

TRANSPORTATION IMPACT STUDY FOR

DRI #4430 SYLVAN MIXED USE

DATE:

September 29, 2025

LOCATION:

Atlanta, Fulton County, Georgia

PREPARED FOR:

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Executive Summary

A new mixed-use development is proposed for construction at the southwest corner of the intersection of Sylvan Road with Avon Avenue in Atlanta, Georgia (see Appendix A for the site plan detail). The proposed development will consist of 3,032 high-rise apartments, a 300-room hotel, 20,000 square feet of civic space, 257,050 square feet of office space, and 147,255 square feet of retail/restaurant space. The development will construct two (2) new access points along the west side of Sylvan Road on either side of a recently constructed townhome development.

The proposed development consists of five (5) buildings with parking decks below and will repurpose an existing building for affordable housing. Building Areas A-D will have access to Sylvan Road via Driveway A and Building Area E will have exclusive access to Driveway B.

Existing intersections adjacent to the planned development, in addition to the two access points, were evaluated to determine if new roadway geometries or traffic controls will be needed at full build-out. The following intersections were evaluated:

1. Lee Street (US 29) & Campbellton Road / Dill Avenue
2. Lee Street (US 29) & Avon Avenue
3. Lee Street (US 29) & Sylvan Road
4. Murphy Avenue & Dill Avenue
5. Murphy Avenue & Avon Avenue
6. Sylvan Road & Deckner Avenue / Brewer Boulevard
7. Sylvan Road & Dill Avenue
8. Sylvan Road & Avon Avenue
9. Sylvan Road & Murphy Avenue
10. Dill Avenue & Allene Avenue
11. Metropolitan Parkway (US 19/41) & Dill Avenue
12. Sylvan Road & Site Driveway A
13. Sylvan Road & Site Driveway B

In Existing Conditions, there are several intersections that operate at unsatisfactory levels of service (LOS) during the peak periods, particularly the side street approaches at the signalized intersections along Lee Street and the unsignalized intersections on the east side of the railroad tracks along Murphy Avenue at Dill Avenue and Sylvan Road. The following improvements result in all approaches at the intersections operating satisfactory (LOS D or better):

Lee Street at Campbellton Road / Dill Avenue

- Add a second eastbound left-turn lane
- Reduce the cycle length of the intersection to 110 seconds during the peak periods

Lee Street at Avon Avenue

- Add a second eastbound left-turn lane (the shared left/right would remain)

- Reduce the cycle length to 100 seconds during the AM peak period and 110 seconds during the PM peak period.

Lee Street at Sylvan Road

- Add a westbound right-turn overlap phase with the existing southbound left-turn phase

Murphy Avenue at Dill Avenue

- Signalize the intersection
- Keep the existing eastbound and northbound left-turn lanes
- Include an eastbound left-turn phase

Sylvan Road at Murphy Avenue

- Signalize the intersection

In No-Build conditions, there are several projects in the area that are expected to have an impact on traffic operations at the study intersections. The City of Atlanta recently approved plans to change the eastbound shared through/right-lane the intersection of Lee Street with Campbellton Road / Dill Avenue to a right-turn only lane as well as remove the receiving lane. The same project plans to turn the intersection of Murphy Avenue with Dill Avenue to an all-way stop to improve pedestrian access. These two projects are expected to have a negative impact on traffic operations at the two intersections, resulting in high delay and possibly queuing from Murphy Avenue into the intersection at Lee Street. Additionally, the same intersections that currently operate with unsatisfactory LOS are not expected to receive any significant future improvements and will likely continue to operate unsatisfactorily without changes. The intersection of Sylvan Road with Dill Avenue is expected to operate unsatisfactorily during both peak periods with increased traffic growth by the year 2035. The following changes would improve the LOS at these intersections to satisfactory operations:

Lee Street at Campbellton Road / Dill Avenue

- Maintain the existing eastbound lane configuration
- Add a second eastbound left-turn lane
- Reduce the cycle length of the intersection to 110 seconds during both peak periods

Lee Street at Avon Avenue

- Add a second eastbound left-turn lane (the shared left/right would remain)
- Reduce the cycle length to 110 seconds during both peak periods.

