.0	37.5
Prop In Lane	1.00		0.60	1.00		0.74	1.00		0.01	1.00		0.20
Lane Grp Cap(c), veh/h	497	0	586	429	0	504	107	0	970	107	0	927
V/C Ratio(X)	0.91	0.00	0.20	0.02	0.00	0.16	0.43	0.00	1.11	0.16	0.00	1.01
Avail Cap(c_a), veh/h	497	0	586	429	0	504	107	0	970	107	0	927
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	17.8	18.5	0.0	17.6	35.0	0.0	16.3	34.9	0.0	16.3
Incr Delay (d2), s/veh	21.3	0.0	0.2	0.0	0.0	0.1	12.0	0.0	65.8	3.2	0.0	31.1
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	15.5	0.0	2.4	0.1	0.0	1.7	2.0	0.0	41.8	0.7	0.0	26.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.7	0.0	18.0	18.6	0.0	17.8	47.0	0.0	82.0	38.1	0.0	47.4
LnGrp LOS	D		B	B		B	D		F	D		F
Approach Vol, veh/h	573		89				1127			950		
Approach Delay, s/veh	41.5		17.8				80.6			47.3		
Approach LOS	D		B				F			D		
Timer - Assigned Phs	2		4				6			8		
Phs Duration (G+Y+Rc), s	43.0		27.0				43.0			27.0		
Change Period (Y+Rc), s	6.5		6.0				6.5			6.0		
Max Green Setting (Gmax), s	36.5		21.0				36.5			21.0		
Max Q Clear Time (g_c+l1), s	39.5		24.5				39.5			5.6		
Green Ext Time (p_c), s	0.0		0.0				0.0			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	58.8											
HCM 7th LOS	E											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	379	1	29	223	4	0	4	64	39	4	24
Future Volume (vph)	12	379	1	29	223	4	0	4	64	39	4	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	2%	0%	5%	1%	0%	0%	0%	3%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	432	0	33	258	0	0	78	0	0	76	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	379	1	29	223	4	0	4	64	39	4	24
Future Vol, veh/h	12	379	1	29	223	4	0	4	64	39	4	24
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175			150								
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	17	2	0	5	1	0	0	0	3	5	0	4
Mvmt Flow	14	431	1	33	253	5	0	5	73	44	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	432	0	0	780	783	431	783	782	257
Stage 1	-	-	-	-	-	-	459	459	-	323	323	-
Stage 2	-	-	-	-	-	-	322	325	-	460	459	-
Critical Hdwy	4.5	-	-	4.4	-	-	7.3	6.7	6.33	6.6	5.9	5.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Follow-up Hdwy	3.2	-	-	3	-	-	3	4	3.1	3	4	3.1
Pot Cap-1 Maneuver	911	-	-	843	-	-	336	314	651	389	374	847
Stage 1	-	-	-	-	-	-	647	556	-	832	690	-
Stage 2	-	-	-	-	-	-	779	641	-	711	615	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	910	-	-	843	-	-	304	297	651	322	354	847
Mov Cap-2 Maneuver	-	-	-	-	-	-	304	297	-	322	354	-
Stage 1	-	-	-	-	-	-	637	547	-	799	663	-
Stage 2	-	-	-	-	-	-	720	615	-	617	606	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.28			1.07			11.78			15.56		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	608	910	-	-	843	-	-	417
HCM Lane V/C Ratio	0.127	0.015	-	-	0.039	-	-	0.183
HCM Ctrl Dly (s/v)	11.8	9	-	-	9.4	-	-	15.6
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	32	4	22	44	2	38
Future Volume (vph)	32	4	22	44	2	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4452			1252	852	
Travel Time (s)	75.9			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	19%	7%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	0	89	54	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	4	22	44	2	38
Future Vol, veh/h	32	4	22	44	2	38
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, %	-2	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	0	19	7	0	5
Mvmt Flow	43	5	30	59	3	51

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	49
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.2
Pot Cap-1 Maneuver	-	-	1082
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1082
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.81	8.49
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	600	-
HCM Lane V/C Ratio	0.05	-	-	0.027	-
HCM Ctrl Dly (s/v)	8.5	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	105	178	0	0	0
Future Volume (vph)	0	105	178	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	184		118			92
Travel Time (s)	5.0		2.0			1.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	15%	17%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	113	191	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	105	178	0	0	0
Future Vol, veh/h	0	105	178	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	15	17	0	0	0
Mvmt Flow	0	113	191	0	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	191	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	1136	-	0	0	0
Stage 1	0	-	-	0	0	0
Stage 2	0	-	-	0	0	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver	-	1136	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	8.52	0				
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1					
Capacity (veh/h)	- 1136					
HCM Lane V/C Ratio	- 0.099					
HCM Ctrl Dly (s/v)	- 8.5					
HCM Lane LOS	- A					
HCM 95th %tile Q(veh)	- 0.3					

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	15	15	327	50	19	225
Future Volume (vph)	15	15	327	50	19	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4447		1057			908
Travel Time (s)	75.8		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	13%	5%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	401	0	0	259
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	15	327	50	19	225
Future Vol, veh/h	15	15	327	50	19	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	13	5	2	0	3
Mvmt Flow	16	16	348	53	20	239

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	654	374	0
Stage 1	374	-	-
Stage 2	280	-	-
Critical Hdwy	6.4	6.23	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.2	3.2	-
Pot Cap-1 Maneuver	464	692	-
Stage 1	754	-	-
Stage 2	835	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	451	692	-
Mov Cap-2 Maneuver	451	-	-
Stage 1	734	-	-
Stage 2	835	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12	0	0.72
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	546	140
HCM Lane V/C Ratio	-	-	0.058	0.023
HCM Ctrl Dly (s/v)	-	-	12	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

2030 Base (No-Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	141	59	294	13	4	236
Future Volume (vph)	141	59	294	13	4	236
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	2%	11%	31%	25%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	267	0	409	0	0	320
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	141	59	294	13	4	236
Future Vol, veh/h	141	59	294	13	4	236
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	2	11	31	25	7
Mvmt Flow	188	79	392	17	5	315

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	726	401	0
Stage 1	401	-	-
Stage 2	325	-	-
Critical Hdwy	5.43	5.72	-
Critical Hdwy Stg 1	4.43	-	-
Critical Hdwy Stg 2	4.43	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	535	726	-
Stage 1	862	-	-
Stage 2	918	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	531	726	-
Mov Cap-2 Maneuver	531	-	-
Stage 1	855	-	-
Stage 2	918	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.5	0	0.16
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	577	30
HCM Lane V/C Ratio	-	-	0.463	0.007
HCM Ctrl Dly (s/v)	-	-	16.5	9.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.4	0

2030 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	747	0	146	409	232	0	0	249	50
Future Volume (vph)	0	0	0	747	0	146	409	232	0	0	249	50
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	3%	0%	6%	6%	7%	0%	0%	3%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	778	152	426	242	0	0	259	52
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				41.5	41.5	41.5	27.0	74.0			47.0	47.0
Total Split (%)				35.9%	35.9%	35.9%	23.4%	64.1%			40.7%	40.7%
Maximum Green (s)				36.0	36.0	36.0	21.0	68.0			41.0	41.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.20	0.24	0.87	0.30			0.74	0.15
Control Delay (s/veh)					133.0	4.6	36.3	14.7			47.2	3.7

2030 Base (No-Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					133.0	4.6	36.3	14.7			47.2	3.7
Queue Length 50th (ft)					~558	0	164	82			147	0
Queue Length 95th (ft)					#870	42	#278	126			231	16
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					648	635	490	1200			774	671
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.20	0.24	0.87	0.20			0.33	0.08

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 92.8

Natural Cycle: 100

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2030 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	747	0	146	409	232	0	0	249	50
Future Volume (veh/h)	0	0	0	747	0	146	409	232	0	0	249	50
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1832	1875	1789	1693	1679	0	0	1832	1761
Adj Flow Rate, veh/h				778	0	0	426	242	0	0	259	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	6	6	7	0	0	3	8
Cap, veh/h				703	0		541	849	0	0	414	
Arrive On Green				0.38	0.00	0.00	0.23	0.51	0.00	0.00	0.23	0.00
Sat Flow, veh/h				1785	0	1516	1613	1679	0	0	1832	1492
Grp Volume(v), veh/h				778	0	0	426	242	0	0	259	0
Grp Sat Flow(s),veh/h/ln				1785	0	1516	1613	1679	0	0	1832	1492
Q Serve(g_s), s				37.0	0.0	0.0	17.6	7.8	0.0	0.0	12.0	0.0
Cycle Q Clear(g_c), s				37.0	0.0	0.0	17.6	7.8	0.0	0.0	12.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				703	0		541	849	0	0	414	
V/C Ratio(X)				1.11	0.00		0.79	0.29	0.00	0.00	0.63	
Avail Cap(c_a), veh/h				703	0		554	1233	0	0	818	
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				29.0	0.0	0.0	19.3	13.4	0.0	0.0	32.8	0.0
Incr Delay (d2), s/veh				67.3	0.0	0.0	7.3	0.7	0.0	0.0	5.5	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
%ile BackOfQ(95%),veh/ln				40.0	0.0	0.0	11.4	5.1	0.0	0.0	9.6	0.0
Unsig. Movement Delay, s/veh						8.90						
LnGrp Delay(d), s/veh				96.3	0.0	8.9	26.5	14.1	0.0	0.0	38.3	0.0
LnGrp LOS				F		A	C	B			D	
Approach Vol, veh/h					871			668			259	
Approach Delay, s/veh					86.9			22.0			38.3	
Approach LOS					F			C			D	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	52.5			26.3			26.3			41.5		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	68.0			21.0			41.0			36.0		
Max Q Clear Time (g_c+I1), s	10.3			20.1			14.5			39.0		
Green Ext Time (p_c), s	7.1			0.2			5.8			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh			55.8									
HCM 7th LOS			E									
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	0	639	0	0	0	0	561	564	86	911	0
Future Volume (vph)	72	0	639	0	0	0	0	561	564	86	911	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	1%	0%	0%	0%	0%	6%	3%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	0	652	0	0	0	0	572	576	88	930	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2030 Base (No-Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 99.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	0	639	0	0	0	0	561	564	86	911	0
Future Vol, veh/h	72	0	639	0	0	0	0	561	564	86	911	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	7	0	1	0	0	0	0	6	3	2	2	0
Mvmt Flow	73	0	652	0	0	0	0	572	576	88	930	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1678	- 930	- - - -	0 0 572 0 0
Stage 1	1105	- - - -	- - - -	- - - -
Stage 2	572	- - - -	- - - -	- - - -
Critical Hdwy	6.27	- 6.11	- - - -	- - 4.3 - -
Critical Hdwy Stg 1	5.27	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.27	- - - -	- - - -	- - - -
Follow-up Hdwy	3.1	- 3.1	- - - -	- - 3 - -
Pot Cap-1 Maneuver	118	0 ~ 348	0 0 0 0	- - 762 - 0
Stage 1	357	0 - 0 0 0 0	- - - -	- - - -
Stage 2	636	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	105	0 ~ 348	- 0 - -	- - 762 - -
Mov Cap-2 Maneuver	105	0 - - 0 - -	- - - -	- - - -
Stage 1	316	0 - - 0 - -	- - - -	- - - -
Stage 2	636	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 395.03		0	0.89
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	105	348	762	-
HCM Lane V/C Ratio	-	-	0.703	1.872	0.115	-
HCM Ctrl Dly (s/v)	-	-	96.4\$	428.7	10.3	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	3.7	43.6	0.4	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	12	4	1109	1548	1
Future Volume (vph)	15	12	4	1109	1548	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	0%	0%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	1171	1630	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	4	1109	1548	1
Future Vol, veh/h	15	12	4	1109	1548	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	13	0	0	4	3	0
Mvmt Flow	16	13	4	1167	1629	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2806	1630	1631
Stage 1	1630	-	-
Stage 2	1176	-	-
Critical Hdwy	6.53	6.2	4.3
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.1	3.1	3
Pot Cap-1 Maneuver	19	130	313
Stage 1	177	-	-
Stage 2	303	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	18	130	313
Mov Cap-2 Maneuver	18	-	-
Stage 1	170	-	-
Stage 2	303	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 347.95	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	30	-	-
HCM Lane V/C Ratio	0.013	-	0.962	-	-
HCM Ctrl Dly (s/v)	16.7	0	\$ 348	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0	-	3.2	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2030 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	50	81	12	58	26	92	807	12	60	1035	430
Future Volume (vph)	267	50	81	12	58	26	92	807	12	60	1035	430
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	281	138	0	13	88	0	97	862	0	63	1542	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	16.0	16.0		16.0	16.0		44.0	44.0		44.0	44.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	10.0	10.0		10.0	10.0		37.5	37.5		37.5	37.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.29	0.36		0.06	0.26		0.86	0.80		0.27	1.43	
Control Delay (s/veh)	187.1	12.9		21.3	18.0		73.2	15.5		8.4	215.4	

2030 Base (No-Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	187.1	12.9		21.3	18.0		73.2	15.5		8.4	215.4	
Queue Length 50th (ft)	~135	16		4	19		23	198		8	~807	
Queue Length 95th (ft)	#264	58		17	53		#71	#410		28	#1053	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	218	386		202	342		113	1079		230	1080	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.29	0.36		0.06	0.26		0.86	0.80		0.27	1.43	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

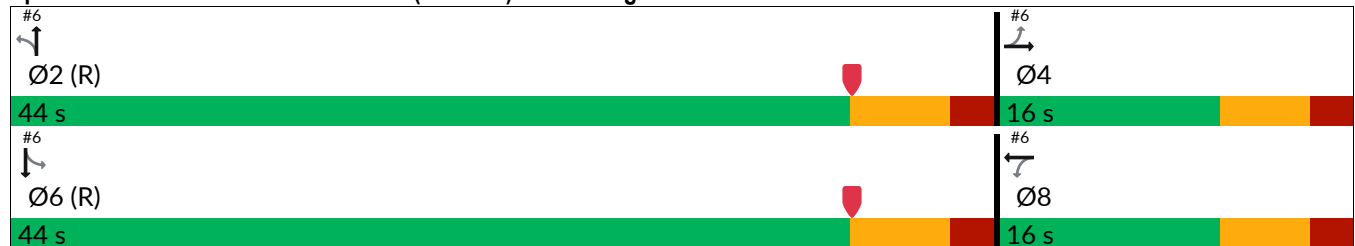
Natural Cycle: 110

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2030 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	267	50	81	12	58	26	92	807	12	60	1035	430
Future Volume (veh/h)	267	50	81	12	58	26	92	807	12	60	1035	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	281	53	72	13	61	12	97	849	12	63	1089	437
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	339	145	198	277	271	53	123	1162	16	338	824	331
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.64	0.64	0.63	0.64	0.64	0.63
Sat Flow, veh/h	1399	794	1078	1184	1477	291	349	1810	26	654	1284	515
Grp Volume(v), veh/h	281	0	125	13	0	73	97	0	861	63	0	1526
Grp Sat Flow(s),veh/h/ln	1399	0	1872	1184	0	1767	349	0	1836	654	0	1799
Q Serve(g_s), s	9.4	0.0	3.5	0.6	0.0	2.1	0.5	0.0	19.0	4.3	0.0	38.5
Cycle Q Clear(g_c), s	11.0	0.0	3.5	3.6	0.0	2.1	38.5	0.0	19.0	22.8	0.0	38.5
Prop In Lane	1.00		0.58	1.00		0.16	1.00		0.01	1.00		0.29
Lane Grp Cap(c), veh/h	339	0	343	277	0	324	123	0	1178	338	0	1155
V/C Ratio(X)	0.83	0.00	0.36	0.05	0.00	0.23	0.79	0.00	0.73	0.19	0.00	1.32
Avail Cap(c_a), veh/h	339	0	343	277	0	324	123	0	1178	338	0	1155
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	21.7	22.8	0.0	20.9	30.0	0.0	7.3	14.7	0.0	10.9
Incr Delay (d2), s/veh	15.7	0.0	0.6	0.1	0.0	0.3	38.9	0.0	4.0	1.2	0.0	150.9
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	9.0	0.0	2.7	0.3	0.0	1.5	4.7	0.0	9.4	1.2	0.0	85.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.0	0.0	22.4	22.9	0.0	21.3	68.9	0.0	11.3	16.0	0.0	161.8
LnGrp LOS	D		C		C	C		E	B		F	
Approach Vol, veh/h	406			86			958			1589		
Approach Delay, s/veh	36.0			21.5			17.1			156.0		
Approach LOS	D			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	44.0			16.0			44.0			16.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	37.5			10.0			37.5			10.0		
Max Q Clear Time (g_c+11), s	21.0			13.5			40.5			6.1		
Green Ext Time (p_c), s	13.8			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	92.4											
HCM 7th LOS	F											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	375	4	113	386	42	1	8	52	17	8	16
Future Volume (vph)	24	375	4	113	386	42	1	8	52	17	8	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	1%	2%	0%	13%	3%	6%	13%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	421	0	126	476	0	0	68	0	0	46	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	375	4	113	386	42	1	8	52	17	8	16
Future Vol, veh/h	24	375	4	113	386	42	1	8	52	17	8	16
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	1	1	2	0	13	3	6	13	6
Mvmt Flow	27	417	4	126	429	47	1	9	58	19	9	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	477	0	0	421	0	0	1157	1200	420	1180	1179	453
Stage 1	-	-	-	-	-	-	472	472	-	704	704	-
Stage 2	-	-	-	-	-	-	684	728	-	475	474	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.3	6.83	6.33	6.56	6.03	5.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.117	3.1	3.1	4.117	3.2
Pot Cap-1 Maneuver	823	-	-	860	-	-	179	165	661	215	221	645
Stage 1	-	-	-	-	-	-	635	527	-	522	476	-
Stage 2	-	-	-	-	-	-	475	396	-	679	584	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	822	-	-	860	-	-	138	136	661	153	182	645
Mov Cap-2 Maneuver	-	-	-	-	-	-	138	136	-	153	182	-
Stage 1	-	-	-	-	-	-	615	510	-	445	406	-
Stage 2	-	-	-	-	-	-	386	338	-	589	565	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.57			2.07			15.17			24.65		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	422	822	-	-	860	-	-	228
HCM Lane V/C Ratio	0.161	0.032	-	-	0.146	-	-	0.199
HCM Ctrl Dly (s/v)	15.2	9.5	-	-	9.9	-	-	24.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.5	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	71	6	45	31	4	35
Future Volume (vph)	71	6	45	31	4	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4447			1252	852	
Travel Time (s)	75.8			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	15%	3%	25%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	0	86	45	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	71	6	45	31	4	35
Future Vol, veh/h	71	6	45	31	4	35
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, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	0	15	3	25	4
Mvmt Flow	81	7	51	35	5	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	88
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	1081
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1081
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.03	8.74
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1007	-	-	1060	-
HCM Lane V/C Ratio	0.044	-	-	0.047	-
HCM Ctrl Dly (s/v)	8.7	-	-	8.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	146	232	0	0	0
Future Volume (vph)	0	146	232	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	278		122			129
Travel Time (s)	7.6		2.1			2.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	152	242	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	146	232	0	0	0
Future Vol, veh/h	0	146	232	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	6	7	0	0	0
Mvmt Flow	0	152	242	0	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	242	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	1079	-	0	0	0
Stage 1	0	-	-	0	0	0
Stage 2	0	-	-	0	0	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver	-	1079	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	8.88	0				
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1					
Capacity (veh/h)	- 1079					
HCM Lane V/C Ratio	- 0.141					
HCM Ctrl Dly (s/v)	- 8.9					
HCM Lane LOS	- A					
HCM 95th %tile Q(veh)	- 0.5					



2030 Projected (Build) Conditions



1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	59	9	187	68	30	258
Future Volume (vph)	59	9	187	68	30	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	1309		1084			881
Travel Time (s)	22.3		18.5			17.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	19%	27%	24%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	277	0	0	313
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	9	187	68	30	258
Future Vol, veh/h	59	9	187	68	30	258
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	0	19	27	24	8
Mvmt Flow	64	10	203	74	33	280

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	586	240	0
Stage 1	240	-	-
Stage 2	346	-	-
Critical Hdwy	6.37	6.1	-
Critical Hdwy Stg 1	5.37	-	-
Critical Hdwy Stg 2	5.37	-	-
Follow-up Hdwy	3.2	3.1	-
Pot Cap-1 Maneuver	512	856	-
Stage 1	873	-	-
Stage 2	780	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	490	856	-
Mov Cap-2 Maneuver	490	-	-
Stage 1	836	-	-
Stage 2	780	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.08	0	0.95
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	188
HCM Lane V/C Ratio	-	-	0.142	0.036
HCM Ctrl Dly (s/v)	-	-	13.1	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

2030 Projected (Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	1	240	137	16	325
Future Volume (vph)	50	1	240	137	16	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1084
Travel Time (s)	23.7		12.2			18.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	54%	0%	21%	18%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	405	0	0	366
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	1	240	137	16	325
Future Vol, veh/h	50	1	240	137	16	325
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	54	0	21	18	0	11
Mvmt Flow	54	1	258	147	17	349

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	716	332	0
Stage 1	332	-	-
Stage 2	384	-	-
Critical Hdwy	5.94	5.7	-
Critical Hdwy Stg 1	4.94	-	-
Critical Hdwy Stg 2	4.94	-	-
Follow-up Hdwy	3.5	3.1	-
Pot Cap-1 Maneuver	438	790	-
Stage 1	763	-	-
Stage 2	728	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	428	790	-
Mov Cap-2 Maneuver	428	-	-
Stage 1	745	-	-
Stage 2	728	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.55	0	0.43
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	431	84
HCM Lane V/C Ratio	-	-	0.127	0.02
HCM Ctrl Dly (s/v)	-	-	14.6	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1

2030 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	437	0	156	673	240	0	0	270	91
Future Volume (vph)	0	0	0	437	0	156	673	240	0	0	270	91
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	18%	4%	17%	0%	0%	14%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	470	168	724	258	0	0	290	98
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				32.5	32.5	32.5	35.0	70.0			35.0	35.0
Total Split (%)				31.7%	31.7%	31.7%	34.1%	68.3%			34.1%	34.1%
Maximum Green (s)				27.0	27.0	27.0	29.0	64.0			29.0	29.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.02	0.35	1.14	0.29			0.80	0.27
Control Delay (s/veh)					83.2	6.9	102.6	9.8			51.1	9.3

2030 Projected (Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					83.2	6.9	102.6	9.8			51.1	9.3
Queue Length 50th (ft)					~306	0	~439	77			183	4
Queue Length 95th (ft)					#547	57	#696	124			287	49
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					460	479	634	1009			488	458
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.02	0.35	1.14	0.26			0.59	0.21

Intersection Summary

Area Type: Other

Cycle Length: 102.5

Actuated Cycle Length: 95.1

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2030 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	437	0	156	673	240	0	0	270	91
Future Volume (veh/h)	0	0	0	437	0	156	673	240	0	0	270	91
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1775	1875	1619	1722	1539	0	0	1675	1604
Adj Flow Rate, veh/h				470	0	0	724	258	0	0	290	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				7	0	18	4	17	0	0	14	19
Cap, veh/h				517	0		677	938	0	0	398	
Arrive On Green				0.28	0.00	0.00	0.32	0.61	0.00	0.00	0.24	0.00
Sat Flow, veh/h				1785	0	1372	1640	1539	0	0	1675	1360
Grp Volume(v), veh/h				470	0	0	724	258	0	0	290	0
Grp Sat Flow(s),veh/h/ln				1785	0	1372	1640	1539	0	0	1675	1360
Q Serve(g_s), s				23.9	0.0	0.0	30.0	7.4	0.0	0.0	15.0	0.0
Cycle Q Clear(g_c), s				23.9	0.0	0.0	30.0	7.4	0.0	0.0	15.0	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				517	0		677	938	0	0	398	
V/C Ratio(X)				0.91	0.00		1.07	0.28	0.00	0.00	0.73	
Avail Cap(c_a), veh/h				531	0		677	1063	0	0	534	
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				32.7	0.0	0.0	19.2	8.6	0.0	0.0	33.1	0.0
Incr Delay (d2), s/veh				19.4	0.0	0.0	54.4	0.6	0.0	0.0	9.1	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
%ile BackOfQ(95%),veh/ln				19.0	0.0	0.0	28.6	4.1	0.0	0.0	11.1	0.0
Unsig. Movement Delay, s/veh						9.00						
LnGrp Delay(d), s/veh				52.1	0.0	9.0	73.6	9.2	0.0	0.0	42.2	0.0
LnGrp LOS				D		A	F	A			D	
Approach Vol, veh/h					607			982			290	
Approach Delay, s/veh					42.4			56.7			42.2	
Approach LOS					D			E			D	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	62.3			35.0			27.3			31.7		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	64.0			29.0			29.0			27.0		
Max Q Clear Time (g_c+I1), s	9.9			32.5			17.5			25.9		
Green Ext Time (p_c), s	7.5			0.0			3.8			0.3		
Intersection Summary												
HCM 7th Control Delay, s/veh			49.8									
HCM 7th LOS			D									
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