Lee Street at Sylvan Road

- Add a westbound right-turn overlap phase with the existing southbound left-turn phase
- Reduce the cycle length to 110 seconds during both peak periods

Murphy Avenue at Dill Avenue

- Signalize the intersection
- Keep the existing eastbound and northbound left-turn lanes
- Include an eastbound left-turn phase

Sylvan Road at Dill Avenue

- Signalize the intersection

Sylvan Road at Murphy Avenue

- Signalize the intersection

In Build conditions, the addition of project traffic is expected to have an impact on many of the study intersections, especially those that are closest to the site along Sylvan Road. In addition to the intersections previously mentioned in No-Build conditions, the westbound approach at the intersection of Sylvan Road with Avon Avenue is expected to operate at LOS F during both peak hours, though this is a fairly low volume approach. Also, the northbound approach at the intersection of Metropolitan Parkway with Dill Avenue is expected to operate at LOS E during both peak hours, likely due to the eastbound signal phase triggering more often with added traffic to that approach. The following changes are needed for the intersections to operate at an acceptable LOS D.

Lee Street at Campbellton Road / Dill Avenue

- Maintain the existing eastbound lane configuration.
- Add a second eastbound left-turn lane
- Add a northbound right-turn lane
- Reduce the cycle length of the intersection to 110 seconds during both peak periods

Lee Street at Avon Avenue

- Add a second eastbound left-turn lane (the shared left/right would remain)
- Reduce the cycle length to 110 seconds during the AM peak period and 100 seconds during the PM peak period.

Lee Street at Sylvan Road

- Add a westbound right-turn overlap phase with the existing southbound left-turn phase
- Reduce the cycle length to 110 seconds during both peak periods

Murphy Avenue at Dill Avenue

- Signalize the intersection

- Keep the existing eastbound and northbound left-turn lanes
- Include an eastbound left-turn phase

Sylvan Road at Dill Avenue

- Signalize the intersection
- Add an eastbound left-turn lane

Sylvan Road at Avon Avenue

- Signalize the intersection

Sylvan Road at Murphy Avenue

- Signalize the intersection

Metropolitan Parkway at Dill Avenue

- Add an eastbound left-turn lane

Table A provides a comparison of each scenario (Existing, No-Build, and Build conditions) and identifies when mitigation is needed and the how each scenario is expected to operate with and without mitigation. *(Note that mitigation for Existing conditions was not identified because the City of Atlanta and/or GDOT projects will result in operational changes for most of the signalized intersections in the study area.)* Table B shows the queueing at approaches that operate at LOS E or F and are expected to have traffic added by the development.

Parameters evaluated for Mitigation Conditions are identified on the following pages of the Executive Summary and are labelled “Recommended Roadway Improvement Advisory Conditions” since all of these improvements are likely to be needed without the addition of project traffic and are expected to be sufficient when including the additional project generated traffic. These parameters are also identified in Report Section D: Traffic Impact Analysis and Report Section F: Recommendations, for reference. The “General Conditions” and “Recommended Roadway Improvement Conditions of Approval” for DRI #4430 are on the pages following Table B results.