2030 Projected (Build) Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	0	364	0	0	0	0	832	704	153	553	0
Future Volume (vph)	67	0	364	0	0	0	0	832	704	153	553	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	27%	0%	7%	0%	0%	0%	0%	5%	3%	17%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	0	409	0	0	0	0	935	791	172	621	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2030 Projected (Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Intersection

Int Delay, s/veh 16.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	0	364	0	0	0	0	832	704	153	553	0
Future Vol, veh/h	67	0	364	0	0	0	0	832	704	153	553	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	27	0	7	0	0	0	0	5	3	17	6	0
Mvmt Flow	75	0	409	0	0	0	0	935	791	172	621	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1900	- 621	- - - -	0 0 935 0 0
Stage 1	965	- - - -	- - - -	- - - -
Stage 2	935	- - - -	- - - -	- - - -
Critical Hdwy	6.47	- 6.17	- - - -	- - 4.5 - -
Critical Hdwy Stg 1	5.47	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.47	- - - -	- - - -	- - - -
Follow-up Hdwy	3.2	- 3.2	- - - -	- - 3.2 - -
Pot Cap-1 Maneuver	77	0 505	0 0 0 0	- - 515 - 0
Stage 1	387	0 - 0 0 0 0	- - - -	- - - -
Stage 2	400	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	~ 51	0 505	- 0 - -	- - 515 - -
Mov Cap-2 Maneuver	~ 51	0 - - 0 - -	- - - -	- - - -
Stage 1	258	0 - - 0 - -	- - - -	- - - -
Stage 2	400	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	96.2		0	3.35
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	51	505	515	-
HCM Lane V/C Ratio	-	-	1.475	0.81	0.334	-
HCM Ctrl Dly (s/v)	-	-	\$ 423.6	35.9	15.5	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	7	7.8	1.5	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	8	1532	900	17
Future Volume (vph)	4	9	8	1532	900	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	11%	0%	5%	9%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	1656	986	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	9	8	1532	900	17
Future Vol, veh/h	4	9	8	1532	900	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	11	0	5	9	6
Mvmt Flow	4	10	9	1647	968	18

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2641	977	986
Stage 1	977	-	-
Stage 2	1665	-	-
Critical Hdwy	6.4	6.31	4.3
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3	3.2	3
Pot Cap-1 Maneuver	27	304	542
Stage 1	405	-	-
Stage 2	183	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	22	304	542
Mov Cap-2 Maneuver	22	-	-
Stage 1	329	-	-
Stage 2	183	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	79.82	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	62	-	-
HCM Lane V/C Ratio	0.016	-	0.227	-	-
HCM Ctrl Dly (s/v)	11.7	0	79.8	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

2030 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	431	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (vph)	431	48	96	11	21	71	43	1034	19	16	710	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	459	153	0	12	98	0	46	1120	0	17	959	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.0	21.0		21.0	21.0		36.5	36.5		36.5	36.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.24	0.26		0.03	0.18		0.47	1.28		0.17	1.12	
Control Delay (s/veh)	153.9	8.5		17.2	8.3		31.0	153.9		13.7	88.8	

2030 Projected (Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	153.9	8.5		17.2	8.3		31.0	153.9		13.7	88.8	
Queue Length 50th (ft)	~253	15		4	8		11	~667		3	~526	
Queue Length 95th (ft)	#421	54		15	39		#59	#910		16	#765	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	371	585		343	545		97	877		98	856	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.24	0.26		0.03	0.18		0.47	1.28		0.17	1.12	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2030 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	431	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (veh/h)	431	48	96	11	21	71	43	1034	19	16	710	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	459	51	71	12	22	61	46	1100	20	17	755	186
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	496	246	342	427	134	371	107	950	17	107	744	183
Arrive On Green	0.31	0.31	0.30	0.31	0.31	0.30	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1387	782	1088	1187	426	1181	609	1774	32	524	1389	342
Grp Volume(v), veh/h	459	0	122	12	0	83	46	0	1120	17	0	941
Grp Sat Flow(s),veh/h/ln	1387	0	1870	1187	0	1607	609	0	1806	524	0	1731
Q Serve(g_s), s	19.9	0.0	3.4	0.5	0.0	2.6	0.5	0.0	37.5	0.5	0.0	37.5
Cycle Q Clear(g_c), s	22.0	0.0	3.4	3.4	0.0	2.6	37.5	0.0	37.5	37.5	0.0	37.5
Prop In Lane	1.00		0.58	1.00		0.73	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	496	0	588	427	0	505	107	0	968	107	0	927
V/C Ratio(X)	0.93	0.00	0.21	0.03	0.00	0.16	0.43	0.00	1.16	0.16	0.00	1.01
Avail Cap(c_a), veh/h	496	0	588	427	0	505	107	0	968	107	0	927
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	17.8	18.7	0.0	17.6	35.0	0.0	16.3	34.9	0.0	16.3
Incr Delay (d2), s/veh	23.4	0.0	0.2	0.0	0.0	0.2	12.1	0.0	82.5	3.2	0.0	33.3
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	16.0	0.0	2.5	0.2	0.0	1.7	2.0	0.0	48.6	0.7	0.0	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.9	0.0	18.0	18.7	0.0	17.8	47.0	0.0	98.8	38.1	0.0	49.6
LnGrp LOS	D		B	B		B	D		F	D		F
Approach Vol, veh/h	581			95			1166			958		
Approach Delay, s/veh	43.2			17.9			96.8			49.4		
Approach LOS	D			B			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.0			27.0			43.0			27.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	36.5			21.0			36.5			21.0		
Max Q Clear Time (g_c+l1), s	39.5			24.5			39.5			5.9		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	66.8											
HCM 7th LOS	E											

2030 Projected (Build) Conditions
 7: Schwanger Rd. & Campus Dr. & Merts Dr.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	386	1	29	225	4	0	4	64	39	4	24
Future Volume (vph)	12	386	1	29	225	4	0	4	64	39	4	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	2%	0%	5%	1%	0%	0%	0%	3%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	440	0	33	261	0	0	78	0	0	76	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	386	1	29	225	4	0	4	64	39	4	24
Future Vol, veh/h	12	386	1	29	225	4	0	4	64	39	4	24
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175			150								
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	17	2	0	5	1	0	0	0	3	5	0	4
Mvmt Flow	14	439	1	33	256	5	0	5	73	44	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	440	0	0	790	794	439	793	792	259
Stage 1	-	-	-	-	-	-	466	466	-	325	325	-
Stage 2	-	-	-	-	-	-	324	327	-	468	467	-
Critical Hdwy	4.5	-	-	4.4	-	-	7.3	6.7	6.33	6.6	5.9	5.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Follow-up Hdwy	3.2	-	-	3	-	-	3	4	3.1	3	4	3.1
Pot Cap-1 Maneuver	909	-	-	837	-	-	330	309	644	383	370	845
Stage 1	-	-	-	-	-	-	640	551	-	830	689	-
Stage 2	-	-	-	-	-	-	777	639	-	704	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	908	-	-	837	-	-	298	292	644	317	349	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	292	-	317	349	-
Stage 1	-	-	-	-	-	-	631	543	-	797	661	-
Stage 2	-	-	-	-	-	-	717	614	-	610	602	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.27			1.07			11.86			15.75		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	602	908	-	-	837	-	-	411
HCM Lane V/C Ratio	0.128	0.015	-	-	0.039	-	-	0.185
HCM Ctrl Dly (s/v)	11.9	9	-	-	9.5	-	-	15.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	34	9	22	50	17	38
Future Volume (vph)	34	9	22	50	17	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	2119			1252	852	
Travel Time (s)	36.1			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	19%	7%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	0	0	98	74	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	9	22	50	17	38
Future Vol, veh/h	34	9	22	50	17	38
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, %	-2	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	0	19	7	0	5
Mvmt Flow	46	12	30	68	23	51

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	58
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.2
Pot Cap-1 Maneuver	-	-	1073
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1073
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.58	8.79
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1025	-	-	550	-
HCM Lane V/C Ratio	0.073	-	-	0.028	-
HCM Ctrl Dly (s/v)	8.8	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

9: Mt. Pleasant Rd. (SR 4010) & Eastern (Car Only) Dw

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	37	49	21	7	8
Future Volume (vph)	26	37	49	21	7	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		2%	-2%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25			25	25	25
Link Speed (mph)		40	40		25	
Link Distance (ft)		1109	2119		324	
Travel Time (s)		18.9	36.1		8.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	15%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	77	0	17	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	37	49	21	7	8
Future Vol, veh/h	26	37	49	21	7	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, %	-	2	-2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	25	15	2	2	2
Mvmt Flow	29	41	54	23	8	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	78	0	0 165 66
Stage 1	-	-	- 66 -
Stage 2	-	-	- 99 -
Critical Hdwy	4.3	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	3	-	- 3 3.1
Pot Cap-1 Maneuver	1129	-	- 957 1066
Stage 1	-	-	- 1117 -
Stage 2	-	-	- 1077 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1129	-	- 932 1066
Mov Cap-2 Maneuver	-	-	- 932 -
Stage 1	-	-	- 1087 -
Stage 2	-	-	- 1077 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.41	0	8.67
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	743	-	-	-	999
HCM Lane V/C Ratio	0.026	-	-	-	0.017
HCM Ctrl Dly (s/v)	8.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	51	0	4	53	0	0	48	12	0	26	15
Future Volume (vph)	48	51	0	4	53	0	0	48	12	0	26	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1309			1109			278			356	
Travel Time (s)		22.3			18.9			7.6			9.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	0%	2%	15%	0%	0%	50%	2%	0%	73%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	63	0	0	66	0	0	46	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	51	0	4	53	0	0	48	12	0	26	15
Future Vol, veh/h	48	51	0	4	53	0	0	48	12	0	26	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	25	0	2	15	0	0	50	2	0	73	2
Mvmt Flow	53	57	0	4	59	0	0	53	13	0	29	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	59	0	0	57	0	0	246	231	57	258	231	59
Stage 1	-	-	-	-	-	-	163	163	-	68	68	-
Stage 2	-	-	-	-	-	-	82	68	-	190	163	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.1	7	6.22	7.1	7.23	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6	-	6.1	6.23	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6	-	6.1	6.23	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.45	3.1	3	4.657	3.1
Pot Cap-1 Maneuver	1146	-	-	1148	-	-	818	593	1079	802	562	1076
Stage 1	-	-	-	-	-	-	973	680	-	1100	718	-
Stage 2	-	-	-	-	-	-	1080	753	-	940	646	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1146	-	-	1148	-	-	724	563	1079	683	533	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	563	-	683	533	-
Stage 1	-	-	-	-	-	-	926	648	-	1096	715	-
Stage 2	-	-	-	-	-	-	1016	750	-	811	615	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	4.02			0.57			11.48			10.92		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	622	873	-	-	126	-	-	654
HCM Lane V/C Ratio	0.107	0.047	-	-	0.004	-	-	0.07
HCM Ctrl Dly (s/v)	11.5	8.3	0	-	8.1	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.2

2030 Projected (Build) Conditions
 20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	156	240	0	0	0
Future Volume (vph)	0	156	240	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	184		118			92
Travel Time (s)	5.0		2.0			1.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	18%	17%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	168	258	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	156	240	0	0	0
Future Vol, veh/h	0	156	240	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	18	17	0	0	0
Mvmt Flow	0	168	258	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	258	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	1061	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	
Mov Cap-1 Maneuver	-	1061	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.03	0	
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1
Capacity (veh/h)	- 1061
HCM Lane V/C Ratio	- 0.158
HCM Ctrl Dly (s/v)	- 9
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.6

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	78	27	327	68	22	225
Future Volume (vph)	78	27	327	68	22	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	1263		1057			908
Travel Time (s)	21.5		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	13%	5%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	0	420	0	0	262
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	78	27	327	68	22	225
Future Vol, veh/h	78	27	327	68	22	225
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	13	5	2	0	3
Mvmt Flow	83	29	348	72	23	239

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	670	384	0	0	420	0
Stage 1	384	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.4	6.23	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.2	3.2	-	-	3	-
Pot Cap-1 Maneuver	454	683	-	-	861	-
Stage 1	746	-	-	-	-	-
Stage 2	829	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	683	-	-	861	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	829	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.66	0	0.83
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	484	160
HCM Lane V/C Ratio	-	-	0.231	0.027
HCM Ctrl Dly (s/v)	-	-	14.7	9.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

2030 Projected (Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	206	59	312	48	4	299
Future Volume (vph)	206	59	312	48	4	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	2%	11%	56%	25%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	354	0	480	0	0	404
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	206	59	312	48	4	299
Future Vol, veh/h	206	59	312	48	4	299
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	12	2	11	56	25	7
Mvmt Flow	275	79	416	64	5	399

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	857	448	0
Stage 1	448	-	-
Stage 2	409	-	-
Critical Hdwy	5.52	5.72	-
Critical Hdwy Stg 1	4.52	-	-
Critical Hdwy Stg 2	4.52	-	-
Follow-up Hdwy	3.1	3.1	-
Pot Cap-1 Maneuver	441	687	-
Stage 1	798	-	-
Stage 2	824	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	437	687	-
Mov Cap-2 Maneuver	437	-	-
Stage 1	790	-	-
Stage 2	824	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	31.39	0	0.13
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	476	24
HCM Lane V/C Ratio	-	-	0.743	0.007
HCM Ctrl Dly (s/v)	-	-	31.4	9.8
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	6.2	0

2030 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	747	0	172	409	259	0	0	341	86
Future Volume (vph)	0	0	0	747	0	172	409	259	0	0	341	86
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	3%	0%	12%	6%	8%	0%	0%	5%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	778	179	426	270	0	0	355	90
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				41.5	41.5	41.5	27.0	74.0			47.0	47.0
Total Split (%)				35.9%	35.9%	35.9%	23.4%	64.1%			40.7%	40.7%
Maximum Green (s)				36.0	36.0	36.0	21.0	68.0			41.0	41.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.29	0.30	0.93	0.32			0.82	0.23
Control Delay (s/veh)					172.1	5.3	48.5	13.9			49.9	9.0

2030 Projected (Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					172.1	5.3	48.5	13.9			49.9	9.0
Queue Length 50th (ft)					~633	0	178	94			220	5
Queue Length 95th (ft)					#985	53	#346	139			327	45
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					603	592	457	1108			707	595
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.29	0.30	0.93	0.24			0.50	0.15

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 99.8

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

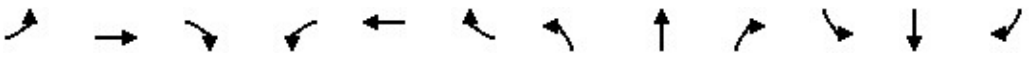
Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2030 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↰	↱	↰	↱			↱	↱
Traffic Volume (veh/h)	0	0	0	747	0	172	409	259	0	0	341	86
Future Volume (veh/h)	0	0	0	747	0	172	409	259	0	0	341	86
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1832	1875	1704	1693	1665	0	0	1803	1661
Adj Flow Rate, veh/h				778	0	0	426	270	0	0	355	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	12	6	8	0	0	5	15
Cap, veh/h				652	0		508	900	0	0	507	
Arrive On Green				0.36	0.00	0.00	0.21	0.54	0.00	0.00	0.28	0.00
Sat Flow, veh/h				1785	0	1444	1613	1665	0	0	1803	1408
Grp Volume(v), veh/h				778	0	0	426	270	0	0	355	0
Grp Sat Flow(s),veh/h/ln				1785	0	1444	1613	1665	0	0	1803	1408
Q Serve(g_s), s				37.0	0.0	0.0	17.6	9.0	0.0	0.0	17.8	0.0
Cycle Q Clear(g_c), s				37.0	0.0	0.0	17.6	9.0	0.0	0.0	17.8	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				652	0		508	900	0	0	507	
V/C Ratio(X)				1.19	0.00		0.84	0.30	0.00	0.00	0.70	
Avail Cap(c_a), veh/h				652	0		519	1135	0	0	748	
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				32.6	0.0	0.0	19.6	12.7	0.0	0.0	32.6	0.0
Incr Delay (d2), s/veh				101.2	0.0	0.0	11.5	0.7	0.0	0.0	6.2	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				48.9	0.0	0.0	12.1	5.8	0.0	0.0	13.1	0.0
Unsig. Movement Delay, s/veh						9.10						
LnGrp Delay(d), s/veh				133.8	0.0	9.1	31.1	13.4	0.0	0.0	38.8	0.0
LnGrp LOS				F		A	C	B			D	
Approach Vol, veh/h					898			696			355	
Approach Delay, s/veh					117.2			24.3			38.8	
Approach LOS					F			C			D	
Timer - Assigned Phs	2			5		6	8					
Phs Duration (G+Y+Rc), s	59.7			26.3		33.5	41.5					
Change Period (Y+Rc), s	6.0			6.0		6.0	5.5					
Max Green Setting (Gmax), s	68.0			21.0		41.0	36.0					
Max Q Clear Time (g_c+I1), s	11.5			20.1		20.3	39.0					
Green Ext Time (p_c), s	8.0			0.2		7.2	0.0					

Intersection Summary

HCM 7th Control Delay, s/veh	69.7
HCM 7th LOS	E

Notes

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

2030 Projected (Build) Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	0	639	0	0	0	0	570	564	145	944	0
Future Volume (vph)	90	0	639	0	0	0	0	570	564	145	944	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	1%	0%	0%	0%	0%	6%	3%	10%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	0	652	0	0	0	0	582	576	148	963	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2030 Projected (Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 111.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	0	639	0	0	0	0	570	564	145	944	0
Future Vol, veh/h	90	0	639	0	0	0	0	570	564	145	944	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	17	0	1	0	0	0	0	6	3	10	2	0
Mvmt Flow	92	0	652	0	0	0	0	582	576	148	963	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1841	- 963	- - - -	0 0 582 0 0
Stage 1	1259	- - - -	- - - -	- - - -
Stage 2	582	- - - -	- - - -	- - - -
Critical Hdwy	6.37	- 6.11	- - - -	- - 4.4 - -
Critical Hdwy Stg 1	5.37	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.37	- - - -	- - - -	- - - -
Follow-up Hdwy	3.2	- 3.1	- - - -	- - 3.1 - -
Pot Cap-1 Maneuver	~ 88	0 ~ 333	0 0 0 0	- - 725 - 0
Stage 1	286	0 - 0 0 0 0	- - - -	- - - -
Stage 2	605	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	~ 70	0 ~ 333	- 0 - -	- - 725 - -
Mov Cap-2 Maneuver	~ 70	0 - - 0 - -	- - - -	- - - -
Stage 1	227	0 - - 0 - -	- - - -	- - - -
Stage 2	605	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 448.62		0	1.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	70	333	725	-
HCM Lane V/C Ratio	-	-	1.311	1.957	0.204	-
HCM Ctrl Dly (s/v)	-	-	\$ 314.1	\$ 467.6	11.2	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	7.4	45.3	0.8	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	12	4	1118	1581	1
Future Volume (vph)	15	12	4	1118	1581	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	0%	0%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	0	1181	1665	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	12	4	1118	1581	1
Future Vol, veh/h	15	12	4	1118	1581	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	13	0	0	4	3	0
Mvmt Flow	16	13	4	1177	1664	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2850	1665	1665
Stage 1	1665	-	-
Stage 2	1185	-	-
Critical Hdwy	6.53	6.2	4.3
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.1	3.1	3
Pot Cap-1 Maneuver	18	124	304
Stage 1	169	-	-
Stage 2	300	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	17	124	304
Mov Cap-2 Maneuver	17	-	-
Stage 1	163	-	-
Stage 2	300	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 387.77	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	28	-	-
HCM Lane V/C Ratio	0.014	-	1.029	-	-
HCM Ctrl Dly (s/v)	17		\$ 387.8	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0	-	3.3	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2030 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	139	0	28	92	0	97	875	0	63	1577	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	16.0	16.0		16.0	16.0		44.0	44.0		44.0	44.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	10.0	10.0		10.0	10.0		37.5	37.5		37.5	37.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.30	0.36		0.14	0.27		0.86	0.81		0.28	1.46	
Control Delay (s/veh)	191.3	13.0		22.6	18.4		73.2	16.3		8.8	229.3	

2030 Projected (Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	191.3	13.0		22.6	18.4		73.2	16.3		8.8	229.3	
Queue Length 50th (ft)	~136	17		9	20		23	204		9	~836	
Queue Length 95th (ft)	#265	58		28	55		#71	#477		29	#1084	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	217	386		202	343		113	1078		222	1081	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.30	0.36		0.14	0.27		0.86	0.81		0.28	1.46	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6  Ø2 (R)		#6  Ø4	
#6  Ø6 (R)		#6  Ø8	

2030 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	282	54	72	28	65	12	97	858	16	63	1120	441
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	335	147	196	277	274	51	123	1156	22	329	829	326
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.64	0.64	0.63	0.64	0.64	0.63
Sat Flow, veh/h	1394	803	1070	1183	1494	276	337	1801	34	646	1292	509
Grp Volume(v), veh/h	282	0	126	28	0	77	97	0	874	63	0	1561
Grp Sat Flow(s),veh/h/ln	1394	0	1873	1183	0	1770	337	0	1835	646	0	1801
Q Serve(g_s), s	9.3	0.0	3.6	1.3	0.0	2.2	0.5	0.0	19.6	4.4	0.0	38.5
Cycle Q Clear(g_c), s	11.0	0.0	3.6	4.3	0.0	2.2	38.5	0.0	19.6	23.5	0.0	38.5
Prop In Lane	1.00		0.57	1.00		0.16	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	335	0	343	277	0	325	123	0	1177	329	0	1155
V/C Ratio(X)	0.84	0.00	0.37	0.10	0.00	0.24	0.79	0.00	0.74	0.19	0.00	1.35
Avail Cap(c_a), veh/h	335	0	343	277	0	325	123	0	1177	329	0	1155
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	21.7	23.1	0.0	21.0	30.0	0.0	7.4	15.2	0.0	10.9
Incr Delay (d2), s/veh	17.2	0.0	0.7	0.2	0.0	0.4	39.0	0.0	4.3	1.3	0.0	163.8
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	9.2	0.0	2.7	0.6	0.0	1.6	4.7	0.0	9.7	1.2	0.0	91.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.7	0.0	22.4	23.3	0.0	21.4	69.0	0.0	11.6	16.5	0.0	174.7
LnGrp LOS	D		C	C		C	E		B	B		F
Approach Vol, veh/h	408			105			971			1624		
Approach Delay, s/veh	37.1			21.9			17.3			168.5		
Approach LOS	D			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	44.0			16.0			44.0			16.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	37.5			10.0			37.5			10.0		
Max Q Clear Time (g_c+l1), s	21.6			13.5			40.5			6.8		
Green Ext Time (p_c), s	13.5			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	99.1											
HCM 7th LOS	F											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	377	4	113	394	42	1	8	52	17	8	16
Future Volume (vph)	24	377	4	113	394	42	1	8	52	17	8	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	1%	2%	0%	13%	3%	6%	13%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	423	0	126	485	0	0	68	0	0	46	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	377	4	113	394	42	1	8	52	17	8	16
Future Vol, veh/h	24	377	4	113	394	42	1	8	52	17	8	16
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	1	1	2	0	13	3	6	13	6
Mvmt Flow	27	419	4	126	438	47	1	9	58	19	9	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	485	0	0	423	0	0	1168	1211	422	1191	1190	462
Stage 1	-	-	-	-	-	-	474	474	-	713	713	-
Stage 2	-	-	-	-	-	-	693	737	-	478	477	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.3	6.83	6.33	6.56	6.03	5.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.117	3.1	3.1	4.117	3.2
Pot Cap-1 Maneuver	817	-	-	859	-	-	176	162	659	212	218	638
Stage 1	-	-	-	-	-	-	633	525	-	517	472	-
Stage 2	-	-	-	-	-	-	470	392	-	677	583	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	816	-	-	859	-	-	135	134	659	151	180	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	135	134	-	151	180	-
Stage 1	-	-	-	-	-	-	613	508	-	441	403	-
Stage 2	-	-	-	-	-	-	381	335	-	587	564	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.57			2.04			15.28			25.05		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	418	816	-	-	859	-	-	225
HCM Lane V/C Ratio	0.162	0.033	-	-	0.146	-	-	0.203
HCM Ctrl Dly (s/v)	15.3	9.6	-	-	9.9	-	-	25
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.5	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	78	25	45	33	9	35
Future Volume (vph)	78	25	45	33	9	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	2125			1252	852	
Travel Time (s)	36.2			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	15%	3%	25%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	117	0	0	89	50	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	78	25	45	33	9	35
Future Vol, veh/h	78	25	45	33	9	35
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, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	0	15	3	25	4
Mvmt Flow	89	28	51	38	10	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	117
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	1055
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1055
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4.95	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1033	-
HCM Lane V/C Ratio	0.053	-	-	0.048	-
HCM Ctrl Dly (s/v)	9	-	-	8.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

9: Mt. Pleasant Rd. (SR 4010) & Eastern (Car Only) Dw

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	77	35	7	26	32
Future Volume (vph)	9	77	35	7	26	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		2%	-2%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25			25	25	25
Link Speed (mph)		40	40		25	
Link Distance (ft)		1141	2125		293	
Travel Time (s)		19.4	36.2		8.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	15%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	96	47	0	65	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	77	35	7	26	32
Future Vol, veh/h	9	77	35	7	26	32
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, %	-	2	-2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	15	2	2	2
Mvmt Flow	10	86	39	8	29	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	47	0	0 148 43
Stage 1	-	-	- 43 -
Stage 2	-	-	- 106 -
Critical Hdwy	4.3	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	3	-	- 3 3.1
Pot Cap-1 Maneuver	1157	-	- 979 1099
Stage 1	-	-	- 1145 -
Stage 2	-	-	- 1069 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1157	-	- 970 1099
Mov Cap-2 Maneuver	-	-	- 970 -
Stage 1	-	-	- 1135 -
Stage 2	-	-	- 1069 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.85	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	188	-	-	-	1037
HCM Lane V/C Ratio	0.009	-	-	-	0.062
HCM Ctrl Dly (s/v)	8.1	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	82	0	15	52	0	0	31	4	0	50	58
Future Volume (vph)	16	82	0	15	52	0	0	31	4	0	50	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1263			1141			424			360	
Travel Time (s)		21.5			19.4			11.6			9.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	0%	2%	15%	0%	0%	74%	2%	0%	42%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	75	0	0	38	0	0	120	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	82	0	15	52	0	0	31	4	0	50	58
Future Vol, veh/h	16	82	0	15	52	0	0	31	4	0	50	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	8	0	2	15	0	0	74	2	0	42	2
Mvmt Flow	18	91	0	17	58	0	0	34	4	0	56	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	58	0	0	91	0	0	246	218	91	235	218	58
Stage 1	-	-	-	-	-	-	127	127	-	91	91	-
Stage 2	-	-	-	-	-	-	119	91	-	144	127	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.1	7.24	6.22	7.1	6.92	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.24	-	6.1	5.92	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.24	-	6.1	5.92	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.666	3.1	3	4.378	3.1
Pot Cap-1 Maneuver	1147	-	-	1118	-	-	818	571	1032	831	616	1077
Stage 1	-	-	-	-	-	-	1020	672	-	1068	748	-
Stage 2	-	-	-	-	-	-	1030	698	-	998	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1147	-	-	1118	-	-	677	553	1032	753	596	1077
Mov Cap-2 Maneuver	-	-	-	-	-	-	677	553	-	753	596	-
Stage 1	-	-	-	-	-	-	1004	661	-	1051	736	-
Stage 2	-	-	-	-	-	-	882	688	-	926	709	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.34	1.85	11.6	10.42
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	584	294	-	-	403	-	-	785
HCM Lane V/C Ratio	0.067	0.015	-	-	0.015	-	-	0.153
HCM Ctrl Dly (s/v)	11.6	8.2	0	-	8.3	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	172	259	0	0	0
Future Volume (vph)	0	172	259	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	278		122			129
Travel Time (s)	7.6		2.1			2.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	12%	8%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	179	270	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	172	259	0	0	0
Future Vol, veh/h	0	172	259	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	12	8	0	0	0
Mvmt Flow	0	179	270	0	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	270	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	1048	-	0	0	0
Stage 1	0	-	-	0	0	0
Stage 2	0	-	-	0	0	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver	-	1048	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	9.14	0				
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1					
Capacity (veh/h)	- 1048					
HCM Lane V/C Ratio	- 0.171					
HCM Ctrl Dly (s/v)	- 9.1					
HCM Lane LOS	- A					
HCM 95th %tile Q(veh)	- 0.6					



2030 Projected (Build) Conditions W IMP



2030 Projected (Build) W CIP Conditions

Timing Plan: A.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	430	31	15	0	653	257	117	7	230	75
Future Volume (vph)	0	0	430	31	15	0	653	257	117	7	230	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	14	14	14	12	11	11	11	11	12
Grade (%)		0%			-5%			2%			-2%	
Storage Length (ft)	0		0	0		0	700		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Satd. Flow (prot)	0	0	1455	0	1253	0	1628	1357	0	1670	1521	0
Flt Permitted					0.967		0.309			0.521		
Satd. Flow (perm)	0	0	1455	0	1253	0	529	1357	0	916	1521	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			415					72			22	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		523			1042			715			1086	
Travel Time (s)		14.3			23.7			12.2			18.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	7%	48%	60%	0%	4%	21%	21%	0%	11%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	473	0	50	0	718	411	0	8	335	0
Turn Type			pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases			5		8		5	2			6	
Permitted Phases			4	8			2			6		
Detector Phase			5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)			11.0	11.0	11.0		11.0	16.0		16.0	16.0	
Total Split (s)			30.0	18.0	18.0		30.0	62.0		32.0	32.0	
Total Split (%)			37.5%	22.5%	22.5%		37.5%	77.5%		40.0%	40.0%	
Maximum Green (s)			24.0	12.0	12.0		24.0	56.0		26.0	26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)			2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)			-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)			5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode			None	None	None		None	Min		Min	Min	
Walk Time (s)												

Lanes, Volumes, Timings
pam.syn

Synchro 12 Report
08/13/2026

2030 Projected (Build) W CIP Conditions
 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

Timing Plan: A.M. Peak Hour

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	18.0
Total Split (%)	23%
Maximum Green (s)	12.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	

2030 Projected (Build) W CIP Conditions

Timing Plan: A.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Flash Don't Walk (s)																
Pedestrian Calls (#/hr)																
Act Effct Green (s)			34.5			9.3			50.6			53.3			19.0	19.0
Actuated g/C Ratio			0.54			0.15			0.79			0.83			0.30	0.30
v/c Ratio			0.49			0.27			0.83			0.36			0.03	0.72
Control Delay (s/veh)			3.7			32.5			21.2			3.8			18.0	29.3
Queue Delay			0.0			0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)			3.7			32.5			21.2			3.8			18.0	29.3
LOS			A			C			C			A			B	C
Approach Delay (s/veh)			3.7			32.5			14.8							29.1
Approach LOS			A			C			B							C
Queue Length 50th (ft)			11			29			182			48			2	129
Queue Length 95th (ft)			61			79			#487			113			12	238
Internal Link Dist (ft)			443			962			635							1006
Turn Bay Length (ft)									700						100	
Base Capacity (vph)			975			267			869			1174			406	687
Starvation Cap Reductn			0			0			0			0			0	0
Spillback Cap Reductn			0			0			0			0			0	0
Storage Cap Reductn			0			0			0			0			0	0
Reduced v/c Ratio			0.49			0.19			0.83			0.35			0.02	0.49

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 64

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay (s/veh): 15.1

Intersection LOS: B

Intersection Capacity Utilization 72.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

#2  Ø2	#2  Ø4
62 s	18 s
#2  Ø5	#2  Ø6
30 s	32 s
	#2  Ø8
	18 s

Lane Group	Ø4
Flash Don't Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 7th Edition methodology does not support Non-NEMA phasing.

2030 Projected (Build) W CIP Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	156	873	0	0	694
Future Volume (vph)	0	156	873	0	0	694
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	10	11	11	11	11
Grade (%)	-2%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	831		554			715
Travel Time (s)	22.7		9.4			12.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	18%	6%	0%	0%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	170	949	0	0	754
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2030 Projected (Build) W CIP Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↖			↖
Traffic Vol, veh/h	0	156	873	0	0	694
Future Vol, veh/h	0	156	873	0	0	694
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	-2
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	18	6	0	0	9
Mvmt Flow	0	170	949	0	0	754
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	949	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	512	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	512	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	15.47	0	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 512		-			
HCM Lane V/C Ratio	- 0.331		-			
HCM Ctrl Dly (s/v)	- 15.5		-			
HCM Lane LOS	- C		-			
HCM 95th %tile Q(veh)	- 1.4		-			

2030 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	0	364	0	0	0	0	831	704	153	553	0
Future Volume (vph)	67	0	364	0	0	0	0	831	704	153	553	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	200		0
Storage Lanes	0		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			2459			554	
Travel Time (s)		24.7			20.7			41.9			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	27%	0%	7%	0%	0%	0%	0%	5%	3%	17%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	409	0	0	0	0	934	791	172	621	0
Turn Type	Prot	NA	Perm					NA	Perm	Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases			4						2	6		
Detector Phase	7	4	4					2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					10.0	10.0	10.0	10.0	
Minimum Split (s)	11.0	11.0	11.0					16.0	16.0	16.0	16.0	
Total Split (s)	14.0	14.0	14.0					46.0	46.0	46.0	46.0	
Total Split (%)	23.3%	23.3%	23.3%					76.7%	76.7%	76.7%	76.7%	
Maximum Green (s)	8.0	8.0	8.0					40.0	40.0	40.0	40.0	
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0					-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Recall Mode	None	None	None					Min	Min	Min	Min	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.34	0.78					0.85	0.67	0.91	0.55	
Control Delay (s/veh)		27.7	19.0					16.8	4.3	62.5	6.9	

2030 Projected (Build) W CIP Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay (s/veh)		27.7	19.0					16.8	4.3	62.5	6.9	
Queue Length 50th (ft)		25	25					200	15	40	86	
Queue Length 95th (ft)		59	#153					#426	48	#158	129	
Internal Link Dist (ft)		826			679			2379			474	
Turn Bay Length (ft)			475						75	200		
Base Capacity (vph)		218	531					1240	1238	211	1277	
Starvation Cap Reductn		0	0					0	0	0	0	
Spillback Cap Reductn		0	0					0	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.34	0.77					0.75	0.64	0.82	0.49	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 55.9

Natural Cycle: 55

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

#4 ↑ Ø2	#4 → Ø4
46 s	14 s
#4 ↓ Ø6	#4 ↘ Ø7
46 s	14 s

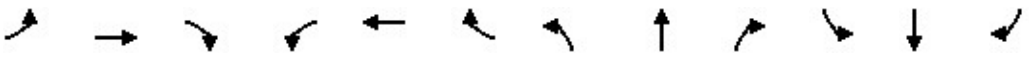
2030 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	0	364	0	0	0	0	831	704	153	553	0
Future Volume (veh/h)	67	0	364	0	0	0	0	831	704	153	553	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1511	1911	1807				0	1766	1795	1633	1789	0
Adj Flow Rate, veh/h	75	0	0				0	934	0	172	621	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	27	0	7				0	5	3	17	6	0
Cap, veh/h	151	0					0	1278		356	1295	0
Arrive On Green	0.08	0.00	0.00				0.00	0.72	0.00	0.72	0.72	0.00
Sat Flow, veh/h	1820	0	1532				0	1766	1521	523	1789	0
Grp Volume(v), veh/h	75	0	0				0	934	0	172	621	0
Grp Sat Flow(s),veh/h/ln	1820	0	1532				0	1766	1521	523	1789	0
Q Serve(g_s), s	2.0	0.0	0.0				0.0	16.0	0.0	14.9	7.6	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0				0.0	16.0	0.0	30.9	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	151	0					0	1278		356	1295	0
V/C Ratio(X)	0.50	0.00					0.00	0.73		0.48	0.48	0.00
Avail Cap(c_a), veh/h	316	0					0	1399		391	1417	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	22.7	0.0	0.0				0.0	4.2	0.0	13.3	3.0	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0				0.0	1.8	0.0	1.0	0.3	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	1.7	0.0	0.0				0.0	3.3	0.0	2.5	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.2	0.0	0.0				0.0	6.0	0.0	14.3	3.3	0.0
LnGrp LOS	C							A		B	A	
Approach Vol, veh/h	75							934		793		
Approach Delay, s/veh	25.2							6.0		5.7		
Approach LOS	C							A		A		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	42.5			9.3			42.5					
Change Period (Y+Rc), s	6.0			6.0			6.0					
Max Green Setting (Gmax), s	40.0			8.0			40.0					
Max Q Clear Time (g_c+I1), s	18.5			4.5			33.4					
Green Ext Time (p_c), s	7.2			0.1			3.1					
Intersection Summary												
HCM 7th Control Delay, s/veh	6.7											
HCM 7th LOS	A											
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (vph)	430	48	96	11	21	71	43	1034	19	16	710	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	457	153	0	12	98	0	46	1120	0	17	959	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	22.0	22.0		22.0	22.0		38.0	38.0		38.0	38.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		63.3%	63.3%		63.3%	63.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		31.5	31.5		31.5	31.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.36	0.28		0.04	0.20		0.41	1.26		0.15	1.11	
Control Delay (s/veh)	206.2	8.5		16.1	8.0		21.5	146.2		10.8	81.6	

Lanes, Volumes, Timings
pam.syn

Synchro 12 Report
08/19/2026

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	206.2	8.5		16.1	8.0		21.5	146.2		10.8	81.6	
Queue Length 50th (ft)	~227	14		3	7		9	~562		3	~440	
Queue Length 95th (ft)	#383	51		13	36		#48	#793		13	#668	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	335	537		309	500		113	887		114	867	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.36	0.28		0.04	0.20		0.41	1.26		0.15	1.11	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

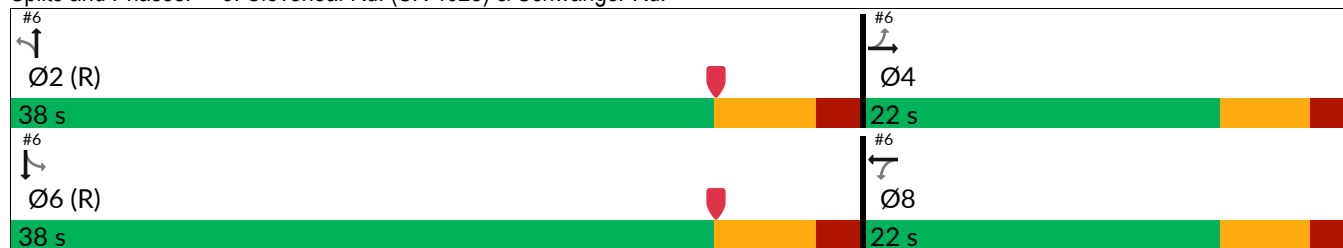
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	430	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (veh/h)	430	48	96	11	21	71	43	1034	19	16	710	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	457	51	71	12	22	61	46	1100	20	17	755	186
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	469	221	308	406	121	335	125	961	17	124	752	185
Arrive On Green	0.28	0.28	0.27	0.28	0.28	0.27	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1387	782	1088	1187	426	1181	609	1774	32	524	1389	342
Grp Volume(v), veh/h	457	0	122	12	0	83	46	0	1120	17	0	941
Grp Sat Flow(s),veh/h/ln	1387	0	1870	1187	0	1607	609	0	1806	524	0	1731
Q Serve(g_s), s	15.1	0.0	3.0	0.5	0.0	2.4	0.5	0.0	32.5	0.5	0.0	32.5
Cycle Q Clear(g_c), s	17.0	0.0	3.0	3.0	0.0	2.4	32.5	0.0	32.5	32.5	0.0	32.5
Prop In Lane	1.00		0.58	1.00		0.73	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	469	0	530	406	0	455	125	0	978	124	0	938
V/C Ratio(X)	0.97	0.00	0.23	0.03	0.00	0.18	0.37	0.00	1.14	0.14	0.00	1.00
Avail Cap(c_a), veh/h	469	0	530	406	0	455	125	0	978	124	0	938
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	0.00	1.00	0.72	0.00	0.72
Uniform Delay (d), s/veh	24.2	0.0	16.7	17.5	0.0	16.5	30.0	0.0	13.8	29.9	0.0	13.8
Incr Delay (d2), s/veh	34.6	0.0	0.2	0.0	0.0	0.2	8.1	0.0	77.3	1.6	0.0	25.8
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	16.1	0.0	2.2	0.2	0.0	1.5	1.6	0.0	43.4	0.5	0.0	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.8	0.0	16.9	17.5	0.0	16.7	38.1	0.0	91.1	31.6	0.0	39.7
LnGrp LOS	E		B	B		B	D		F	C		D
Approach Vol, veh/h	579					95		1166		958		
Approach Delay, s/veh	50.0					16.8		89.0		39.5		
Approach LOS	D					B		F		D		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		22.0		38.0		22.0					
Change Period (Y+Rc), s	6.5		6.0		6.5		6.0					
Max Green Setting (Gmax), s	31.5		16.0		31.5		16.0					
Max Q Clear Time (g_c+l1), s	34.5		19.5		34.5		5.5					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.3					
Intersection Summary												
HCM 7th Control Delay, s/veh	61.5											
HCM 7th LOS	E											

2030 Projected (Build) W CIP Conditions

Timing Plan: P.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	744	100	34	23	400	365	56	2	233	51
Future Volume (vph)	0	0	744	100	34	23	400	365	56	2	233	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	14	12	14	12	11	11	11	11	12
Grade (%)		0%			-5%			2%			-2%	
Storage Length (ft)	0		0	0		0	700		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Satd. Flow (prot)	0	0	1512	0	1522	0	1597	1507	0	1670	1621	0
Flt Permitted					0.969		0.335			0.513		
Satd. Flow (perm)	0	0	1512	0	1522	0	563	1507	0	902	1621	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			360		9			16			12	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		424			1042			715			1106	
Travel Time (s)		11.6			23.7			12.2			18.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	3%	15%	26%	0%	6%	7%	45%	0%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	759	0	160	0	408	429	0	2	290	0
Turn Type			pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases			5		8		5	2			6	
Permitted Phases			4	8			2			6		
Detector Phase			5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)			11.0	11.0	11.0		11.0	16.0		16.0	16.0	
Total Split (s)			30.0	30.0	30.0		30.0	60.0		30.0	30.0	
Total Split (%)			33.3%	33.3%	33.3%		33.3%	66.7%		33.3%	33.3%	
Maximum Green (s)			24.0	24.0	24.0		24.0	54.0		24.0	24.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)			2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)			-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)			5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode			None	None	None		None	Min		Min	Min	
Walk Time (s)												

Lanes, Volumes, Timings
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Synchro 12 Report
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2030 Projected (Build) W CIP Conditions
 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

Timing Plan: P.M. Peak Hour

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	30.0
Total Split (%)	33%
Maximum Green (s)	24.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	

2030 Projected (Build) W CIP Conditions

Timing Plan: P.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Flash Don't Walk (s)																
Pedestrian Calls (#/hr)																
Act Effct Green (s)			40.8			13.3			45.1			45.1			17.6	17.6
Actuated g/C Ratio			0.59			0.19			0.66			0.66			0.26	0.26
v/c Ratio			0.73			0.53			0.58			0.43			0.01	0.69
Control Delay (s/veh)			10.2			32.2			9.7			7.5			21.0	32.5
Queue Delay			0.0			0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)			10.2			32.2			9.7			7.5			21.0	32.5
LOS			B			C			A			A			C	C
Approach Delay (s/veh)			10.2			32.2			8.6						32.4	
Approach LOS			B			C			A						C	
Queue Length 50th (ft)			92			72			68			72			1	115
Queue Length 95th (ft)			285			154			154			165			6	221
Internal Link Dist (ft)			344			962			635						1026	
Turn Bay Length (ft)									700						100	
Base Capacity (vph)			1106			581			760			1216			341	620
Starvation Cap Reductn			0			0			0			0			0	0
Spillback Cap Reductn			0			0			0			0			0	0
Storage Cap Reductn			0			0			0			0			0	0
Reduced v/c Ratio			0.69			0.28			0.54			0.35			0.01	0.47

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 68.8

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 14.4

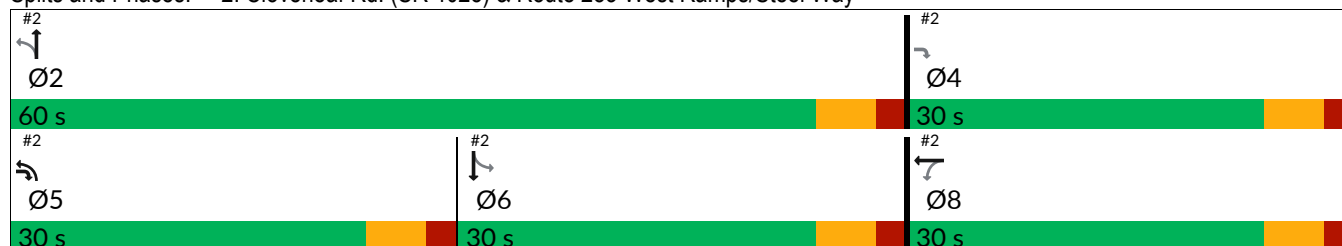
Intersection LOS: B

Intersection Capacity Utilization 86.6%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way



Lane Group	Ø4
Flash Don't Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 7th Edition methodology does not support Non-NEMA phasing.

2030 Projected (Build) W CIP Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	172	649	0	0	1081
Future Volume (vph)	0	172	649	0	0	1081
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	10	11	11	11	11
Grade (%)	-2%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	831		554			715
Travel Time (s)	22.7		9.4			12.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	12%	6%	0%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	181	683	0	0	1138
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2030 Projected (Build) W CIP Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	172	649	0	0	1081
Future Vol, veh/h	0	172	649	0	0	1081
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	-2
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	12	6	0	0	4
Mvmt Flow	0	181	683	0	0	1138
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	683	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	679	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	679	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	12.22	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBTWBLn1		SBT			
Capacity (veh/h)	- 679		-			
HCM Lane V/C Ratio	- 0.267		-			
HCM Ctrl Dly (s/v)	- 12.2		-			
HCM Lane LOS	- B		-			
HCM 95th %tile Q(veh)	- 1.1		-			

2030 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

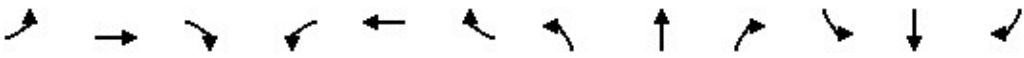
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	0	639	0	0	0	0	570	564	145	944	0
Future Volume (vph)	90	0	639	0	0	0	0	570	564	145	944	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	200		0
Storage Lanes	0		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			2459			554	
Travel Time (s)		24.7			20.7			41.9			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	1%	0%	0%	0%	0%	6%	3%	10%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	652	0	0	0	0	582	576	148	963	0
Turn Type	Prot	NA	Perm					NA	Perm	Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases			4						2	6		
Detector Phase	7	4	4					2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					10.0	10.0	10.0	10.0	
Minimum Split (s)	11.0	11.0	11.0					16.0	16.0	16.0	16.0	
Total Split (s)	23.0	23.0	23.0					37.0	37.0	37.0	37.0	
Total Split (%)	38.3%	38.3%	38.3%					61.7%	61.7%	61.7%	61.7%	
Maximum Green (s)	17.0	17.0	17.0					31.0	31.0	31.0	31.0	
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0					-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Recall Mode	None	None	None					Min	Min	Min	Min	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.20	1.17					0.66	0.57	0.53	1.01	
Control Delay (s/veh)		17.2	116.2					14.7	4.0	17.8	50.1	

Lanes, Volumes, Timings
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Synchro 12 Report
08/13/2026

2030 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay (s/veh)		17.2	116.2					14.7	4.0	17.8	50.1	
Queue Length 50th (ft)		25	~266					144	11	34	~336	
Queue Length 95th (ft)		55	#451					249	56	94	#591	
Internal Link Dist (ft)		826			679			2379			474	
Turn Bay Length (ft)			475						75	200		
Base Capacity (vph)		455	557					880	1007	280	950	
Starvation Cap Reductn		0	0					0	0	0	0	
Spillback Cap Reductn		0	0					0	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.20	1.17					0.66	0.57	0.53	1.01	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

#4 ↑ Ø2	#4 → Ø4
37 s	23 s
#4 ↘ Ø6	#4 ↘ Ø7
37 s	23 s

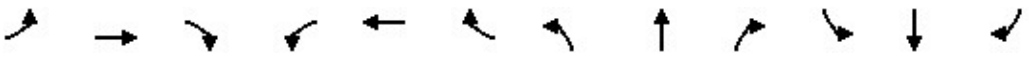
2030 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	639	0	0	0	0	570	564	145	944	0
Future Volume (veh/h)	90	0	639	0	0	0	0	570	564	145	944	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1659	1911	1896				0	1752	1795	1732	1846	0
Adj Flow Rate, veh/h	92	0	0				0	582	0	148	963	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, %	17	0	1				0	6	3	10	2	0
Cap, veh/h	192	0					0	1126		540	1186	0
Arrive On Green	0.11	0.00	0.00				0.00	0.64	0.00	0.64	0.64	0.00
Sat Flow, veh/h	1820	0	1607				0	1752	1521	771	1846	0
Grp Volume(v), veh/h	92	0	0				0	582	0	148	963	0
Grp Sat Flow(s),veh/h/ln	1820	0	1607				0	1752	1521	771	1846	0
Q Serve(g_s), s	1.9	0.0	0.0				0.0	7.1	0.0	5.0	15.5	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.0				0.0	7.1	0.0	12.1	15.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	192	0					0	1126		540	1186	0
V/C Ratio(X)	0.48	0.00					0.00	0.52		0.27	0.81	0.00
Avail Cap(c_a), veh/h	825	0					0	1412		666	1488	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	16.7	0.0	0.0				0.0	3.8	0.0	7.0	5.3	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0				0.0	0.4	0.0	0.3	2.8	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	1.4	0.0	0.0				0.0	1.1	0.0	0.9	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.6	0.0	0.0				0.0	4.2	0.0	7.3	8.1	0.0
LnGrp LOS	B							A		A	A	
Approach Vol, veh/h	92							582		1111		
Approach Delay, s/veh	18.6							4.2		8.0		
Approach LOS	B							A		A		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	30.5			9.2			30.5					
Change Period (Y+Rc), s	6.0			6.0			6.0					
Max Green Setting (Gmax), s	31.0			17.0			31.0					
Max Q Clear Time (g_c+l1), s	9.6			4.4			18.0					
Green Ext Time (p_c), s	3.6			0.3			6.5					
Intersection Summary												
HCM 7th Control Delay, s/veh				7.3								
HCM 7th LOS				A								
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	139	0	28	92	0	97	875	0	63	1577	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	13.0	13.0		13.0	13.0		47.0	47.0		47.0	47.0	
Total Split (%)	21.7%	21.7%		21.7%	21.7%		78.3%	78.3%		78.3%	78.3%	
Maximum Green (s)	7.0	7.0		7.0	7.0		40.5	40.5		40.5	40.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.78	0.46		0.19	0.36		0.86	0.75		0.23	1.36	
Control Delay (s/veh)	400.9	16.6		26.7	22.4		72.1	11.3		5.8	182.2	

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	400.9	16.6		26.7	22.4		72.1	11.3		5.8	182.2	
Queue Length 50th (ft)	~159	18		9	22		21	164		7	~801	
Queue Length 95th (ft)	#288	62		30	59		#71	309		21	#1049	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	158	304		147	256		113	1162		277	1163	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.78	0.46		0.19	0.36		0.86	0.75		0.23	1.36	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 	#6 
Ø2 (R)	Ø4
47 s	13 s
#6 	#6 
Ø6 (R)	Ø8
47 s	13 s

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	282	54	72	28	65	12	97	858	16	63	1120	441
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	262	107	143	213	199	37	123	1246	23	391	894	352
Arrive On Green	0.13	0.13	0.12	0.13	0.13	0.12	0.69	0.69	0.68	0.69	0.69	0.68
Sat Flow, veh/h	1394	803	1070	1183	1494	276	337	1801	34	646	1292	509
Grp Volume(v), veh/h	282	0	126	28	0	77	97	0	874	63	0	1561
Grp Sat Flow(s),veh/h/ln	1394	0	1873	1183	0	1770	337	0	1835	646	0	1801
Q Serve(g_s), s	6.1	0.0	3.8	1.3	0.0	2.4	0.5	0.0	16.8	3.8	0.0	41.5
Cycle Q Clear(g_c), s	8.0	0.0	3.8	4.6	0.0	2.4	41.5	0.0	16.8	20.1	0.0	41.5
Prop In Lane	1.00		0.57	1.00		0.16	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	262	0	250	213	0	236	123	0	1269	391	0	1245
V/C Ratio(X)	1.07	0.00	0.50	0.13	0.00	0.33	0.79	0.00	0.69	0.16	0.00	1.25
Avail Cap(c_a), veh/h	262	0	250	213	0	236	123	0	1269	391	0	1245
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	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	28.3	0.0	24.4	26.1	0.0	23.6	30.0	0.0	5.5	11.2	0.0	9.4
Incr Delay (d2), s/veh	76.8	0.0	1.6	0.3	0.0	0.8	39.0	0.0	3.1	0.1	0.0	114.7
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	14.5	0.0	3.0	0.7	0.0	1.7	4.7	0.0	7.4	0.8	0.0	61.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	105.1	0.0	26.1	26.4	0.0	24.4	69.0	0.0	8.5	11.3	0.0	124.1
LnGrp LOS	F		C	C		C	E		A	B		F
Approach Vol, veh/h	408			105			971			1624		
Approach Delay, s/veh	80.7			24.9			14.6			119.7		
Approach LOS	F			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	47.0			13.0			47.0			13.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	40.5			7.0			40.5			7.0		
Max Q Clear Time (g_c+l1), s	18.8			10.5			43.5			7.1		
Green Ext Time (p_c), s	17.8			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	78.5											
HCM 7th LOS	E											



2030 Projected (Build) Conditions W IMP Supplemental



2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	430	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (vph)	430	48	96	11	21	71	43	1034	19	16	710	192
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	457	153	0	12	98	0	46	1120	0	17	959	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	39.0	39.0		39.0	39.0		21.0	21.0		21.0	21.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		14.5	14.5		14.5	14.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.80	0.19		0.02	0.13		0.41	1.05		0.15	0.90	
Control Delay (s/veh)	24.0	6.9		6.1	7.1		34.9	67.7		21.5	36.1	

Lanes, Volumes, Timings
pam.syn

Synchro 12 Report
08/19/2026

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	24.0	6.9		6.1	7.1		34.9	67.7		21.5	36.1	
Queue Length 50th (ft)	119	23		2	16		13	~280		4	~188	
Queue Length 95th (ft)	207	43		7	32		#59	#436		21	#358	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	670	937		618	898		113	1068		113	1060	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.68	0.16		0.02	0.11		0.41	1.05		0.15	0.90	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 		#6 
Ø2 (R)		Ø4
21 s		39 s
#6 		#6 
Ø6 (R)		Ø8
21 s		39 s

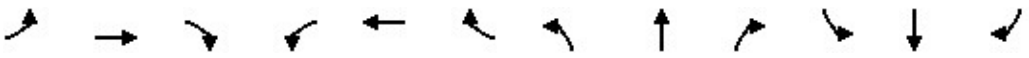
2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	430	48	96	11	21	71	43	1034	19	16	710	192
Future Volume (veh/h)	430	48	96	11	21	71	43	1034	19	16	710	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	457	51	71	12	22	61	46	1100	20	17	755	186
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	658	322	448	570	176	487	233	1428	26	193	1118	275
Arrive On Green	0.41	0.41	0.40	0.41	0.41	0.40	0.41	0.41	0.40	0.41	0.41	0.40
Sat Flow, veh/h	1387	782	1088	1187	426	1181	609	3460	63	524	2708	667
Grp Volume(v), veh/h	457	0	122	12	0	83	46	547	573	17	475	466
Grp Sat Flow(s),veh/h/ln	1387	0	1870	1187	0	1607	609	1722	1801	524	1703	1673
Q Serve(g_s), s	18.1	0.0	2.5	0.4	0.0	2.0	4.0	16.4	16.4	1.7	13.6	13.7
Cycle Q Clear(g_c), s	19.5	0.0	2.5	2.4	0.0	2.0	17.6	16.4	16.4	18.2	13.6	13.7
Prop In Lane	1.00		0.58	1.00		0.73	1.00		0.03	1.00		0.40
Lane Grp Cap(c), veh/h	658	0	771	570	0	662	233	711	744	193	703	691
V/C Ratio(X)	0.69	0.00	0.16	0.02	0.00	0.13	0.20	0.77	0.77	0.09	0.68	0.68
Avail Cap(c_a), veh/h	872	0	1060	753	0	911	233	711	744	193	703	691
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	0.72	0.72	0.72
Uniform Delay (d), s/veh	16.8	0.0	11.3	11.7	0.0	11.2	21.5	15.2	15.2	23.0	14.3	14.5
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.0	0.0	0.1	1.9	7.9	7.6	0.6	3.7	3.8
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	8.8	0.0	1.6	0.2	0.0	1.1	1.1	11.0	11.3	0.4	8.1	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	0.0	11.4	11.7	0.0	11.3	23.4	23.0	22.7	23.6	18.1	18.3
LnGrp LOS	B		B	B		B	C	C	C	C	B	B
Approach Vol, veh/h	579				95			1166			958	
Approach Delay, s/veh	16.9				11.3			22.9			18.3	
Approach LOS	B				B			C			B	
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	30.3			29.7			30.3			29.7		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	14.5			33.0			14.5			33.0		
Max Q Clear Time (g_c+l1), s	18.9			22.0			16.1			4.9		
Green Ext Time (p_c), s	0.0			1.7			0.0			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	19.7											
HCM 7th LOS	B											

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (vph)	268	51	81	27	62	26	92	815	16	60	1064	434
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	139	0	28	92	0	97	875	0	63	1577	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	19.0	19.0		19.0	19.0		36.0	36.0		36.0	36.0	
Total Split (%)	34.5%	34.5%		34.5%	34.5%		65.5%	65.5%		65.5%	65.5%	
Maximum Green (s)	13.0	13.0		13.0	13.0		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.93	0.28		0.10	0.20		0.79	0.49		0.23	0.87	
Control Delay (s/veh)	62.9	10.6		16.9	13.6		58.9	8.7		9.0	16.4	

Lanes, Volumes, Timings
ppm.syn

Synchro 12 Report
08/19/2026

2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	62.9	10.6		16.9	13.6		58.9	8.7		9.0	16.4	
Queue Length 50th (ft)	91	16		7	16		22	84		10	188	
Queue Length 95th (ft)	#217	53		23	46		#102	124		29	#364	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	302	495		281	465		123	1771		270	1815	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.93	0.28		0.10	0.20		0.79	0.49		0.23	0.87	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2030 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Future Volume (veh/h)	268	51	81	27	62	26	92	815	16	60	1064	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	282	54	72	28	65	12	97	858	16	63	1120	441
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	451	204	272	379	380	70	196	1948	36	396	1408	541
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.55	0.55	0.54	0.55	0.55	0.54
Sat Flow, veh/h	1394	803	1070	1183	1494	276	337	3512	65	646	2539	976
Grp Volume(v), veh/h	282	0	126	28	0	77	97	427	447	63	785	776
Grp Sat Flow(s),veh/h/ln	1394	0	1873	1183	0	1770	337	1749	1829	646	1798	1717
Q Serve(g_s), s	10.7	0.0	3.0	1.1	0.0	1.9	10.6	7.9	7.9	3.5	19.0	20.4
Cycle Q Clear(g_c), s	12.1	0.0	3.0	3.5	0.0	1.9	30.5	7.9	7.9	11.4	19.0	20.4
Prop In Lane	1.00		0.57	1.00		0.16	1.00		0.04	1.00		0.57
Lane Grp Cap(c), veh/h	451	0	477	379	0	451	196	970	1014	396	997	952
V/C Ratio(X)	0.63	0.00	0.26	0.07	0.00	0.17	0.49	0.44	0.44	0.16	0.79	0.82
Avail Cap(c_a), veh/h	451	0	477	379	0	451	196	970	1014	396	997	952
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	0.09	0.09	0.09
Uniform Delay (d), s/veh	20.5	0.0	16.6	17.6	0.0	16.0	23.9	7.2	7.2	10.6	9.7	10.2
Incr Delay (d2), s/veh	2.7	0.0	0.3	0.1	0.0	0.2	8.7	1.5	1.4	0.1	0.6	0.7
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	6.1	0.0	2.1	0.5	0.0	1.2	2.9	4.2	4.4	0.7	6.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.2	0.0	16.9	17.7	0.0	16.2	32.6	8.7	8.6	10.7	10.3	11.0
LnGrp LOS	C		B	B		B	C	A	A	B	B	B
Approach Vol, veh/h	408			105			971			1624		
Approach Delay, s/veh	21.2			16.6			11.0			10.6		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	36.0			19.0			36.0			19.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	29.5			13.0			29.5			13.0		
Max Q Clear Time (g_c+l1), s	10.4			14.6			22.4			6.0		
Green Ext Time (p_c), s	14.6			0.0			7.0			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.4											
HCM 7th LOS	B											



2035 Base (No-Build) Conditions



1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	44	6	191	16	22	263
Future Volume (vph)	44	6	191	16	22	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4452		1084			881
Travel Time (s)	75.9		18.5			17.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	19%	27%	24%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	225	0	0	310
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	6	191	16	22	263
Future Vol, veh/h	44	6	191	16	22	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	0	19	27	24	8
Mvmt Flow	48	7	208	17	24	286

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	550	216	0
Stage 1	216	-	-
Stage 2	334	-	-
Critical Hdwy	6.37	6.1	-
Critical Hdwy Stg 1	5.37	-	-
Critical Hdwy Stg 2	5.37	-	-
Follow-up Hdwy	3.2	3.1	-
Pot Cap-1 Maneuver	537	882	-
Stage 1	896	-	-
Stage 2	790	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	521	882	-
Mov Cap-2 Maneuver	521	-	-
Stage 1	868	-	-
Stage 2	790	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.29	0	0.69
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	548	139
HCM Lane V/C Ratio	-	-	0.099	0.026
HCM Ctrl Dly (s/v)	-	-	12.3	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

2035 Base (No-Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	21	1	191	79	17	315
Future Volume (vph)	21	1	191	79	17	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1084
Travel Time (s)	23.7		12.2			18.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	40%	0%	21%	0%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	290	0	0	357
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	1	191	79	17	315
Future Vol, veh/h	21	1	191	79	17	315
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	40	0	21	0	0	11
Mvmt Flow	23	1	205	85	18	339

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	623	248	0
Stage 1	248	-	-
Stage 2	375	-	-
Critical Hdwy	5.8	5.7	-
Critical Hdwy Stg 1	4.8	-	-
Critical Hdwy Stg 2	4.8	-	-
Follow-up Hdwy	3.4	3.1	-
Pot Cap-1 Maneuver	513	871	-
Stage 1	853	-	-
Stage 2	762	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	501	871	-
Mov Cap-2 Maneuver	501	-	-
Stage 1	833	-	-
Stage 2	762	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.39	0	0.45
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	511	92
HCM Lane V/C Ratio	-	-	0.046	0.019
HCM Ctrl Dly (s/v)	-	-	12.4	8.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

2035 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	444	0	108	686	181	0	0	243	77
Future Volume (vph)	0	0	0	444	0	108	686	181	0	0	243	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	15%	4%	17%	0%	0%	14%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	477	116	738	195	0	0	261	83
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				32.5	32.5	32.5	35.0	70.0			35.0	35.0
Total Split (%)				31.7%	31.7%	31.7%	34.1%	68.3%			34.1%	34.1%
Maximum Green (s)				27.0	27.0	27.0	29.0	64.0			29.0	29.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.02	0.25	1.14	0.22			0.76	0.23
Control Delay (s/veh)					81.6	7.0	99.8	9.2			48.7	7.0

2035 Base (No-Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					81.6	7.0	99.8	9.2			48.7	7.0
Queue Length 50th (ft)					~290	0	~433	56			161	0
Queue Length 95th (ft)					#558	47	#697	93			255	35
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					468	457	649	1026			496	490
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.02	0.25	1.14	0.19			0.53	0.17

Intersection Summary

Area Type: Other

Cycle Length: 102.5

Actuated Cycle Length: 93.6

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

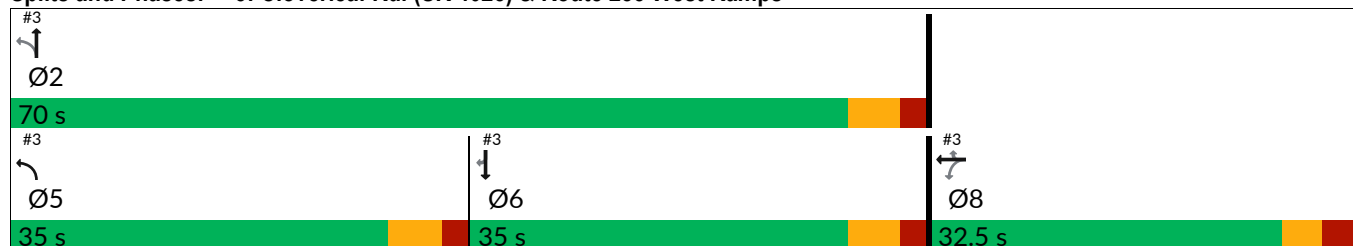
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2035 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	444	0	108	686	181	0	0	243	77
Future Volume (veh/h)	0	0	0	444	0	108	686	181	0	0	243	77
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1775	1875	1661	1722	1539	0	0	1675	1704
Adj Flow Rate, veh/h				477	0	0	738	195	0	0	261	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				7	0	15	4	17	0	0	14	12
Cap, veh/h				525	0		694	927	0	0	373	
Arrive On Green				0.28	0.00	0.00	0.33	0.60	0.00	0.00	0.22	0.00
Sat Flow, veh/h				1785	0	1408	1640	1539	0	0	1675	1444
Grp Volume(v), veh/h				477	0	0	738	195	0	0	261	0
Grp Sat Flow(s),veh/h/ln				1785	0	1408	1640	1539	0	0	1675	1444
Q Serve(g_s), s				23.7	0.0	0.0	30.0	5.3	0.0	0.0	13.2	0.0
Cycle Q Clear(g_c), s				23.7	0.0	0.0	30.0	5.3	0.0	0.0	13.2	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				525	0		694	927	0	0	373	
V/C Ratio(X)				0.91	0.00		1.06	0.21	0.00	0.00	0.70	
Avail Cap(c_a), veh/h				543	0		694	1086	0	0	546	
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				31.8	0.0	0.0	18.2	8.3	0.0	0.0	33.0	0.0
Incr Delay (d2), s/veh				18.8	0.0	0.0	52.4	0.4	0.0	0.0	8.3	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				18.8	0.0	0.0	28.2	2.9	0.0	0.0	10.0	0.0
Unsig. Movement Delay, s/veh						8.50						
LnGrp Delay(d), s/veh				50.6	0.0	8.5	70.6	8.7	0.0	0.0	41.3	0.0
LnGrp LOS				D		A	F	A			D	
Approach Vol, veh/h					562			933			261	
Approach Delay, s/veh					44.3			57.7			41.3	
Approach LOS					D			E			D	
Timer - Assigned Phs	2			5		6	8					
Phs Duration (G+Y+Rc), s	60.5			35.0		25.5	31.6					
Change Period (Y+Rc), s	6.0			6.0		6.0	5.5					
Max Green Setting (Gmax), s	64.0			29.0		29.0	27.0					
Max Q Clear Time (g_c+I1), s	7.8			32.5		15.7	25.7					
Green Ext Time (p_c), s	5.5			0.0		3.8	0.4					
Intersection Summary												
HCM 7th Control Delay, s/veh				50.9								
HCM 7th LOS				D								
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	0	371	0	0	0	0	819	717	133	555	0
Future Volume (vph)	34	0	371	0	0	0	0	819	717	133	555	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	22%	0%	7%	0%	0%	0%	0%	5%	3%	12%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	0	417	0	0	0	0	920	806	149	624	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2035 Base (No-Build) Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↑	↱	↰	↑	
Traffic Vol, veh/h	34	0	371	0	0	0	0	819	717	133	555	0
Future Vol, veh/h	34	0	371	0	0	0	0	819	717	133	555	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	22	0	7	0	0	0	0	5	3	12	6	0
Mvmt Flow	38	0	417	0	0	0	0	920	806	149	624	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1843	-	624	-	-	-	-	0	0	920	0	0
Stage 1	922	-	-	-	-	-	-	-	-	-	-	-
Stage 2	920	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.42	-	6.17	-	-	-	-	-	-	4.4	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.2	-	3.2	-	-	-	-	-	-	3.1	-	-
Pot Cap-1 Maneuver	86	0	503	0	0	0	0	-	-	546	-	0
Stage 1	411	0	-	0	0	0	0	-	-	-	-	0
Stage 2	412	0	-	0	0	0	0	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	62	0	503	-	0	-	-	-	-	546	-	-
Mov Cap-2 Maneuver	62	0	-	-	0	-	-	-	-	-	-	-
Stage 1	299	0	-	-	0	-	-	-	-	-	-	-
Stage 2	412	0	-	-	0	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Ctrl Dly, s/v	45.7				0		2.72					
HCM LOS	E		-									
Minor Lane/Major Mvmt	NBT		NBR		EBLn1		EBLn2		SBL		SBT	
Capacity (veh/h)	-		-		62		503		546		-	
HCM Lane V/C Ratio	-		-		0.615		0.828		0.274		-	
HCM Ctrl Dly (s/v)	-		-		129.7		38		14.1		-	
HCM Lane LOS	-		-		F		E		B		-	
HCM 95th %tile Q(veh)	-		-		2.6		8.2		1.1		-	

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	8	1532	908	18
Future Volume (vph)	4	9	8	1532	908	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	11%	0%	5%	9%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	1656	995	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	9	8	1532	908	18
Future Vol, veh/h	4	9	8	1532	908	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	11	0	5	9	6
Mvmt Flow	4	10	9	1647	976	19
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2651	986	996	0	-	0
Stage 1	986	-	-	-	-	-
Stage 2	1665	-	-	-	-	-
Critical Hdwy	6.4	6.31	4.3	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3	3.2	3	-	-	-
Pot Cap-1 Maneuver	27	300	538	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	22	300	538	-	-	-
Mov Cap-2 Maneuver	22	-	-	-	-	-
Stage 1	325	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Approach	EB	NB		SB		
HCM Ctrl Dly, s/v	81.26	0.06		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	9	-	61	-	-	
HCM Lane V/C Ratio	0.016	-	0.23	-	-	
HCM Ctrl Dly (s/v)	11.8	0	81.3	-	-	
HCM Lane LOS	B	A	F	-	-	
HCM 95th %tile Q(veh)	0	-	0.8	-	-	

2035 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	434	45	98	7	21	72	43	1030	7	17	715	195
Future Volume (vph)	434	45	98	7	21	72	43	1030	7	17	715	195
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	462	152	0	7	99	0	46	1103	0	18	968	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.0	21.0		21.0	21.0		36.5	36.5		36.5	36.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.25	0.26		0.02	0.18		0.47	1.25		0.18	1.13	
Control Delay (s/veh)	157.1	8.3		16.9	8.2		31.0	143.1		14.1	92.9	

2035 Base (No-Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	157.1	8.3		16.9	8.2		31.0	143.1		14.1	92.9	
Queue Length 50th (ft)	~255	14		2	8		11	~648		4	~535	
Queue Length 95th (ft)	#424	53		10	39		#59	#890		17	#776	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	371	584		343	545		97	881		98	856	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.25	0.26		0.02	0.18		0.47	1.25		0.18	1.13	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2035 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	434	45	98	7	21	72	43	1030	7	17	715	195
Future Volume (veh/h)	434	45	98	7	21	72	43	1030	7	17	715	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	462	48	73	7	22	62	46	1096	7	18	761	189
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	495	232	353	428	132	373	107	964	6	107	743	184
Arrive On Green	0.31	0.31	0.30	0.31	0.31	0.30	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1385	739	1124	1189	421	1186	604	1799	11	533	1386	344
Grp Volume(v), veh/h	462	0	121	7	0	84	46	0	1103	18	0	950
Grp Sat Flow(s),veh/h/ln	1385	0	1863	1189	0	1606	604	0	1810	533	0	1731
Q Serve(g_s), s	19.8	0.0	3.4	0.3	0.0	2.7	0.5	0.0	37.5	0.5	0.0	37.5
Cycle Q Clear(g_c), s	22.0	0.0	3.4	3.2	0.0	2.7	37.5	0.0	37.5	37.5	0.0	37.5
Prop In Lane	1.00		0.60	1.00		0.74	1.00		0.01	1.00		0.20
Lane Grp Cap(c), veh/h	495	0	586	428	0	505	107	0	970	107	0	927
V/C Ratio(X)	0.93	0.00	0.21	0.02	0.00	0.17	0.43	0.00	1.14	0.17	0.00	1.02
Avail Cap(c_a), veh/h	495	0	586	428	0	505	107	0	970	107	0	927
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	17.8	18.6	0.0	17.6	35.0	0.0	16.3	34.9	0.0	16.3
Incr Delay (d2), s/veh	24.9	0.0	0.2	0.0	0.0	0.2	12.1	0.0	74.6	3.4	0.0	36.0
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	16.4	0.0	2.5	0.1	0.0	1.7	2.0	0.0	45.4	0.7	0.0	28.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.5	0.0	18.0	18.6	0.0	17.8	47.0	0.0	90.8	38.3	0.0	52.3
LnGrp LOS	D		B	B		B	D		F	D		F
Approach Vol, veh/h	583			91			1149			968		
Approach Delay, s/veh	44.5			17.9			89.1			52.1		
Approach LOS	D			B			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.0			27.0			43.0			27.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	36.5			21.0			36.5			21.0		
Max Q Clear Time (g_c+l1), s	39.5			24.5			39.5			5.7		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	64.6											
HCM 7th LOS	E											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	384	1	30	227	4	0	4	65	40	4	24
Future Volume (vph)	13	384	1	30	227	4	0	4	65	40	4	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	2%	0%	5%	1%	0%	0%	0%	3%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	437	0	34	263	0	0	79	0	0	77	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	384	1	30	227	4	0	4	65	40	4	24
Future Vol, veh/h	13	384	1	30	227	4	0	4	65	40	4	24
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175			150								
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	17	2	0	5	1	0	0	0	3	5	0	4
Mvmt Flow	15	436	1	34	258	5	0	5	74	45	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	264	0	0	438	0	0	795	798	437	798	796	261
Stage 1	-	-	-	-	-	-	466	466	-	329	329	-
Stage 2	-	-	-	-	-	-	328	332	-	468	467	-
Critical Hdwy	4.5	-	-	4.4	-	-	7.3	6.7	6.33	6.6	5.9	5.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Follow-up Hdwy	3.2	-	-	3	-	-	3	4	3.1	3	4	3.1
Pot Cap-1 Maneuver	908	-	-	839	-	-	327	307	646	381	368	843
Stage 1	-	-	-	-	-	-	640	551	-	826	686	-
Stage 2	-	-	-	-	-	-	772	636	-	704	611	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	907	-	-	839	-	-	295	290	646	313	347	842
Mov Cap-2 Maneuver	-	-	-	-	-	-	295	290	-	313	347	-
Stage 1	-	-	-	-	-	-	630	542	-	791	658	-
Stage 2	-	-	-	-	-	-	712	610	-	608	601	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.3	1.09	11.86	15.97
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	603	907	-	-	839	-	-	405
HCM Lane V/C Ratio	0.13	0.016	-	-	0.041	-	-	0.191
HCM Ctrl Dly (s/v)	11.9	9	-	-	9.5	-	-	16
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	32	4	23	45	2	39
Future Volume (vph)	32	4	23	45	2	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4452			1252	852	
Travel Time (s)	75.9			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	19%	7%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	0	92	56	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	4	23	45	2	39
Future Vol, veh/h	32	4	23	45	2	39
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, %	-2	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	0	19	7	0	5
Mvmt Flow	43	5	31	61	3	53

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	49
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.2
Pot Cap-1 Maneuver	-	-	1082
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1082
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.85	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1084	-	-	609	-
HCM Lane V/C Ratio	0.051	-	-	0.029	-
HCM Ctrl Dly (s/v)	8.5	-	-	8.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	108	181	0	0	0
Future Volume (vph)	0	108	181	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	184		118			92
Travel Time (s)	5.0		2.0			1.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	15%	17%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	116	195	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	108	181	0	0	0
Future Vol, veh/h	0	108	181	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	15	17	0	0	0
Mvmt Flow	0	116	195	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	195	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	1133	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1133	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.54	0	
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1
Capacity (veh/h)	- 1133
HCM Lane V/C Ratio	- 0.103
HCM Ctrl Dly (s/v)	- 8.5
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.3

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	16	334	51	20	229
Future Volume (vph)	16	16	334	51	20	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	4447		1057			908
Travel Time (s)	75.8		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	13%	5%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	409	0	0	265
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	16	334	51	20	229
Future Vol, veh/h	16	16	334	51	20	229
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	13	5	2	0	3
Mvmt Flow	17	17	355	54	21	244

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	669	382	0
Stage 1	382	-	-
Stage 2	286	-	-
Critical Hdwy	6.4	6.23	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.2	3.2	-
Pot Cap-1 Maneuver	455	685	-
Stage 1	748	-	-
Stage 2	829	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	442	685	-
Mov Cap-2 Maneuver	442	-	-
Stage 1	727	-	-
Stage 2	829	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.16	0	0.74
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	537	145
HCM Lane V/C Ratio	-	-	0.063	0.025
HCM Ctrl Dly (s/v)	-	-	12.2	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

2035 Base (No-Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	144	61	299	14	4	240
Future Volume (vph)	144	61	299	14	4	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	2%	11%	31%	25%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	0	418	0	0	325
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	144	61	299	14	4	240
Future Vol, veh/h	144	61	299	14	4	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	3	2	11	31	25	7
Mvmt Flow	192	81	399	19	5	320

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	739	408	0
Stage 1	408	-	-
Stage 2	331	-	-
Critical Hdwy	5.43	5.72	-
Critical Hdwy Stg 1	4.43	-	-
Critical Hdwy Stg 2	4.43	-	-
Follow-up Hdwy	3	3.1	-
Pot Cap-1 Maneuver	527	720	-
Stage 1	857	-	-
Stage 2	914	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	523	720	-
Mov Cap-2 Maneuver	523	-	-
Stage 1	850	-	-
Stage 2	914	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.02	0	0.16
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	569	30
HCM Lane V/C Ratio	-	-	0.48	0.007
HCM Ctrl Dly (s/v)	-	-	17	9.6
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	2.6	0

2035 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	761	0	150	415	236	0	0	254	51
Future Volume (vph)	0	0	0	761	0	150	415	236	0	0	254	51
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	3%	0%	6%	6%	7%	0%	0%	3%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	793	156	432	246	0	0	265	53
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				41.5	41.5	41.5	27.0	74.0			47.0	47.0
Total Split (%)				35.9%	35.9%	35.9%	23.4%	64.1%			40.7%	40.7%
Maximum Green (s)				36.0	36.0	36.0	21.0	68.0			41.0	41.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.23	0.25	0.89	0.31			0.74	0.15
Control Delay (s/veh)					144.9	4.9	38.4	14.6			47.4	3.9

2035 Base (No-Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					144.9	4.9	38.4	14.6			47.4	3.9
Queue Length 50th (ft)					~581	1	168	84			151	0
Queue Length 95th (ft)					#898	45	#294	128			237	16
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					645	633	488	1194			770	668
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.23	0.25	0.89	0.21			0.34	0.08

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 93.2

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

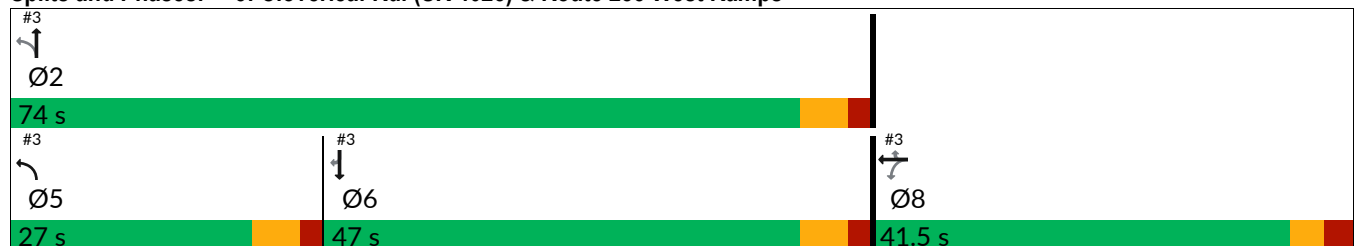
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2035 Base (No-Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	761	0	150	415	236	0	0	254	51
Future Volume (veh/h)	0	0	0	761	0	150	415	236	0	0	254	51
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1832	1875	1789	1693	1679	0	0	1832	1761
Adj Flow Rate, veh/h				793	0	0	432	246	0	0	265	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	6	6	7	0	0	3	8
Cap, veh/h				697	0		542	855	0	0	420	
Arrive On Green				0.38	0.00	0.00	0.23	0.51	0.00	0.00	0.23	0.00
Sat Flow, veh/h				1785	0	1516	1613	1679	0	0	1832	1492
Grp Volume(v), veh/h				793	0	0	432	246	0	0	265	0
Grp Sat Flow(s),veh/h/ln				1785	0	1516	1613	1679	0	0	1832	1492
Q Serve(g_s), s				37.0	0.0	0.0	17.9	8.0	0.0	0.0	12.4	0.0
Cycle Q Clear(g_c), s				37.0	0.0	0.0	17.9	8.0	0.0	0.0	12.4	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				697	0		542	855	0	0	420	
V/C Ratio(X)				1.14	0.00		0.80	0.29	0.00	0.00	0.63	
Avail Cap(c_a), veh/h				697	0		550	1223	0	0	812	
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				29.4	0.0	0.0	19.3	13.4	0.0	0.0	32.9	0.0
Incr Delay (d2), s/veh				78.8	0.0	0.0	7.9	0.7	0.0	0.0	5.6	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				43.4	0.0	0.0	11.7	5.3	0.0	0.0	9.9	0.0
Unsig. Movement Delay, s/veh						8.90						
LnGrp Delay(d), s/veh				108.2	0.0	8.9	27.2	14.0	0.0	0.0	38.5	0.0
LnGrp LOS				F		A	C	B			D	
Approach Vol, veh/h					890			678			265	
Approach Delay, s/veh					97.4			22.4			38.5	
Approach LOS					F			C			D	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	53.3			26.5			26.7			41.5		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	68.0			21.0			41.0			36.0		
Max Q Clear Time (g_c+I1), s	10.5			20.4			14.9			39.0		
Green Ext Time (p_c), s	7.2			0.1			5.9			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh			61.1									
HCM 7th LOS			E									
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	0	651	0	0	0	0	570	573	88	927	0
Future Volume (vph)	73	0	651	0	0	0	0	570	573	88	927	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	7%	0%	1%	0%	0%	0%	0%	6%	3%	2%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	74	0	664	0	0	0	0	582	585	90	946	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2035 Base (No-Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 107.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	0	651	0	0	0	0	570	573	88	927	0
Future Vol, veh/h	73	0	651	0	0	0	0	570	573	88	927	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	7	0	1	0	0	0	0	6	3	2	2	0
Mvmt Flow	74	0	664	0	0	0	0	582	585	90	946	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1707	- 946	- - - -	0 0 582 0 0
Stage 1	1126	- - - -	- - - -	- - - -
Stage 2	582	- - - -	- - - -	- - - -
Critical Hdwy	6.27	- 6.11	- - - -	- - 4.3 - -
Critical Hdwy Stg 1	5.27	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.27	- - - -	- - - -	- - - -
Follow-up Hdwy	3.1	- 3.1	- - - -	- - 3 - -
Pot Cap-1 Maneuver	113	0 ~ 341	0 0 0 0	- - 756 - 0
Stage 1	349	0 - 0 0 0 0	- - - -	- - - -
Stage 2	630	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	100	0 ~ 341	- 0 - -	- - 756 - -
Mov Cap-2 Maneuver	100	0 - - 0 - -	- - - -	- - - -
Stage 1	308	0 - - 0 - -	- - - -	- - - -
Stage 2	630	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 427.27		0	0.9
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	100	341	756	-
HCM Lane V/C Ratio	-	-	0.746	1.949	0.119	-
HCM Ctrl Dly (s/v)	-	-	107.8	\$ 463.1	10.4	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	3.9	45.9	0.4	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2035 Base (No-Build) Conditions
 5: Cloverleaf Rd. (SR 4025) & Merts Drive

Timing Plan: P.M. Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	13	4	1128	1576	1
Future Volume (vph)	16	13	4	1128	1576	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	0%	0%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	1191	1660	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	13	4	1128	1576	1
Future Vol, veh/h	16	13	4	1128	1576	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	13	0	0	4	3	0
Mvmt Flow	17	14	4	1187	1659	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2855	1659	1660
Stage 1	1659	-	-
Stage 2	1196	-	-
Critical Hdwy	6.53	6.2	4.3
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.1	3.1	3
Pot Cap-1 Maneuver	18	125	305
Stage 1	171	-	-
Stage 2	296	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	17	125	305
Mov Cap-2 Maneuver	17	-	-
Stage 1	164	-	-
Stage 2	296	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 415.98	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	28	-	-
HCM Lane V/C Ratio	0.014	-	1.107	-	-
HCM Ctrl Dly (s/v)	17	0	\$ 416	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0	-	3.6	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
+: Computation Not Defined *: All major volume in platoon

2035 Base (No-Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	51	82	13	59	26	93	821	13	62	1054	436
Future Volume (vph)	271	51	82	13	59	26	93	821	13	62	1054	436
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	285	140	0	14	89	0	98	878	0	65	1568	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	16.0	16.0		16.0	16.0		44.0	44.0		44.0	44.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	10.0	10.0		10.0	10.0		37.5	37.5		37.5	37.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.31	0.36		0.07	0.26		0.87	0.81		0.30	1.45	
Control Delay (s/veh)	194.2	12.9		21.4	18.1		75.0	16.4		9.1	226.2	

2035 Base (No-Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	194.2	12.9		21.4	18.1		75.0	16.4		9.1	226.2	
Queue Length 50th (ft)	~138	17		4	19		24	205		9	~829	
Queue Length 95th (ft)	#267	58		18	53		#73	#479		30	#1077	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	218	387		202	342		113	1079		220	1080	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.31	0.36		0.07	0.26		0.87	0.81		0.30	1.45	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 	#6 
Ø2 (R)	Ø4
44 s	16 s
#6 	#6 
Ø6 (R)	Ø8
44 s	16 s

6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	271	51	82	13	59	26	93	821	13	62	1054	436
Future Volume (veh/h)	271	51	82	13	59	26	93	821	13	62	1054	436
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	285	54	73	14	62	12	98	864	13	65	1109	443
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	338	146	197	276	272	53	123	1160	17	328	825	330
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.64	0.64	0.63	0.64	0.64	0.63
Sat Flow, veh/h	1398	796	1076	1182	1481	287	340	1809	27	645	1286	514
Grp Volume(v), veh/h	285	0	127	14	0	74	98	0	877	65	0	1552
Grp Sat Flow(s),veh/h/ln	1398	0	1872	1182	0	1768	340	0	1836	645	0	1800
Q Serve(g_s), s	9.4	0.0	3.6	0.6	0.0	2.1	0.5	0.0	19.7	4.6	0.0	38.5
Cycle Q Clear(g_c), s	11.0	0.0	3.6	3.7	0.0	2.1	38.5	0.0	19.7	23.7	0.0	38.5
Prop In Lane	1.00		0.57	1.00		0.16	1.00		0.01	1.00		0.29
Lane Grp Cap(c), veh/h	338	0	343	276	0	324	123	0	1178	328	0	1155
V/C Ratio(X)	0.84	0.00	0.37	0.05	0.00	0.23	0.80	0.00	0.74	0.20	0.00	1.34
Avail Cap(c_a), veh/h	338	0	343	276	0	324	123	0	1178	328	0	1155
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.4	0.0	21.7	22.9	0.0	21.0	30.0	0.0	7.4	15.3	0.0	10.9
Incr Delay (d2), s/veh	17.4	0.0	0.7	0.1	0.0	0.4	40.1	0.0	4.3	1.4	0.0	160.6
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	9.3	0.0	2.7	0.3	0.0	1.5	4.8	0.0	9.8	1.3	0.0	90.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.8	0.0	22.4	23.0	0.0	21.3	70.1	0.0	11.7	16.7	0.0	171.5
LnGrp LOS	D		C	C		C	E		B	B		F
Approach Vol, veh/h	412			88			975			1617		
Approach Delay, s/veh	37.2			21.6			17.5			165.3		
Approach LOS	D			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	44.0			16.0			44.0			16.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	37.5			10.0			37.5			10.0		
Max Q Clear Time (g_c+l1), s	21.7			13.5			40.5			6.2		
Green Ext Time (p_c), s	13.5			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	97.6											
HCM 7th LOS	F											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	381	4	115	391	43	1	8	53	18	8	17
Future Volume (vph)	24	381	4	115	391	43	1	8	53	18	8	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	1%	2%	0%	13%	3%	6%	13%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	427	0	128	482	0	0	69	0	0	48	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	381	4	115	391	43	1	8	53	18	8	17
Future Vol, veh/h	24	381	4	115	391	43	1	8	53	18	8	17
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	1	1	2	0	13	3	6	13	6
Mvmt Flow	27	423	4	128	434	48	1	9	59	20	9	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	428	0	0	1173	1218	427	1197	1196	459
Stage 1	-	-	-	-	-	-	479	479	-	715	715	-
Stage 2	-	-	-	-	-	-	694	739	-	482	481	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.3	6.83	6.33	6.56	6.03	5.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.117	3.1	3.1	4.117	3.2
Pot Cap-1 Maneuver	819	-	-	856	-	-	174	161	655	210	216	641
Stage 1	-	-	-	-	-	-	630	523	-	516	471	-
Stage 2	-	-	-	-	-	-	469	392	-	674	580	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	818	-	-	856	-	-	133	132	655	148	178	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	133	132	-	148	178	-
Stage 1	-	-	-	-	-	-	609	506	-	438	401	-
Stage 2	-	-	-	-	-	-	378	333	-	582	562	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.56	2.08	15.36	25.51
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	416	818	-	-	856	-	-	223
HCM Lane V/C Ratio	0.165	0.033	-	-	0.149	-	-	0.214
HCM Ctrl Dly (s/v)	15.4	9.6	-	-	9.9	-	-	25.5
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.5	-	-	0.8

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	72	6	45	31	4	35
Future Volume (vph)	72	6	45	31	4	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	4447			1252	852	
Travel Time (s)	75.8			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	15%	3%	25%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	0	86	45	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	6	45	31	4	35
Future Vol, veh/h	72	6	45	31	4	35
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, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	0	15	3	25	4
Mvmt Flow	82	7	51	35	5	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	89
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	1080
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1080
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	5.03	8.75
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1005	-	-	1059	-
HCM Lane V/C Ratio	0.044	-	-	0.047	-
HCM Ctrl Dly (s/v)	8.7	-	-	8.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	150	236	0	0	0
Future Volume (vph)	0	150	236	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	278		122			129
Travel Time (s)	7.6		2.1			2.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	6%	7%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	156	246	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2035 Base (No-Build) Conditions
 20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 3.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	150	236	0	0	0
Future Vol, veh/h	0	150	236	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	6	7	0	0	0
Mvmt Flow	0	156	246	0	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	246	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	1074	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1074	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.92	0	
HCM LOS	A		

Minor Lane/Major Mvmt	NBTWBLn1
Capacity (veh/h)	- 1074
HCM Lane V/C Ratio	- 0.145
HCM Ctrl Dly (s/v)	- 8.9
HCM Lane LOS	- A
HCM 95th %tile Q(veh)	- 0.5



2035 Projected (Build) Conditions



1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	9	191	69	31	263
Future Volume (vph)	60	9	191	69	31	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	1309		1084			881
Travel Time (s)	22.3		18.5			17.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	19%	27%	24%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	283	0	0	320
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	9	191	69	31	263
Future Vol, veh/h	60	9	191	69	31	263
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	17	0	19	27	24	8
Mvmt Flow	65	10	208	75	34	286

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	598	245	0	0	283
Stage 1	245	-	-	-	-
Stage 2	353	-	-	-	-
Critical Hdwy	6.37	6.1	-	-	4.5
Critical Hdwy Stg 1	5.37	-	-	-	-
Critical Hdwy Stg 2	5.37	-	-	-	-
Follow-up Hdwy	3.2	3.1	-	-	3.2
Pot Cap-1 Maneuver	503	850	-	-	894
Stage 1	869	-	-	-	-
Stage 2	774	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	481	850	-	-	894
Mov Cap-2 Maneuver	481	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	774	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.28	0	0.97
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	510	190
HCM Lane V/C Ratio	-	-	0.147	0.038
HCM Ctrl Dly (s/v)	-	-	13.3	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

2035 Projected (Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: A.M. Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	1	244	139	17	331
Future Volume (vph)	51	1	244	139	17	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1084
Travel Time (s)	23.7		12.2			18.5
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	54%	0%	21%	18%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	56	0	411	0	0	374
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	1	244	139	17	331
Future Vol, veh/h	51	1	244	139	17	331
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	54	0	21	18	0	11
Mvmt Flow	55	1	262	149	18	356

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	730	337	0	0	412
Stage 1	337	-	-	-	-
Stage 2	392	-	-	-	-
Critical Hdwy	5.94	5.7	-	-	4.3
Critical Hdwy Stg 1	4.94	-	-	-	-
Critical Hdwy Stg 2	4.94	-	-	-	-
Follow-up Hdwy	3.5	3.1	-	-	3
Pot Cap-1 Maneuver	431	785	-	-	867
Stage 1	760	-	-	-	-
Stage 2	722	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	420	785	-	-	867
Mov Cap-2 Maneuver	420	-	-	-	-
Stage 1	740	-	-	-	-
Stage 2	722	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.79	0	0.45
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	88
HCM Lane V/C Ratio	-	-	0.132	0.021
HCM Ctrl Dly (s/v)	-	-	14.8	9.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1

2035 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	444	0	159	686	243	0	0	274	92
Future Volume (vph)	0	0	0	444	0	159	686	243	0	0	274	92
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	7%	0%	18%	4%	17%	0%	0%	14%	19%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	477	171	738	261	0	0	295	99
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				32.5	32.5	32.5	35.0	70.0			35.0	35.0
Total Split (%)				31.7%	31.7%	31.7%	34.1%	68.3%			34.1%	34.1%
Maximum Green (s)				27.0	27.0	27.0	29.0	64.0			29.0	29.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.04	0.36	1.17	0.29			0.81	0.27
Control Delay (s/veh)					87.9	6.9	113.8	9.8			51.6	9.4

2035 Projected (Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					87.9	6.9	113.8	9.8			51.6	9.4
Queue Length 50th (ft)					~317	0	~463	78			187	5
Queue Length 95th (ft)					#558	57	#724	125			292	49
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					459	480	631	1006			486	457
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.04	0.36	1.17	0.26			0.61	0.22

Intersection Summary

Area Type: Other

Cycle Length: 102.5

Actuated Cycle Length: 95.4

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

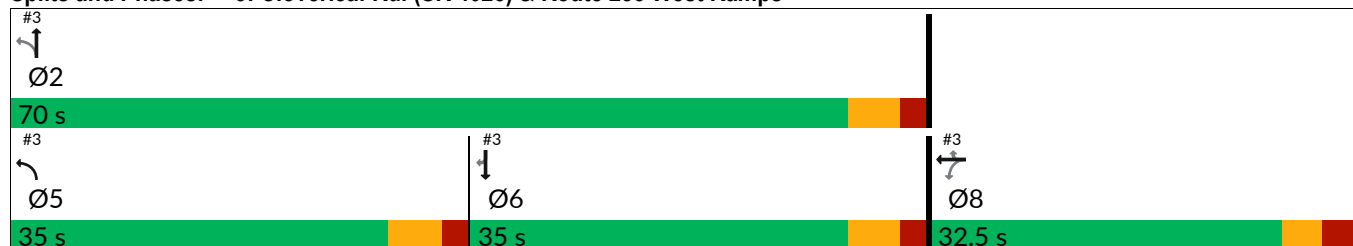
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2035 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	444	0	159	686	243	0	0	274	92
Future Volume (veh/h)	0	0	0	444	0	159	686	243	0	0	274	92
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1775	1875	1619	1722	1539	0	0	1675	1604
Adj Flow Rate, veh/h				477	0	0	738	261	0	0	295	0
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				7	0	18	4	17	0	0	14	19
Cap, veh/h				521	0		671	936	0	0	401	
Arrive On Green				0.28	0.00	0.00	0.32	0.61	0.00	0.00	0.24	0.00
Sat Flow, veh/h				1785	0	1372	1640	1539	0	0	1675	1360
Grp Volume(v), veh/h				477	0	0	738	261	0	0	295	0
Grp Sat Flow(s),veh/h/ln				1785	0	1372	1640	1539	0	0	1675	1360
Q Serve(g_s), s				24.5	0.0	0.0	30.0	7.6	0.0	0.0	15.4	0.0
Cycle Q Clear(g_c), s				24.5	0.0	0.0	30.0	7.6	0.0	0.0	15.4	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				521	0		671	936	0	0	401	
V/C Ratio(X)				0.92	0.00		1.10	0.28	0.00	0.00	0.74	
Avail Cap(c_a), veh/h				527	0		671	1054	0	0	530	
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				33.0	0.0	0.0	19.6	8.8	0.0	0.0	33.3	0.0
Incr Delay (d2), s/veh				20.7	0.0	0.0	65.4	0.6	0.0	0.0	9.4	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				19.6	0.0	0.0	31.6	4.2	0.0	0.0	11.4	0.0
Unsig. Movement Delay, s/veh						9.10						
LnGrp Delay(d), s/veh				53.7	0.0	9.1	85.0	9.4	0.0	0.0	42.7	0.0
LnGrp LOS				D		A	F	A			D	
Approach Vol, veh/h					617			999			295	
Approach Delay, s/veh					43.6			65.2			42.7	
Approach LOS					D			E			D	
Timer - Assigned Phs	2			5			6			8		
Phs Duration (G+Y+Rc), s	62.7			35.0			27.7			32.2		
Change Period (Y+Rc), s	6.0			6.0			6.0			5.5		
Max Green Setting (Gmax), s	64.0			29.0			29.0			27.0		
Max Q Clear Time (g_c+I1), s	10.1			32.5			17.9			26.5		
Green Ext Time (p_c), s	7.6			0.0			3.8			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh			54.8									
HCM 7th LOS			D									
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

2035 Projected (Build) Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	0	371	0	0	0	0	847	717	156	563	0
Future Volume (vph)	68	0	371	0	0	0	0	847	717	156	563	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	27%	0%	7%	0%	0%	0%	0%	5%	3%	17%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	0	417	0	0	0	0	952	806	175	633	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2035 Projected (Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Intersection

Int Delay, s/veh 18.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	0	371	0	0	0	0	847	717	156	563	0
Future Vol, veh/h	68	0	371	0	0	0	0	847	717	156	563	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	27	0	7	0	0	0	0	5	3	17	6	0
Mvmt Flow	76	0	417	0	0	0	0	952	806	175	633	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1935	- 633	- - - -	0 0 952 0 0
Stage 1	983	- - - -	- - - -	- - - -
Stage 2	952	- - - -	- - - -	- - - -
Critical Hdwy	6.47	- 6.17	- - - -	- - 4.5 - -
Critical Hdwy Stg 1	5.47	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.47	- - - -	- - - -	- - - -
Follow-up Hdwy	3.2	- 3.2	- - - -	- - 3.2 - -
Pot Cap-1 Maneuver	~ 73	0 497	0 0 0 0	- - 507 - 0
Stage 1	379	0 - 0 0 0 0	- - - -	- - - -
Stage 2	393	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	~ 48	0 497	- 0 - -	- - 507 - -
Mov Cap-2 Maneuver	~ 48	0 - - 0 - -	- - - -	- - - -
Stage 1	248	0 - - 0 - -	- - - -	- - - -
Stage 2	393	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	108.72		0	3.43
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	48	497	507	-
HCM Lane V/C Ratio	-	-	1.603	0.838	0.345	-
HCM Ctrl Dly (s/v)	-	-	\$ 486.3	39.5	15.8	-
HCM Lane LOS	-	-	F	E	C	-
HCM 95th %tile Q(veh)	-	-	7.4	8.4	1.5	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2035 Projected (Build) Conditions
 5: Cloverleaf Rd. (SR 4025) & Merts Drive

Timing Plan: A.M. Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	8	1560	916	18
Future Volume (vph)	4	9	8	1560	916	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	11%	0%	5%	9%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	1686	1004	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	9	8	1560	916	18
Future Vol, veh/h	4	9	8	1560	916	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	11	0	5	9	6
Mvmt Flow	4	10	9	1677	985	19

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2689	995	1004
Stage 1	995	-	-
Stage 2	1695	-	-
Critical Hdwy	6.4	6.31	4.3
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3	3.2	3
Pot Cap-1 Maneuver	25	296	534
Stage 1	397	-	-
Stage 2	176	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	19	296	534
Mov Cap-2 Maneuver	19	-	-
Stage 1	303	-	-
Stage 2	176	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	92.19	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	9	-	55	-	-
HCM Lane V/C Ratio	0.016	-	0.256	-	-
HCM Ctrl Dly (s/v)	11.9	0	92.2	-	-
HCM Lane LOS	B	A	F	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

2035 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	438	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (vph)	438	48	98	11	22	72	43	1054	19	17	722	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	466	155	0	12	100	0	46	1141	0	18	977	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.0	21.0		21.0	21.0		36.5	36.5		36.5	36.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.26	0.26		0.04	0.18		0.47	1.30		0.18	1.14	
Control Delay (s/veh)	162.8	8.5		17.2	8.8		31.0	164.2		14.1	97.0	

2035 Projected (Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	162.8	8.5		17.2	8.8		31.0	164.2		14.1	97.0	
Queue Length 50th (ft)	~259	15		4	10		11	~688		4	~544	
Queue Length 95th (ft)	#429	55		15	41		#59	#931		17	#785	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	370	585		342	543		97	877		98	856	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.26	0.26		0.04	0.18		0.47	1.30		0.18	1.14	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2035 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	438	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (veh/h)	438	48	98	11	22	72	43	1054	19	17	722	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	466	51	73	12	23	62	46	1121	20	18	768	191
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	494	241	346	425	137	369	107	951	17	107	742	185
Arrive On Green	0.31	0.31	0.30	0.31	0.31	0.30	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1384	768	1100	1185	435	1173	598	1775	32	514	1386	345
Grp Volume(v), veh/h	466	0	124	12	0	85	46	0	1141	18	0	959
Grp Sat Flow(s),veh/h/ln	1384	0	1868	1185	0	1609	598	0	1807	514	0	1731
Q Serve(g_s), s	19.8	0.0	3.4	0.5	0.0	2.7	0.5	0.0	37.5	0.5	0.0	37.5
Cycle Q Clear(g_c), s	22.0	0.0	3.4	3.5	0.0	2.7	37.5	0.0	37.5	37.5	0.0	37.5
Prop In Lane	1.00		0.59	1.00		0.73	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	494	0	587	425	0	506	107	0	968	107	0	927
V/C Ratio(X)	0.94	0.00	0.21	0.03	0.00	0.17	0.43	0.00	1.18	0.17	0.00	1.03
Avail Cap(c_a), veh/h	494	0	587	425	0	506	107	0	968	107	0	927
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.7	0.0	17.9	18.7	0.0	17.7	35.0	0.0	16.3	34.9	0.0	16.3
Incr Delay (d2), s/veh	26.9	0.0	0.2	0.0	0.0	0.2	12.1	0.0	91.3	3.4	0.0	38.8
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	16.8	0.0	2.5	0.2	0.0	1.7	2.0	0.0	52.3	0.7	0.0	29.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.6	0.0	18.0	18.8	0.0	17.8	47.1	0.0	107.6	38.4	0.0	55.1
LnGrp LOS	D		B	B		B	D		F	D		F
Approach Vol, veh/h	590			97			1187			977		
Approach Delay, s/veh	46.1			17.9			105.3			54.8		
Approach LOS	D			B			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	43.0			27.0			43.0			27.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	36.5			21.0			36.5			21.0		
Max Q Clear Time (g_c+l1), s	39.5			24.5			39.5			6.0		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	72.8											
HCM 7th LOS	E											

2035 Projected (Build) Conditions
 7: Schwanger Rd. & Campus Dr. & Merts Dr.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	391	1	30	229	4	0	4	65	40	4	24
Future Volume (vph)	13	391	1	30	229	4	0	4	65	40	4	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1						
Confl. Bikes (#/hr)												
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	2%	0%	5%	1%	0%	0%	0%	3%	5%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	445	0	34	265	0	0	79	0	0	77	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	391	1	30	229	4	0	4	65	40	4	24
Future Vol, veh/h	13	391	1	30	229	4	0	4	65	40	4	24
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175			150								
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	17	2	0	5	1	0	0	0	3	5	0	4
Mvmt Flow	15	444	1	34	260	5	0	5	74	45	5	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	266	0	0	445	0	0	805	808	445	808	807	264
Stage 1	-	-	-	-	-	-	474	474	-	332	332	-
Stage 2	-	-	-	-	-	-	331	334	-	476	475	-
Critical Hdwy	4.5	-	-	4.4	-	-	7.3	6.7	6.33	6.6	5.9	5.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.7	-	5.55	4.9	-
Follow-up Hdwy	3.2	-	-	3	-	-	3	4	3.1	3	4	3.1
Pot Cap-1 Maneuver	906	-	-	833	-	-	322	303	639	375	363	840
Stage 1	-	-	-	-	-	-	633	546	-	824	685	-
Stage 2	-	-	-	-	-	-	770	635	-	698	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	905	-	-	833	-	-	290	286	639	308	342	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	286	-	308	342	-
Stage 1	-	-	-	-	-	-	623	537	-	789	656	-
Stage 2	-	-	-	-	-	-	709	608	-	602	597	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.29	1.08	11.95	16.16
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	597	905	-	-	833	-	-	400
HCM Lane V/C Ratio	0.131	0.016	-	-	0.041	-	-	0.193
HCM Ctrl Dly (s/v)	11.9	9	-	-	9.5	-	-	16.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	34	9	23	51	17	39
Future Volume (vph)	34	9	23	51	17	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	2119			1252	852	
Travel Time (s)	36.1			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	16%	0%	19%	7%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	58	0	0	100	76	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	9	23	51	17	39
Future Vol, veh/h	34	9	23	51	17	39
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, %	-2	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	0	19	7	0	5
Mvmt Flow	46	12	31	69	23	53

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	58
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.2
Pot Cap-1 Maneuver	-	-	1073
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1073
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	2.63	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1024	-	-	559	-
HCM Lane V/C Ratio	0.074	-	-	0.029	-
HCM Ctrl Dly (s/v)	8.8	-	-	8.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

9: Mt. Pleasant Rd. (SR 4010) & Eastern (Car Only) Dw

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	26	38	50	21	7	8
Future Volume (vph)	26	38	50	21	7	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		2%	-2%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25			25	25	25
Link Speed (mph)		40	40		25	
Link Distance (ft)		1109	2119		324	
Travel Time (s)		18.9	36.1		8.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	15%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	71	79	0	17	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	26	38	50	21	7	8
Future Vol, veh/h	26	38	50	21	7	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, %	-	2	-2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	25	15	2	2	2
Mvmt Flow	29	42	56	23	8	9

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	79	0	0 167 67
Stage 1	-	-	- 67 -
Stage 2	-	-	- 100 -
Critical Hdwy	4.3	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	3	-	- 3 3.1
Pot Cap-1 Maneuver	1128	-	- 954 1064
Stage 1	-	-	- 1115 -
Stage 2	-	-	- 1076 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1128	-	- 929 1064
Mov Cap-2 Maneuver	-	-	- 929 -
Stage 1	-	-	- 1086 -
Stage 2	-	-	- 1076 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	3.36	0	8.67
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	731	-	-	-	997
HCM Lane V/C Ratio	0.026	-	-	-	0.017
HCM Ctrl Dly (s/v)	8.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	52	0	4	54	0	0	48	12	0	26	15
Future Volume (vph)	48	52	0	4	54	0	0	48	12	0	26	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1309			1109			278			356	
Travel Time (s)		22.3			18.9			7.6			9.7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	25%	0%	2%	15%	0%	0%	50%	2%	0%	73%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	64	0	0	66	0	0	46	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	52	0	4	54	0	0	48	12	0	26	15
Future Vol, veh/h	48	52	0	4	54	0	0	48	12	0	26	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	25	0	2	15	0	0	50	2	0	73	2
Mvmt Flow	53	58	0	4	60	0	0	53	13	0	29	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	60	0	0	58	0	0	248	233	58	260	233	60
Stage 1	-	-	-	-	-	-	164	164	-	69	69	-
Stage 2	-	-	-	-	-	-	83	69	-	191	164	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.1	7	6.22	7.1	7.23	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6	-	6.1	6.23	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6	-	6.1	6.23	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.45	3.1	3	4.657	3.1
Pot Cap-1 Maneuver	1145	-	-	1147	-	-	815	592	1077	799	561	1074
Stage 1	-	-	-	-	-	-	972	680	-	1099	717	-
Stage 2	-	-	-	-	-	-	1079	752	-	939	646	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1145	-	-	1147	-	-	721	561	1077	681	531	1074
Mov Cap-2 Maneuver	-	-	-	-	-	-	721	561	-	681	531	-
Stage 1	-	-	-	-	-	-	925	647	-	1094	714	-
Stage 2	-	-	-	-	-	-	1015	749	-	810	615	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	3.98			0.56			11.5			10.94		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	620	864	-	-	124	-	-	652
HCM Lane V/C Ratio	0.107	0.047	-	-	0.004	-	-	0.07
HCM Ctrl Dly (s/v)	11.5	8.3	0	-	8.2	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.2

2035 Projected (Build) Conditions
 20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	159	243	0	0	0
Future Volume (vph)	0	159	243	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	184		118			92
Travel Time (s)	5.0		2.0			1.6
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	18%	17%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	171	261	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	159	243	0	0	0
Future Vol, veh/h	0	159	243	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	18	17	0	0	0
Mvmt Flow	0	171	261	0	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	261	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	1057	-	0	0	0
Stage 1	0	-	-	0	0	0
Stage 2	0	-	-	0	0	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver	-	1057	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	9.06	0				
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1					
Capacity (veh/h)	- 1057					
HCM Lane V/C Ratio	- 0.162					
HCM Ctrl Dly (s/v)	- 9.1					
HCM Lane LOS	- A					
HCM 95th %tile Q(veh)	- 0.6					

1: Cloverleaf Rd. (SR 4025) & Mt. Pleasant Rd. (SR 4010)

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	79	28	334	69	23	229
Future Volume (vph)	79	28	334	69	23	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-1%		1%			-1%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	40		40			35
Link Distance (ft)	1263		1057			908
Travel Time (s)	21.5		18.0			17.7
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	20%	13%	5%	2%	0%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	428	0	0	268
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	28	334	69	23	229
Future Vol, veh/h	79	28	334	69	23	229
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	1	-	-	-1
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	13	5	2	0	3
Mvmt Flow	84	30	355	73	24	244

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	685	392	0	0	429	0
Stage 1	392	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.4	6.23	-	-	4.3	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.2	3.2	-	-	3	-
Pot Cap-1 Maneuver	445	676	-	-	855	-
Stage 1	740	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	430	676	-	-	855	-
Mov Cap-2 Maneuver	430	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.94	0	0.85
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	164
HCM Lane V/C Ratio	-	-	0.24	0.029
HCM Ctrl Dly (s/v)	-	-	14.9	9.3
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1

2035 Projected (Build) Conditions
 2: Cloverleaf Rd. (SR 4025) & Steel Way

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	209	61	317	49	4	303
Future Volume (vph)	209	61	317	49	4	303
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	11	11	11	11
Grade (%)	-5%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	30		40			40
Link Distance (ft)	1042		715			1057
Travel Time (s)	23.7		12.2			18.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	12%	2%	11%	56%	25%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	360	0	488	0	0	409
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 9.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	209	61	317	49	4	303
Future Vol, veh/h	209	61	317	49	4	303
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-5	-	2	-	-	-2
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	12	2	11	56	25	7
Mvmt Flow	279	81	423	65	5	404

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	870	455	0
Stage 1	455	-	-
Stage 2	415	-	-
Critical Hdwy	5.52	5.72	-
Critical Hdwy Stg 1	4.52	-	-
Critical Hdwy Stg 2	4.52	-	-
Follow-up Hdwy	3.1	3.1	-
Pot Cap-1 Maneuver	435	681	-
Stage 1	793	-	-
Stage 2	820	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	431	681	-
Mov Cap-2 Maneuver	431	-	-
Stage 1	785	-	-
Stage 2	820	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	33.64	0	0.13
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	470	23
HCM Lane V/C Ratio	-	-	0.767	0.007
HCM Ctrl Dly (s/v)	-	-	33.6	9.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	6.6	0

2035 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	761	0	176	415	263	0	0	346	87
Future Volume (vph)	0	0	0	761	0	176	415	263	0	0	346	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	11	11	10	11	11	11	11	11	11
Grade (%)		0%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		400	225		0	0		75
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	25		25	25		25	100		25	25		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		835			831			554			715	
Travel Time (s)		22.8			22.7			9.4			12.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	3%	0%	12%	6%	8%	0%	0%	5%	15%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	793	183	432	274	0	0	360	91
Turn Type				Perm	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases					8		5	2			6	
Permitted Phases				8		8	2					6
Detector Phase				8	8	8	5	2			6	6
Switch Phase												
Minimum Initial (s)				3.0	3.0	3.0	7.0	12.0			12.0	12.0
Minimum Split (s)				8.5	8.5	8.5	13.0	18.0			18.0	18.0
Total Split (s)				41.5	41.5	41.5	27.0	74.0			47.0	47.0
Total Split (%)				35.9%	35.9%	35.9%	23.4%	64.1%			40.7%	40.7%
Maximum Green (s)				36.0	36.0	36.0	21.0	68.0			41.0	41.0
Yellow Time (s)				3.0	3.0	3.0	4.0	4.0			4.0	4.0
All-Red Time (s)				2.5	2.5	2.5	2.0	2.0			2.0	2.0
Lost Time Adjust (s)					-1.0	-1.0	-1.0	-1.0			-1.0	-1.0
Total Lost Time (s)					4.5	4.5	5.0	5.0			5.0	5.0
Lead/Lag							Lead				Lag	Lag
Lead-Lag Optimize?							Yes				Yes	Yes
Vehicle Extension (s)				3.0	3.0	3.0	3.0	6.0			6.0	6.0
Minimum Gap (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
Time Before Reduce (s)				0.0	0.0	0.0	0.0	13.0			13.0	13.0
Time To Reduce (s)				0.0	0.0	0.0	0.0	12.0			12.0	12.0
Recall Mode				None	None	None	None	Min			Min	Min
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio					1.32	0.31	0.95	0.32			0.82	0.23
Control Delay (s/veh)					184.5	5.6	52.1	13.9			50.0	9.1

2035 Projected (Build) Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay					0.0	0.0	0.0	0.0			0.0	0.0
Total Delay (s/veh)					184.5	5.6	52.1	13.9			50.0	9.1
Queue Length 50th (ft)					~656	1	185	96			224	6
Queue Length 95th (ft)					#1015	56	#360	141			332	46
Internal Link Dist (ft)		755			751			474			635	
Turn Bay Length (ft)						400	225					75
Base Capacity (vph)					601	591	455	1103			705	593
Starvation Cap Reductn					0	0	0	0			0	0
Spillback Cap Reductn					0	0	0	0			0	0
Storage Cap Reductn					0	0	0	0			0	0
Reduced v/c Ratio					1.32	0.31	0.95	0.25			0.51	0.15

Intersection Summary

Area Type: Other

Cycle Length: 115.5

Actuated Cycle Length: 100.2

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

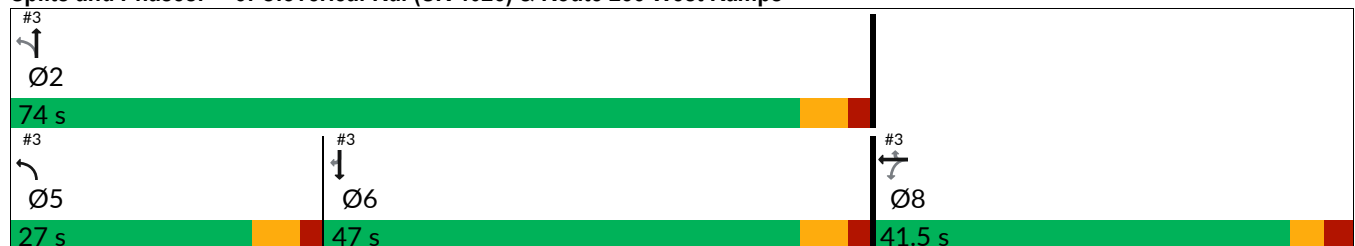
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps



2035 Projected (Build) Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	761	0	176	415	263	0	0	346	87
Future Volume (veh/h)	0	0	0	761	0	176	415	263	0	0	346	87
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1832	1875	1704	1693	1665	0	0	1803	1661
Adj Flow Rate, veh/h				793	0	0	432	274	0	0	360	0
Peak Hour Factor				0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %				3	0	12	6	8	0	0	5	15
Cap, veh/h				648	0		508	906	0	0	511	
Arrive On Green				0.35	0.00	0.00	0.21	0.54	0.00	0.00	0.28	0.00
Sat Flow, veh/h				1785	0	1444	1613	1665	0	0	1803	1408
Grp Volume(v), veh/h				793	0	0	432	274	0	0	360	0
Grp Sat Flow(s),veh/h/ln				1785	0	1444	1613	1665	0	0	1803	1408
Q Serve(g_s), s				37.0	0.0	0.0	17.9	9.2	0.0	0.0	18.2	0.0
Cycle Q Clear(g_c), s				37.0	0.0	0.0	17.9	9.2	0.0	0.0	18.2	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				648	0		508	906	0	0	511	
V/C Ratio(X)				1.22	0.00		0.85	0.30	0.00	0.00	0.70	
Avail Cap(c_a), veh/h				648	0		516	1127	0	0	743	
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				33.0	0.0	0.0	19.7	12.7	0.0	0.0	32.7	0.0
Incr Delay (d2), s/veh				114.1	0.0	0.0	12.6	0.7	0.0	0.0	6.3	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				52.4	0.0	0.0	12.4	6.0	0.0	0.0	13.3	0.0
Unsig. Movement Delay, s/veh						9.20						
LnGrp Delay(d), s/veh				147.0	0.0	9.2	32.3	13.4	0.0	0.0	39.0	0.0
LnGrp LOS				F		A	C	B			D	
Approach Vol, veh/h					917			706			360	
Approach Delay, s/veh					128.4			25.0			39.0	
Approach LOS					F			C			D	
Timer - Assigned Phs	2			5		6	8					
Phs Duration (G+Y+Rc), s	60.4			26.5		33.9	41.5					
Change Period (Y+Rc), s	6.0			6.0		6.0	5.5					
Max Green Setting (Gmax), s	68.0			21.0		41.0	36.0					
Max Q Clear Time (g_c+I1), s	11.7			20.4		20.7	39.0					
Green Ext Time (p_c), s	8.1			0.1		7.2	0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh				75.3								
HCM 7th LOS				E								
Notes												
Unsignalized Delay for [WBR] is included in calculations of the approach delay and intersection delay.												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

2035 Projected (Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	0	651	0	0	0	0	579	573	147	960	0
Future Volume (vph)	91	0	651	0	0	0	0	579	573	147	960	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	100		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			313			554	
Travel Time (s)		24.7			20.7			5.3			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	1%	0%	0%	0%	0%	6%	3%	10%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	0	664	0	0	0	0	591	585	150	980	0
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2035 Projected (Build) Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Intersection

Int Delay, s/veh 120.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	91	0	651	0	0	0	0	579	573	147	960	0
Future Vol, veh/h	91	0	651	0	0	0	0	579	573	147	960	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yield	-	-	None
Storage Length	0	-	475	-	-	-	-	-	75	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-1	-	-	0	-	-	-1	-	-	-2	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	17	0	1	0	0	0	0	6	3	10	2	0
Mvmt Flow	93	0	664	0	0	0	0	591	585	150	980	0

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1870	- 980	- - - -	0 0 591 0 0
Stage 1	1280	- - - -	- - - -	- - - -
Stage 2	591	- - - -	- - - -	- - - -
Critical Hdwy	6.37	- 6.11	- - - -	- - 4.4 - -
Critical Hdwy Stg 1	5.37	- - - -	- - - -	- - - -
Critical Hdwy Stg 2	5.37	- - - -	- - - -	- - - -
Follow-up Hdwy	3.2	- 3.1	- - - -	- - 3.1 - -
Pot Cap-1 Maneuver	~ 84	0 ~ 326	0 0 0 0	- - 720 - 0
Stage 1	279	0 - 0 0 0 0	- - - -	- - - -
Stage 2	599	0 - 0 0 0 0	- - - -	- - - -
Platoon blocked, %				- - -
Mov Cap-1 Maneuver	~ 67	0 ~ 326	- 0 - -	- - 720 - -
Mov Cap-2 Maneuver	~ 67	0 - - 0 - -	- - - -	- - - -
Stage 1	221	0 - - 0 - -	- - - -	- - - -
Stage 2	599	0 - - 0 - -	- - - -	- - - -

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 484.91		0	1.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	EBLn2	SBL	SBT
Capacity (veh/h)	-	-	67	326	720	-
HCM Lane V/C Ratio	-	-	1.391	2.037	0.208	-
HCM Ctrl Dly (s/v)	-	-	\$ 350.7	\$ 503.7	11.3	-
HCM Lane LOS	-	-	F	F	B	-
HCM 95th %tile Q(veh)	-	-	7.8	47.5	0.8	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	13	4	1137	1609	1
Future Volume (vph)	16	13	4	1137	1609	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	11	11	11	11
Grade (%)	0%			-2%	1%	
Storage Length (ft)	0	0	0			0
Storage Lanes	1	0	0			0
Taper Length (ft)	25	25	25			25
Link Speed (mph)	25			40	40	
Link Distance (ft)	507			2157	313	
Travel Time (s)	13.8			36.8	5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	0%	0%	4%	3%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	31	0	0	1201	1695	0
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	13	4	1137	1609	1
Future Vol, veh/h	16	13	4	1137	1609	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	-2	1	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	13	0	0	4	3	0
Mvmt Flow	17	14	4	1197	1694	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2899	1694	1695
Stage 1	1694	-	-
Stage 2	1205	-	-
Critical Hdwy	6.53	6.2	4.3
Critical Hdwy Stg 1	5.53	-	-
Critical Hdwy Stg 2	5.53	-	-
Follow-up Hdwy	3.1	3.1	3
Pot Cap-1 Maneuver	~ 16	119	296
Stage 1	164	-	-
Stage 2	293	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	~ 16	119	296
Mov Cap-2 Maneuver	~ 16	-	-
Stage 1	157	-	-
Stage 2	293	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 462.78	0.06	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	6	-	26	-	-
HCM Lane V/C Ratio	0.014	-	1.185	-	-
HCM Ctrl Dly (s/v)	17.3	0	462.8	-	-
HCM Lane LOS	C	A	F	-	-
HCM 95th %tile Q(veh)	0	-	3.7	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
 +: Computation Not Defined *: All major volume in platoon

2035 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		2071			2145			626			2157	
Travel Time (s)		40.3			41.8			10.7			36.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	141	0	29	93	0	98	891	0	65	1603	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	16.0	16.0		16.0	16.0		44.0	44.0		44.0	44.0	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		73.3%	73.3%		73.3%	73.3%	
Maximum Green (s)	10.0	10.0		10.0	10.0		37.5	37.5		37.5	37.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.32	0.36		0.14	0.27		0.87	0.83		0.31	1.48	
Control Delay (s/veh)	198.5	13.0		22.6	18.5		75.0	17.2		9.5	240.0	

2035 Projected (Build) Conditions
 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	198.5	13.0		22.6	18.5		75.0	17.2		9.5	240.0	
Queue Length 50th (ft)	~139	17		9	20		24	212		9	~858	
Queue Length 95th (ft)	#268	59		29	55		#73	#491		31	#1107	
Internal Link Dist (ft)		1991			2065			546			2077	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	217	387		202	343		113	1078		212	1081	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.32	0.36		0.14	0.27		0.87	0.83		0.31	1.48	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

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

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

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 	#6 
Ø2 (R)	Ø4
44 s	16 s
#6 	#6 
Ø6 (R)	Ø8
44 s	16 s

2035 Projected (Build) Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	286	55	73	29	66	12	98	873	17	65	1140	447
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	334	148	196	275	275	50	123	1155	22	319	830	325
Arrive On Green	0.18	0.18	0.17	0.18	0.18	0.17	0.64	0.64	0.63	0.64	0.64	0.63
Sat Flow, veh/h	1393	805	1068	1181	1498	272	329	1799	35	637	1294	507
Grp Volume(v), veh/h	286	0	128	29	0	78	98	0	890	65	0	1587
Grp Sat Flow(s),veh/h/ln	1393	0	1873	1181	0	1771	329	0	1834	637	0	1801
Q Serve(g_s), s	9.2	0.0	3.6	1.3	0.0	2.3	0.5	0.0	20.3	4.7	0.0	38.5
Cycle Q Clear(g_c), s	11.0	0.0	3.6	4.4	0.0	2.3	38.5	0.0	20.3	24.5	0.0	38.5
Prop In Lane	1.00		0.57	1.00		0.15	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	334	0	343	275	0	325	123	0	1177	319	0	1156
V/C Ratio(X)	0.86	0.00	0.37	0.11	0.00	0.24	0.80	0.00	0.76	0.20	0.00	1.37
Avail Cap(c_a), veh/h	334	0	343	275	0	325	123	0	1177	319	0	1156
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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	21.7	23.2	0.0	21.0	30.0	0.0	7.5	15.8	0.0	10.9
Incr Delay (d2), s/veh	19.0	0.0	0.7	0.2	0.0	0.4	40.2	0.0	4.6	1.4	0.0	173.6
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	9.5	0.0	2.7	0.6	0.0	1.6	4.8	0.0	10.0	1.3	0.0	97.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.6	0.0	22.4	23.4	0.0	21.4	70.2	0.0	12.0	17.2	0.0	184.5
LnGrp LOS	D		C	C		C	E		B	B		F
Approach Vol, veh/h	414			107			988			1652		
Approach Delay, s/veh	38.4			21.9			17.8			177.9		
Approach LOS	D			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	44.0			16.0			44.0			16.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	37.5			10.0			37.5			10.0		
Max Q Clear Time (g_c+l1), s	22.3			13.5			40.5			6.9		
Green Ext Time (p_c), s	13.1			0.0			0.0			0.1		
Intersection Summary												
HCM 7th Control Delay, s/veh	104.3											
HCM 7th LOS	F											

7: Schwanger Rd. & Campus Dr. & Merts Dr.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	383	4	115	399	43	1	8	53	18	8	17
Future Volume (vph)	24	383	4	115	399	43	1	8	53	18	8	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	14	14	14	16	16	16
Grade (%)		0%			-1%			1%			-3%	
Storage Length (ft)	175		0	150		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		885			2071			354			527	
Travel Time (s)		17.2			40.3			6.9			10.3	
Confl. Peds. (#/hr)	1					1			1	1		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	2%	0%	1%	1%	2%	0%	13%	3%	6%	13%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	430	0	128	491	0	0	69	0	0	48	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	383	4	115	399	43	1	8	53	18	8	17
Future Vol, veh/h	24	383	4	115	399	43	1	8	53	18	8	17
Conflicting Peds, #/hr	1	0	0	0	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	175		-	150		-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	1	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	0	2	0	1	1	2	0	13	3	6	13	6
Mvmt Flow	27	426	4	128	443	48	1	9	59	20	9	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	492	0	0	430	0	0	1184	1229	429	1208	1207	468
Stage 1	-	-	-	-	-	-	481	481	-	724	724	-
Stage 2	-	-	-	-	-	-	703	748	-	484	483	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.3	6.83	6.33	6.56	6.03	5.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.3	5.83	-	5.56	5.03	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.117	3.1	3.1	4.117	3.2
Pot Cap-1 Maneuver	813	-	-	854	-	-	171	158	653	207	214	634
Stage 1	-	-	-	-	-	-	628	522	-	510	468	-
Stage 2	-	-	-	-	-	-	463	388	-	672	579	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	812	-	-	854	-	-	131	130	653	146	175	633
Mov Cap-2 Maneuver	-	-	-	-	-	-	131	130	-	146	175	-
Stage 1	-	-	-	-	-	-	607	504	-	433	397	-
Stage 2	-	-	-	-	-	-	374	329	-	581	560	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.56			2.06			15.47			25.93		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	412	812	-	-	854	-	-	219
HCM Lane V/C Ratio	0.167	0.033	-	-	0.15	-	-	0.218
HCM Ctrl Dly (s/v)	15.5	9.6	-	-	10	-	-	25.9
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.5	-	-	0.8

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	79	25	45	33	9	35
Future Volume (vph)	79	25	45	33	9	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10
Grade (%)	-2%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		1	0
Taper Length (ft)		25	25		25	25
Link Speed (mph)	40			40	35	
Link Distance (ft)	2125			1252	852	
Travel Time (s)	36.2			21.3	16.6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	9%	0%	15%	3%	25%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	118	0	0	89	50	0
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	79	25	45	33	9	35
Future Vol, veh/h	79	25	45	33	9	35
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, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	0	15	3	25	4
Mvmt Flow	90	28	51	38	10	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	118
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.5
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.1
Pot Cap-1 Maneuver	-	-	1054
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1054
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4.96	9.01
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	948	-	-	1032	-
HCM Lane V/C Ratio	0.053	-	-	0.049	-
HCM Ctrl Dly (s/v)	9	-	-	8.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

9: Mt. Pleasant Rd. (SR 4010) & Eastern (Car Only) Dw

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	79	36	7	26	32
Future Volume (vph)	9	79	36	7	26	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		2%	-2%		0%	
Storage Length (ft)	0			0	0	0
Storage Lanes	0			0	1	0
Taper Length (ft)	25			25	25	25
Link Speed (mph)		40	40		25	
Link Distance (ft)		1141	2125		293	
Travel Time (s)		19.4	36.2		8.0	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	15%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	98	48	0	65	0
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	79	36	7	26	32
Future Vol, veh/h	9	79	36	7	26	32
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, %	-	2	-2	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	8	15	2	2	2
Mvmt Flow	10	88	40	8	29	36

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	48	0	0 152 44
Stage 1	-	-	- 44 -
Stage 2	-	-	- 108 -
Critical Hdwy	4.3	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	3	-	- 3 3.1
Pot Cap-1 Maneuver	1156	-	- 975 1097
Stage 1	-	-	- 1144 -
Stage 2	-	-	- 1067 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1156	-	- 966 1097
Mov Cap-2 Maneuver	-	-	- 966 -
Stage 1	-	-	- 1134 -
Stage 2	-	-	- 1067 -

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.83	0	8.71
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	184	-	-	-	1034
HCM Lane V/C Ratio	0.009	-	-	-	0.062
HCM Ctrl Dly (s/v)	8.1	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	84	0	15	53	0	0	31	4	0	50	58
Future Volume (vph)	16	84	0	15	53	0	0	31	4	0	50	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			-1%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Link Speed (mph)		40			40			25			25	
Link Distance (ft)		1263			1141			424			360	
Travel Time (s)		21.5			19.4			11.6			9.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	8%	0%	2%	15%	0%	0%	74%	2%	0%	42%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	111	0	0	76	0	0	38	0	0	120	0
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

10: Proposed Archers Lane/Western Dw. & Mt. Pleasant Rd. (SR 4010)

Intersection

Int Delay, s/veh 5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	84	0	15	53	0	0	31	4	0	50	58
Future Vol, veh/h	16	84	0	15	53	0	0	31	4	0	50	58
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-1	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	8	0	2	15	0	0	74	2	0	42	2
Mvmt Flow	18	93	0	17	59	0	0	34	4	0	56	64

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	59	0	0	93	0	0	249	221	93	238	221	59
Stage 1	-	-	-	-	-	-	129	129	-	92	92	-
Stage 2	-	-	-	-	-	-	120	92	-	146	129	-
Critical Hdwy	4.3	-	-	4.3	-	-	7.1	7.24	6.22	7.1	6.92	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6.24	-	6.1	5.92	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6.24	-	6.1	5.92	-
Follow-up Hdwy	3	-	-	3	-	-	3	4.666	3.1	3	4.378	3.1
Pot Cap-1 Maneuver	1146	-	-	1116	-	-	813	569	1029	827	613	1076
Stage 1	-	-	-	-	-	-	1017	670	-	1066	747	-
Stage 2	-	-	-	-	-	-	1029	698	-	995	719	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1146	-	-	1116	-	-	673	551	1029	749	594	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	673	551	-	749	594	-
Stage 1	-	-	-	-	-	-	1001	659	-	1050	735	-
Stage 2	-	-	-	-	-	-	880	687	-	924	707	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.31	1.83	11.63	10.44
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	582	288	-	-	397	-	-	782
HCM Lane V/C Ratio	0.067	0.016	-	-	0.015	-	-	0.153
HCM Ctrl Dly (s/v)	11.6	8.2	0	-	8.3	0	-	10.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5

2035 Projected (Build) Conditions
 20: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	176	263	0	0	0
Future Volume (vph)	0	176	263	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	11	11	11	11
Grade (%)	-2%		2%			0%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	278		122			129
Travel Time (s)	7.6		2.1			2.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	12%	8%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	183	274	0	0	0
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	176	263	0	0	0
Future Vol, veh/h	0	176	263	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	0
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	12	8	0	0	0
Mvmt Flow	0	183	274	0	0	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	274	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	5	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	2.6	-	-	-	-
Pot Cap-1 Maneuver	0	1043	-	0	0	0
Stage 1	0	-	-	0	0	0
Stage 2	0	-	-	0	0	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver	-	1043	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	9.19	0				
HCM LOS	A					
Minor Lane/Major Mvmt	NBTWBLn1					
Capacity (veh/h)	- 1043					
HCM Lane V/C Ratio	- 0.176					
HCM Ctrl Dly (s/v)	- 9.2					
HCM Lane LOS	- A					
HCM 95th %tile Q(veh)	- 0.6					



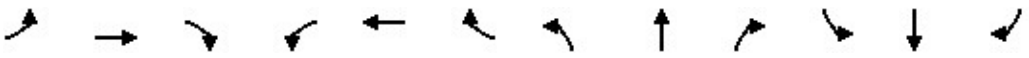
2035 Projected (Build) Conditions W IMP



2035 Projected (Build) W CIP Conditions

Timing Plan: A.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	438	32	15	0	666	260	119	7	234	76
Future Volume (vph)	0	0	438	32	15	0	666	260	119	7	234	76
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	14	14	14	12	11	11	11	11	12
Grade (%)		0%			-5%			2%			-2%	
Storage Length (ft)	0		0	0		0	700		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Satd. Flow (prot)	0	0	1455	0	1254	0	1628	1357	0	1670	1521	0
Flt Permitted					0.967		0.304			0.518		
Satd. Flow (perm)	0	0	1455	0	1254	0	521	1357	0	910	1521	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			408					72			22	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		523			1042			715			1086	
Travel Time (s)		14.3			23.7			12.2			18.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	7%	48%	60%	0%	4%	21%	21%	0%	11%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	481	0	51	0	732	417	0	8	341	0
Turn Type			pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases			5		8		5	2			6	
Permitted Phases			4	8			2			6		
Detector Phase			5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)			11.0	11.0	11.0		11.0	16.0		16.0	16.0	
Total Split (s)			30.0	18.0	18.0		30.0	62.0		32.0	32.0	
Total Split (%)			37.5%	22.5%	22.5%		37.5%	77.5%		40.0%	40.0%	
Maximum Green (s)			24.0	12.0	12.0		24.0	56.0		26.0	26.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)			2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)			-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)			5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode			None	None	None		None	Min		Min	Min	
Walk Time (s)												

Lanes, Volumes, Timings
pam.syn

Synchro 12 Report
08/13/2026

2035 Projected (Build) W CIP Conditions
 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

Timing Plan: A.M. Peak Hour

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	18.0
Total Split (%)	23%
Maximum Green (s)	12.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	

2035 Projected (Build) W CIP Conditions

Timing Plan: A.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
Act Effect Green (s)			34.5		9.4		50.8	53.5		19.2	19.2	
Actuated g/C Ratio			0.54		0.15		0.79	0.83		0.30	0.30	
v/c Ratio			0.50		0.28		0.85	0.37		0.03	0.73	
Control Delay (s/veh)			3.9		32.7		23.1	3.8		18.0	29.7	
Queue Delay			0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)			3.9		32.7		23.1	3.8		18.0	29.7	
LOS			A		C		C	A		B	C	
Approach Delay (s/veh)		3.9			32.7			16.1			29.4	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)			14		30		197	50		2	133	
Queue Length 95th (ft)			68		81		#507	116		12	245	
Internal Link Dist (ft)		443			962			635			1006	
Turn Bay Length (ft)							700			100		
Base Capacity (vph)			969		266		865	1171		402	684	
Starvation Cap Reductn			0		0		0	0		0	0	
Spillback Cap Reductn			0		0		0	0		0	0	
Storage Cap Reductn			0		0		0	0		0	0	
Reduced v/c Ratio			0.50		0.19		0.85	0.36		0.02	0.50	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 64.3

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay (s/veh): 15.9

Intersection LOS: B

Intersection Capacity Utilization 73.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

#2  Ø2	#2  Ø4
62 s	18 s
#2  Ø5	#2  Ø8
30 s	18 s
#2  Ø6	
32 s	

Lane Group	Ø4
Flash Don't Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 7th Edition methodology does not support Non-NEMA phasing.

2035 Projected (Build) W CIP Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	159	888	0	0	706
Future Volume (vph)	0	159	888	0	0	706
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	10	11	11	11	11
Grade (%)	-2%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	831		554			715
Travel Time (s)	22.7		9.4			12.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	18%	6%	0%	0%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	173	965	0	0	767
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2035 Projected (Build) W CIP Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: A.M. Peak Hour

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	159	888	0	0	706
Future Vol, veh/h	0	159	888	0	0	706
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	-2
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	18	6	0	0	9
Mvmt Flow	0	173	965	0	0	767

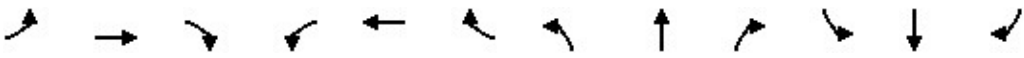
Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	965	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	503	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	503	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.85	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 503	-
HCM Lane V/C Ratio	- 0.343	-
HCM Ctrl Dly (s/v)	- 15.9	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 1.5	-

2035 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱					↱	↱	↰	↱	
Traffic Volume (vph)	68	0	371	0	0	0	0	846	717	156	563	0
Future Volume (vph)	68	0	371	0	0	0	0	846	717	156	563	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	200		0
Storage Lanes	0		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			2459			554	
Travel Time (s)		24.7			20.7			41.9			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	27%	0%	7%	0%	0%	0%	0%	5%	3%	17%	6%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	417	0	0	0	0	951	806	175	633	0
Turn Type	Prot	NA	Perm					NA	Perm	Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases			4						2	6		
Detector Phase	7	4	4					2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					10.0	10.0	10.0	10.0	
Minimum Split (s)	11.0	11.0	11.0					16.0	16.0	16.0	16.0	
Total Split (s)	14.0	14.0	14.0					46.0	46.0	46.0	46.0	
Total Split (%)	23.3%	23.3%	23.3%					76.7%	76.7%	76.7%	76.7%	
Maximum Green (s)	8.0	8.0	8.0					40.0	40.0	40.0	40.0	
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0					-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Recall Mode	None	None	None					Min	Min	Min	Min	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.35	0.81					0.86	0.69	0.97	0.55	
Control Delay (s/veh)		28.1	21.6					17.6	4.5	76.6	7.0	

2035 Projected (Build) W CIP Conditions
 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay (s/veh)		28.1	21.6					17.6	4.5	76.6	7.0	
Queue Length 50th (ft)		25	31					209	17	44	88	
Queue Length 95th (ft)		59	#167					#508	51	#86	132	
Internal Link Dist (ft)		826			679			2379			474	
Turn Bay Length (ft)			475						75	200		
Base Capacity (vph)		217	520					1214	1226	198	1251	
Starvation Cap Reductn		0	0					0	0	0	0	
Spillback Cap Reductn		0	0					0	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.35	0.80					0.78	0.66	0.88	0.51	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 57

Natural Cycle: 65

Control Type: Actuated-Uncoordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

#4 ↑ Ø2	#4 → Ø4
46 s	14 s
#4 ↓ Ø6	#4 ↘ Ø7
46 s	14 s

2035 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	0	371	0	0	0	0	846	717	156	563	0
Future Volume (veh/h)	68	0	371	0	0	0	0	846	717	156	563	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1511	1911	1807				0	1766	1795	1633	1789	0
Adj Flow Rate, veh/h	76	0	0				0	951	0	175	633	0
Peak Hour Factor	0.89	0.89	0.89				0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	27	0	7				0	5	3	17	6	0
Cap, veh/h	150	0					0	1288		348	1305	0
Arrive On Green	0.08	0.00	0.00				0.00	0.73	0.00	0.73	0.73	0.00
Sat Flow, veh/h	1820	0	1532				0	1766	1521	515	1789	0
Grp Volume(v), veh/h	76	0	0				0	951	0	175	633	0
Grp Sat Flow(s),veh/h/ln	1820	0	1532				0	1766	1521	515	1789	0
Q Serve(g_s), s	2.1	0.0	0.0				0.0	16.8	0.0	16.0	7.9	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0				0.0	16.8	0.0	32.8	7.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	150	0					0	1288		348	1305	0
V/C Ratio(X)	0.51	0.00					0.00	0.74		0.50	0.49	0.00
Avail Cap(c_a), veh/h	309	0					0	1365		371	1383	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	23.3	0.0	0.0				0.0	4.2	0.0	13.8	3.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.0				0.0	2.0	0.0	1.1	0.3	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	1.7	0.0	0.0				0.0	3.7	0.0	2.7	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.9	0.0	0.0				0.0	6.3	0.0	15.0	3.3	0.0
LnGrp LOS	C							A		B	A	
Approach Vol, veh/h	76							951		808		
Approach Delay, s/veh	25.9							6.3		5.8		
Approach LOS	C							A		A		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	43.7			9.4			43.7					
Change Period (Y+Rc), s	6.0			6.0			6.0					
Max Green Setting (Gmax), s	40.0			8.0			40.0					
Max Q Clear Time (g_c+l1), s	19.3			4.6			35.3					
Green Ext Time (p_c), s	7.3			0.1			2.4					
Intersection Summary												
HCM 7th Control Delay, s/veh	6.9											
HCM 7th LOS	A											
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (vph)	437	48	98	11	22	72	43	1054	19	17	722	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	465	155	0	12	100	0	46	1141	0	18	977	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	22.0	22.0		22.0	22.0		38.0	38.0		38.0	38.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		63.3%	63.3%		63.3%	63.3%	
Maximum Green (s)	16.0	16.0		16.0	16.0		31.5	31.5		31.5	31.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.39	0.29		0.04	0.20		0.41	1.29		0.16	1.13	
Control Delay (s/veh)	218.0	8.5		16.1	8.6		21.5	156.4		11.0	89.0	

Lanes, Volumes, Timings
pam.syn

Synchro 12 Report
08/19/2026

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	218.0	8.5		16.1	8.6		21.5	156.4		11.0	89.0	
Queue Length 50th (ft)	~234	14		3	8		9	~580		3	~456	
Queue Length 95th (ft)	#391	52		13	38		#48	#813		14	#685	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	334	538		309	497		113	887		114	868	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.39	0.29		0.04	0.20		0.41	1.29		0.16	1.13	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

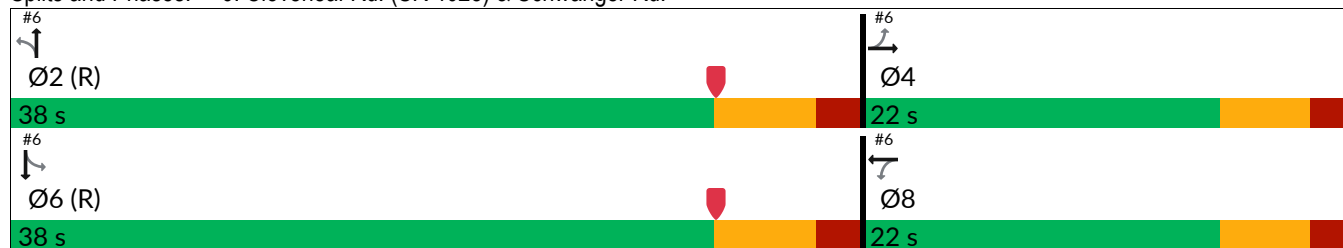
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	437	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (veh/h)	437	48	98	11	22	72	43	1054	19	17	722	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	465	51	73	12	23	62	46	1121	20	18	768	191
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	468	218	312	405	123	332	125	961	17	124	751	187
Arrive On Green	0.28	0.28	0.27	0.28	0.28	0.27	0.54	0.54	0.52	0.54	0.54	0.52
Sat Flow, veh/h	1384	768	1100	1185	435	1173	598	1775	32	514	1386	345
Grp Volume(v), veh/h	465	0	124	12	0	85	46	0	1141	18	0	959
Grp Sat Flow(s),veh/h/ln	1384	0	1868	1185	0	1609	598	0	1807	514	0	1731
Q Serve(g_s), s	15.1	0.0	3.1	0.5	0.0	2.4	0.5	0.0	32.5	0.5	0.0	32.5
Cycle Q Clear(g_c), s	17.0	0.0	3.1	3.1	0.0	2.4	32.5	0.0	32.5	32.5	0.0	32.5
Prop In Lane	1.00		0.59	1.00		0.73	1.00		0.02	1.00		0.20
Lane Grp Cap(c), veh/h	468	0	529	405	0	456	125	0	979	124	0	937
V/C Ratio(X)	0.99	0.00	0.23	0.03	0.00	0.19	0.37	0.00	1.17	0.14	0.00	1.02
Avail Cap(c_a), veh/h	468	0	529	405	0	456	125	0	979	124	0	937
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	0.00	1.00	0.71	0.00	0.71
Uniform Delay (d), s/veh	24.4	0.0	16.7	17.5	0.0	16.6	30.0	0.0	13.8	29.9	0.0	13.8
Incr Delay (d2), s/veh	40.1	0.0	0.2	0.0	0.0	0.2	8.2	0.0	85.9	1.7	0.0	30.8
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	17.1	0.0	2.2	0.2	0.0	1.5	1.6	0.0	46.9	0.5	0.0	23.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.5	0.0	17.0	17.5	0.0	16.8	38.1	0.0	99.7	31.7	0.0	44.6
LnGrp LOS	E		B	B		B	D		F	C		F
Approach Vol, veh/h	589			97			1187			977		
Approach Delay, s/veh	54.5			16.8			97.3			44.4		
Approach LOS	D			B			F			D		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	38.0			22.0			38.0			22.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	31.5			16.0			31.5			16.0		
Max Q Clear Time (g_c+I1), s	34.5			19.5			34.5			5.6		
Green Ext Time (p_c), s	0.0			0.0			0.0			0.3		
Intersection Summary												
HCM 7th Control Delay, s/veh	67.6											
HCM 7th LOS	E											

2035 Projected (Build) W CIP Conditions

Timing Plan: P.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	758	102	35	23	407	372	57	2	236	52
Future Volume (vph)	0	0	758	102	35	23	407	372	57	2	236	52
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	14	12	14	12	11	11	11	11	12
Grade (%)		0%			-5%			2%			-2%	
Storage Length (ft)	0		0	0		0	700		0	100		0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Satd. Flow (prot)	0	0	1512	0	1521	0	1597	1507	0	1670	1621	0
Flt Permitted					0.969		0.330			0.508		
Satd. Flow (perm)	0	0	1512	0	1521	0	555	1507	0	893	1621	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			355		9			16			12	
Link Speed (mph)		25			30			40			40	
Link Distance (ft)		424			1042			715			1106	
Travel Time (s)		11.6			23.7			12.2			18.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	3%	15%	26%	0%	6%	7%	45%	0%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	773	0	163	0	415	438	0	2	294	0
Turn Type			pm+ov	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases			5		8		5	2			6	
Permitted Phases			4	8			2			6		
Detector Phase			5	8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)			5.0	5.0	5.0		5.0	10.0		10.0	10.0	
Minimum Split (s)			11.0	11.0	11.0		11.0	16.0		16.0	16.0	
Total Split (s)			30.0	30.0	30.0		30.0	60.0		30.0	30.0	
Total Split (%)			33.3%	33.3%	33.3%		33.3%	66.7%		33.3%	33.3%	
Maximum Green (s)			24.0	24.0	24.0		24.0	54.0		24.0	24.0	
Yellow Time (s)			4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)			2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)			-1.0		-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)			5.0		5.0		5.0	5.0		5.0	5.0	
Lead/Lag			Lead				Lead			Lag	Lag	
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	
Vehicle Extension (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Minimum Gap (s)			3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Time To Reduce (s)			0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Recall Mode			None	None	None		None	Min		Min	Min	
Walk Time (s)												

Lanes, Volumes, Timings
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2035 Projected (Build) W CIP Conditions
 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

Timing Plan: P.M. Peak Hour

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Growth Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Parking (#/hr)	
Mid-Block Traffic (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	11.0
Total Split (s)	30.0
Total Split (%)	33%
Maximum Green (s)	24.0
Yellow Time (s)	4.0
All-Red Time (s)	2.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Minimum Gap (s)	3.0
Time Before Reduce (s)	0.0
Time To Reduce (s)	0.0
Recall Mode	None
Walk Time (s)	

2035 Projected (Build) W CIP Conditions

Timing Plan: P.M. Peak Hour

2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way

																
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Flash Don't Walk (s)																
Pedestrian Calls (#/hr)																
Act Effct Green (s)			41.1			13.5			45.4			45.4			17.8	17.8
Actuated g/C Ratio			0.59			0.19			0.66			0.66			0.26	0.26
v/c Ratio			0.74			0.54			0.59			0.44			0.01	0.69
Control Delay (s/veh)			10.9			32.5			10.2			7.6			21.0	32.9
Queue Delay			0.0			0.0			0.0			0.0			0.0	0.0
Total Delay (s/veh)			10.9			32.5			10.2			7.6			21.0	32.9
LOS			B			C			B			A			C	C
Approach Delay (s/veh)			10.9			32.5			8.9						32.8	
Approach LOS			B			C			A						C	
Queue Length 50th (ft)			102			74			71			75			1	118
Queue Length 95th (ft)			305			156			162			171			6	224
Internal Link Dist (ft)			344			962			635						1026	
Turn Bay Length (ft)									700						100	
Base Capacity (vph)			1101			576			754			1209			335	615
Starvation Cap Reductn			0			0			0			0			0	0
Spillback Cap Reductn			0			0			0			0			0	0
Storage Cap Reductn			0			0			0			0			0	0
Reduced v/c Ratio			0.70			0.28			0.55			0.36			0.01	0.48

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 69.3

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay (s/veh): 14.9

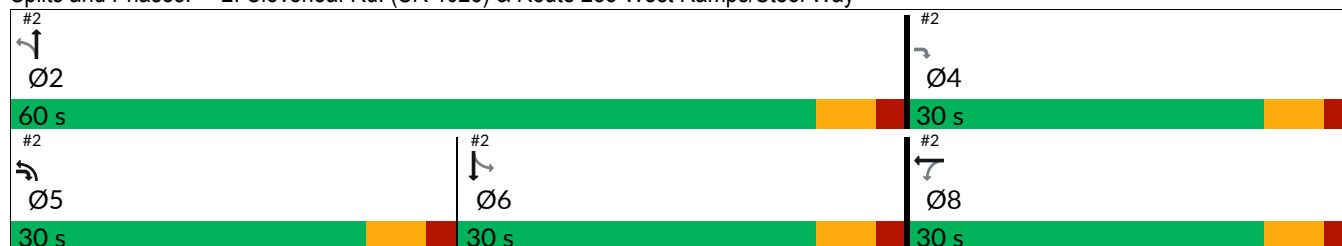
Intersection LOS: B

Intersection Capacity Utilization 87.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps/Steel Way



Lane Group	Ø4
Flash Don't Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

HCM 7th Edition methodology does not support Non-NEMA phasing.

2035 Projected (Build) W CIP Conditions
 3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	176	660	0	0	1099
Future Volume (vph)	0	176	660	0	0	1099
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (ft)	11	10	11	11	11	11
Grade (%)	-2%		2%			-2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	0	1		0	0	
Taper Length (ft)	25	25		25	25	
Link Speed (mph)	25		40			40
Link Distance (ft)	831		554			715
Travel Time (s)	22.7		9.4			12.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	12%	6%	0%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	185	695	0	0	1157
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2035 Projected (Build) W CIP Conditions
3: Cloverleaf Rd. (SR 4025) & Route 283 West Ramps

Timing Plan: P.M. Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	176	660	0	0	1099
Future Vol, veh/h	0	176	660	0	0	1099
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-2	-	2	-	-	-2
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	12	6	0	0	4
Mvmt Flow	0	185	695	0	0	1157

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	695	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	5	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.6	-
Pot Cap-1 Maneuver	0	671	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	671	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.4	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 671	-
HCM Lane V/C Ratio	- 0.276	-
HCM Ctrl Dly (s/v)	- 12.4	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 1.1	-

2035 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	0	651	0	0	0	0	579	573	147	960	0
Future Volume (vph)	91	0	651	0	0	0	0	579	573	147	960	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	13	13	14	12	12	12	11	11	11	11	12	12
Grade (%)		-1%			0%			-1%			-2%	
Storage Length (ft)	0		475	0		0	0		75	200		0
Storage Lanes	0		1	0		0	0		1	1		0
Taper Length (ft)	25		100	25		25	25		25	100		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			40			40	
Link Distance (ft)		906			759			2459			554	
Travel Time (s)		24.7			20.7			41.9			9.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	17%	0%	1%	0%	0%	0%	0%	6%	3%	10%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	664	0	0	0	0	591	585	150	980	0
Turn Type	Prot	NA	Perm					NA	Perm	Perm	NA	
Protected Phases	7	4						2			6	
Permitted Phases			4						2	6		
Detector Phase	7	4	4					2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0					10.0	10.0	10.0	10.0	
Minimum Split (s)	11.0	11.0	11.0					16.0	16.0	16.0	16.0	
Total Split (s)	23.0	23.0	23.0					37.0	37.0	37.0	37.0	
Total Split (%)	38.3%	38.3%	38.3%					61.7%	61.7%	61.7%	61.7%	
Maximum Green (s)	17.0	17.0	17.0					31.0	31.0	31.0	31.0	
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0					2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0	-1.0					-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Minimum Gap (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Time Before Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Time To Reduce (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	
Recall Mode	None	None	None					Min	Min	Min	Min	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio		0.20	1.20					0.67	0.58	0.55	1.03	
Control Delay (s/veh)		17.2	128.4					15.0	4.2	18.7	55.2	

Lanes, Volumes, Timings
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Synchro 12 Report
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2035 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0					0.0	0.0	0.0	0.0	
Total Delay (s/veh)		17.2	128.4					15.0	4.2	18.7	55.2	
Queue Length 50th (ft)		25	~279					148	13	35	~362	
Queue Length 95th (ft)		56	#465					256	58	#99	#606	
Internal Link Dist (ft)		826			679			2379			474	
Turn Bay Length (ft)			475						75	200		
Base Capacity (vph)		455	553					880	1007	274	950	
Starvation Cap Reductn		0	0					0	0	0	0	
Spillback Cap Reductn		0	0					0	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.20	1.20					0.67	0.58	0.55	1.03	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

#4 ↑ Ø2	#4 → Ø4
37 s	23 s
#4 ↘ Ø6	#4 ↘ Ø7
37 s	23 s

2035 Projected (Build) W CIP Conditions
4: Cloverleaf Rd. (SR 4025) & Route 283 East Ramps

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	0	651	0	0	0	0	579	573	147	960	0
Future Volume (veh/h)	91	0	651	0	0	0	0	579	573	147	960	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.04	1.04	1.04				1.00	1.00	1.00	1.00	1.00	1.00
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
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1659	1911	1896				0	1752	1795	1732	1846	0
Adj Flow Rate, veh/h	93	0	0				0	591	0	150	980	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, %	17	0	1				0	6	3	10	2	0
Cap, veh/h	191	0					0	1133		536	1194	0
Arrive On Green	0.11	0.00	0.00				0.00	0.65	0.00	0.65	0.65	0.00
Sat Flow, veh/h	1820	0	1607				0	1752	1521	765	1846	0
Grp Volume(v), veh/h	93	0	0				0	591	0	150	980	0
Grp Sat Flow(s),veh/h/ln	1820	0	1607				0	1752	1521	765	1846	0
Q Serve(g_s), s	1.9	0.0	0.0				0.0	7.2	0.0	5.2	16.1	0.0
Cycle Q Clear(g_c), s	1.9	0.0	0.0				0.0	7.2	0.0	12.5	16.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	191	0					0	1133		536	1194	0
V/C Ratio(X)	0.49	0.00					0.00	0.52		0.28	0.82	0.00
Avail Cap(c_a), veh/h	812	0					0	1390		648	1465	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	17.0	0.0	0.0				0.0	3.8	0.0	7.1	5.4	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0				0.0	0.4	0.0	0.3	3.2	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	1.5	0.0	0.0				0.0	1.2	0.0	1.0	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	0.0	0.0				0.0	4.2	0.0	7.4	8.5	0.0
LnGrp LOS	B							A		A	A	
Approach Vol, veh/h	93						591			1130		
Approach Delay, s/veh	18.9						4.2			8.4		
Approach LOS	B						A			A		
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	31.1			9.2			31.1					
Change Period (Y+Rc), s	6.0			6.0			6.0					
Max Green Setting (Gmax), s	31.0			17.0			31.0					
Max Q Clear Time (g_c+l1), s	9.7			4.4			18.6					
Green Ext Time (p_c), s	3.7			0.3			6.5					
Intersection Summary												
HCM 7th Control Delay, s/veh				7.6								
HCM 7th LOS				A								
Notes												
Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.												

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	141	0	29	93	0	98	891	0	65	1603	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	13.0	13.0		13.0	13.0		47.0	47.0		47.0	47.0	
Total Split (%)	21.7%	21.7%		21.7%	21.7%		78.3%	78.3%		78.3%	78.3%	
Maximum Green (s)	7.0	7.0		7.0	7.0		40.5	40.5		40.5	40.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	1.81	0.46		0.20	0.36		0.87	0.77		0.24	1.38	
Control Delay (s/veh)	411.7	16.7		26.8	22.5		73.8	11.9		6.2	192.2	

Lanes, Volumes, Timings
ppm.syn

Synchro 12 Report
08/19/2026

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	411.7	16.7		26.8	22.5		73.8	11.9		6.2	192.2	
Queue Length 50th (ft)	~162	18		10	22		21	171		7	~822	
Queue Length 95th (ft)	#292	63		31	59		#73	324		22	#1071	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	158	305		147	256		113	1162		266	1163	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.81	0.46		0.20	0.36		0.87	0.77		0.24	1.38	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 	#6 
Ø2 (R)	Ø4
47 s	13 s
#6 	#6 
Ø6 (R)	Ø8
47 s	13 s

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	286	55	73	29	66	12	98	873	17	65	1140	447
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	262	107	142	212	200	36	123	1245	24	381	895	351
Arrive On Green	0.13	0.13	0.12	0.13	0.13	0.12	0.69	0.69	0.68	0.69	0.69	0.68
Sat Flow, veh/h	1393	805	1068	1181	1498	272	329	1799	35	637	1294	507
Grp Volume(v), veh/h	286	0	128	29	0	78	98	0	890	65	0	1587
Grp Sat Flow(s),veh/h/ln	1393	0	1873	1181	0	1771	329	0	1834	637	0	1801
Q Serve(g_s), s	6.1	0.0	3.8	1.4	0.0	2.4	0.5	0.0	17.4	4.0	0.0	41.5
Cycle Q Clear(g_c), s	8.0	0.0	3.8	4.7	0.0	2.4	41.5	0.0	17.4	21.0	0.0	41.5
Prop In Lane	1.00		0.57	1.00		0.15	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	262	0	250	212	0	236	123	0	1269	381	0	1246
V/C Ratio(X)	1.09	0.00	0.51	0.14	0.00	0.33	0.80	0.00	0.70	0.17	0.00	1.27
Avail Cap(c_a), veh/h	262	0	250	212	0	236	123	0	1269	381	0	1246
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	0.00	1.00	0.09	0.00	0.09
Uniform Delay (d), s/veh	28.3	0.0	24.5	26.2	0.0	23.6	30.0	0.0	5.5	11.7	0.0	9.4
Incr Delay (d2), s/veh	82.9	0.0	1.8	0.3	0.0	0.8	40.2	0.0	3.3	0.1	0.0	123.9
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	15.2	0.0	3.1	0.7	0.0	1.8	4.8	0.0	7.6	0.8	0.0	66.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	111.2	0.0	26.2	26.4	0.0	24.5	70.2	0.0	8.8	11.7	0.0	133.3
LnGrp LOS	F		C	C		C	E		A	B		F
Approach Vol, veh/h	414			107			988			1652		
Approach Delay, s/veh	84.9			25.0			14.9			128.5		
Approach LOS	F			C			B			F		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	47.0			13.0			47.0			13.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	40.5			7.0			40.5			7.0		
Max Q Clear Time (g_c+I1), s	19.4			10.5			43.5			7.2		
Green Ext Time (p_c), s	17.6			0.0			0.0			0.0		
Intersection Summary												
HCM 7th Control Delay, s/veh	83.8											
HCM 7th LOS	F											



2035 Projected (Build) Conditions W IMP Supplemental



2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	437	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (vph)	437	48	98	11	22	72	43	1054	19	17	722	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	7%	0%	0%	3%	0%	7%	43%	0%	11%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	465	155	0	12	100	0	46	1141	0	18	977	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	39.0	39.0		39.0	39.0		21.0	21.0		21.0	21.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%		35.0%	35.0%	
Maximum Green (s)	33.0	33.0		33.0	33.0		14.5	14.5		14.5	14.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.81	0.19		0.02	0.13		0.41	1.08		0.16	0.93	
Control Delay (s/veh)	24.5	6.9		6.1	7.1		34.8	79.8		21.7	40.3	

Lanes, Volumes, Timings
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Synchro 12 Report
08/19/2026

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	24.5	6.9		6.1	7.1		34.8	79.8		21.7	40.3	
Queue Length 50th (ft)	121	23		2	16		13	~294		5	~218	
Queue Length 95th (ft)	214	44		7	32		#59	#446		22	#367	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	668	935		618	897		113	1052		114	1046	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.70	0.17		0.02	0.11		0.41	1.08		0.16	0.93	

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

#6 		#6 
Ø2 (R)		Ø4
21 s		39 s
#6 		#6 
Ø6 (R)		Ø8
21 s		39 s

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: A.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	437	48	98	11	22	72	43	1054	19	17	722	196
Future Volume (veh/h)	437	48	98	11	22	72	43	1054	19	17	722	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	1962	1750	1820	1776	1912	1812	1300	1949	1793	1906
Adj Flow Rate, veh/h	465	51	73	12	23	62	46	1121	20	18	768	191
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, %	1	0	7	0	0	3	0	7	43	0	11	3
Cap, veh/h	665	322	460	576	182	491	222	1407	25	183	1099	273
Arrive On Green	0.42	0.42	0.40	0.42	0.42	0.40	0.41	0.41	0.39	0.41	0.41	0.39
Sat Flow, veh/h	1384	768	1100	1185	435	1173	598	3461	62	514	2703	672
Grp Volume(v), veh/h	465	0	124	12	0	85	46	558	583	18	484	475
Grp Sat Flow(s),veh/h/ln	1384	0	1868	1185	0	1609	598	1722	1801	514	1703	1672
Q Serve(g_s), s	18.4	0.0	2.5	0.4	0.0	2.0	4.1	17.1	17.1	1.9	14.1	14.2
Cycle Q Clear(g_c), s	19.9	0.0	2.5	2.4	0.0	2.0	18.3	17.1	17.1	19.0	14.1	14.2
Prop In Lane	1.00		0.59	1.00		0.73	1.00		0.03	1.00		0.40
Lane Grp Cap(c), veh/h	665	0	782	576	0	673	222	700	732	183	692	680
V/C Ratio(X)	0.70	0.00	0.16	0.02	0.00	0.13	0.21	0.80	0.80	0.10	0.70	0.70
Avail Cap(c_a), veh/h	870	0	1058	752	0	912	222	700	732	183	692	680
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	0.71	0.71	0.71
Uniform Delay (d), s/veh	16.6	0.0	11.1	11.5	0.0	10.9	22.3	15.6	15.6	24.0	14.8	14.9
Incr Delay (d2), s/veh	1.7	0.0	0.1	0.0	0.0	0.1	2.1	9.2	8.8	0.8	4.2	4.2
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	8.9	0.0	1.6	0.2	0.0	1.1	1.2	11.6	11.9	0.4	8.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	0.0	11.2	11.5	0.0	11.0	24.4	24.8	24.4	24.7	18.9	19.2
LnGrp LOS	B		B	B		B	C	C	C	C	B	B
Approach Vol, veh/h	589			97			1187			977		
Approach Delay, s/veh	16.8			11.1			24.6			19.2		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	29.9			30.1			29.9			30.1		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	14.5			33.0			14.5			33.0		
Max Q Clear Time (g_c+l1), s	19.6			22.4			16.6			4.9		
Green Ext Time (p_c), s	0.0			1.7			0.0			0.5		
Intersection Summary												
HCM 7th Control Delay, s/veh	20.7											
HCM 7th LOS	C											

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (vph)	272	52	82	28	63	26	93	829	17	62	1083	440
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	10	13	13	10	13	13	10	11	11	10	11	11
Grade (%)		-5%			3%			-3%			-4%	
Storage Length (ft)	225		0	75		0	100		0	75		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	75		25	75		25	75		25
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		1027			2145			626			2459	
Travel Time (s)		20.0			41.8			10.7			41.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	5%	0%	3%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	141	0	29	93	0	98	891	0	65	1603	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	3.0	3.0		3.0	3.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	9.0	9.0		9.0	9.0		18.5	18.5		18.5	18.5	
Total Split (s)	19.0	19.0		19.0	19.0		36.0	36.0		36.0	36.0	
Total Split (%)	34.5%	34.5%		34.5%	34.5%		65.5%	65.5%		65.5%	65.5%	
Maximum Green (s)	13.0	13.0		13.0	13.0		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.5	5.5		5.5	5.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.0	6.0		6.0	6.0	
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		14.0	14.0		14.0	14.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)												
Flash Don't Walk (s)												
Pedestrian Calls (#/hr)												
v/c Ratio	0.95	0.29		0.10	0.20		0.80	0.50		0.25	0.88	
Control Delay (s/veh)	65.7	11.1		16.9	13.6		60.2	8.8		9.3	17.5	

Lanes, Volumes, Timings
ppm.syn

Synchro 12 Report
08/19/2026

2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	65.7	11.1		16.9	13.6		60.2	8.8		9.3	17.5	
Queue Length 50th (ft)	92	18		7	17		23	86		10	195	
Queue Length 95th (ft)	#221	55		24	46		#103	127		30	#375	
Internal Link Dist (ft)		947			2065			546			2379	
Turn Bay Length (ft)	225			75			100			75		
Base Capacity (vph)	302	493		281	465		123	1771		264	1814	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.95	0.29		0.10	0.20		0.80	0.50		0.25	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.



2035 Projected (Build) W CIP Conditions
6: Cloverleaf Rd. (SR 4025) & Schwanger Rd.

Timing Plan: P.M. Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Future Volume (veh/h)	272	52	82	28	63	26	93	829	17	62	1083	440
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.04	1.04	1.00	1.04	1.04	1.00	1.00	1.00	1.00	1.00	1.00
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	1972	2066	2066	1750	1820	1820	1912	1841	1912	1906	1892	1935
Adj Flow Rate, veh/h	286	55	73	29	66	12	98	873	17	65	1140	447
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	0	0	0	0	5	0	3	4	1
Cap, veh/h	450	205	272	377	381	69	191	1946	38	390	1410	539
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.55	0.55	0.54	0.55	0.55	0.54
Sat Flow, veh/h	1393	805	1068	1181	1498	272	329	3509	68	637	2543	971
Grp Volume(v), veh/h	286	0	128	29	0	78	98	435	455	65	797	790
Grp Sat Flow(s),veh/h/ln	1393	0	1873	1181	0	1771	329	1749	1828	637	1798	1717
Q Serve(g_s), s	11.0	0.0	3.0	1.1	0.0	1.9	10.0	8.1	8.1	3.7	19.5	21.0
Cycle Q Clear(g_c), s	12.4	0.0	3.0	3.6	0.0	1.9	30.5	8.1	8.1	11.8	19.5	21.0
Prop In Lane	1.00		0.57	1.00		0.15	1.00		0.04	1.00		0.57
Lane Grp Cap(c), veh/h	450	0	477	377	0	451	191	970	1014	390	997	952
V/C Ratio(X)	0.64	0.00	0.27	0.08	0.00	0.17	0.51	0.45	0.45	0.17	0.80	0.83
Avail Cap(c_a), veh/h	450	0	477	377	0	451	191	970	1014	390	997	952
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	0.09	0.09	0.09
Uniform Delay (d), s/veh	20.6	0.0	16.6	17.7	0.0	16.0	24.5	7.3	7.3	10.8	9.8	10.4
Incr Delay (d2), s/veh	2.9	0.0	0.3	0.1	0.0	0.2	9.6	1.5	1.4	0.1	0.6	0.8
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	6.3	0.0	2.1	0.5	0.0	1.3	3.0	4.3	4.5	0.7	6.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.5	0.0	16.9	17.8	0.0	16.2	34.1	8.8	8.7	10.9	10.4	11.2
LnGrp LOS	C		B	B		B	C	A	A	B	B	B
Approach Vol, veh/h	414			107			988			1652		
Approach Delay, s/veh	21.5			16.6			11.3			10.8		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	36.0			19.0			36.0			19.0		
Change Period (Y+Rc), s	6.5			6.0			6.5			6.0		
Max Green Setting (Gmax), s	29.5			13.0			29.5			13.0		
Max Q Clear Time (g_c+l1), s	10.6			14.9			23.0			6.1		
Green Ext Time (p_c), s	14.6			0.0			6.4			0.2		
Intersection Summary												
HCM 7th Control Delay, s/veh	12.5											
HCM 7th LOS	B											