Table A: Capacity Analysis Result Summary

ID	Intersection	Movement	AM															PM														
			Existing		Mitigated		No-Build		Mitigated		Build		Mitigated		Site Traffic	Total Traffic	% of Total Traffic	Existing		Mitigated		No-Build		Mitigated		Build		Mitigated		Site Traffic	Total Traffic	% of Total Traffic
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay			
1	Lee St & Campbellton Rd / Dill Ave	Overall	C	31.5	D	36.9	D	45.1	D	40.0	F	96.9	C	34.4	368	3,516	10.0%	C	24.9	C	26.0	C	32.5	C	27.3	E	62.9	D	36.8	526	4,345	12.0%
		EB	E	58.6	D	54.4	E	70.9	D	47.3	E	62.0	D	54.0	75	462	16.0%	D	48.4	D	54.8	D	53.4	D	45.1	E	55.2	D	54	91	507	18.0%
		WB	D	50.5	D	45.3	D	50.9	D	44.0	D	48.0	D	42.8	125	421	30.0%	D	52.3	D	53.6	E	62.6	D	54.9	F	149.1	D	49.5	211	792	27.0%
		NB	C	31.0	D	38.1	D	48.6	D	45.7	F	129.2	C	32.4	101	1,985	5.0%	C	22.4	B	19.3	C	26.0	C	22.5	D	37.1	C	28.4	123	1,405	9.0%
		SB	A	6.3	B	15.8	A	9.1	A	9.5	C	23.9	B	14.7	67	648	10.0%	B	11.7	B	15.2	C	23.2	B	17.9	D	54.5	C	33.8	101	1,641	6.0%
2	Lee St & Avon Ave	Overall	A	6.9	A	8.1	A	7.4	A	5.3	A	8.6	A	5.7	138	2,782	5.0%	A	5.1	A	4.3	A	5.2	A	4.5	A	6.4	A	6.5	197	3,347	6.0%
		EB	E	72.5	D	50.4	E	75.5	D	54.9	F	80.1	D	54.7	25	208	12.0%	E	62.9	D	53.5	E	62.2	D	54.6	E	60.8	D	50.8	31	173	18.0%
		NB	A	0.3	A	4.9	A	0.4	A	0.3	A	0.7	A	0.4	71	1,991	4.0%	A	0.8	A	0.9	A	0.6	A	1	A	1.4	A	4.6	96	1,496	6.0%
		SB	A	4.0	A	2.7	A	4.5	A	2.8	A	5.3	A	3.1	42	583	7.0%	A	3.8	A	3.0	A	4.3	A	3.2	A	5.3	A	3.6	70	1,678	4.0%
3	Lee St & Sylvan Rd	Overall	B	13.2	C	20.8	B	17.6	B	13.9	D	38.5	D	46.0	275	3,108	9.0%	C	23.0	B	11.9	C	25.8	B	13.8	D	45.0	C	29.4	394	3,752	11.0%
		WB	F	97.9	D	52.3	F	126.8	D	50.3	F	236.7	D	49.2	124	395	31.0%	E	59.1	D	47.9	E	60.9	D	46.7	F	91.7	C	34.5	211	435	49.0%
		NB	A	4.3	C	21.0	A	6.7	B	11.8	A	9.1	D	52.3	50	2,012	2.0%	C	33.6	B	12.0	D	37.1	B	14.2	E	57.6	D	38	61	1,536	4.0%
		SB	A	5.2	A	8.3	A	5.4	A	5.5	B	14.3	C	29.2	101	701	14.0%	A	8.1	A	6.5	B	10.4	A	8.6	C	21.3	C	20.4	122	1,781	7.0%
4	Dill Ave & Murphy Ave	Overall	-	-	B	14.5	F	69.9	B	14.9	F	181.5	B	14.7	276	1,203	23.0%	-	-	B	19.5	F	138.7	C	23	F	>300	C	29	395	1,735	23.0%
		NB	F	227.0	A	3.6	B	15.0	A	4.0	C	17.7	A	4.3	151	707	21.0%	F	236.1	A	6.2	C	16.3	B	12.8	C	23.0	C	25.4	184	852	22.0%
		SB	C	21.2	B	10.6	B	11.4	B	13.1	B	13.7	B	17.4	104	267	39.0%	C	21.2	B	16.2	C	23.3	B	19.1	E	45.7	C	22.1	176	413	43.0%
		EB	A	8.6	D	47.6	F	104.3	D	46.7	F	285.8	D	45.9	0	172	0.0%	A	8.4	D	42.0	F	219.8	D	41	F	>300	D	40	0	128	0.0%
		WB	A	8.1	D	44.2	B	12.6	D	42.8	C	19.1	D	42.0	21	57	37.0%	A	8.4	D	43.8	C	19.4	D	42.1	F	82.3	D	43	35	342	10.0%
5	Murphy Ave & Avon Ave	WB	C	15.3	Not Needed		C	16.3	Not Needed		C	19.2	Not Needed		21	24	88.0%	B	14.2	Not Needed		C	15.2	Not Needed		C	17.9	Not Needed		35	45	78.0%
		SB	A	8.5	Not Needed		A	8.7	Not Needed		A	8.8	Not Needed		0	42	0.0%	A	8.0	Not Needed		A	8.1	Not Needed		A	8.2	Not Needed		0	308	0.0%
6	Sylvan Rd & Deckner Ave / Brewer Blvd	Overall	B	13.7	Not Needed		B	14.7	Not Needed		B	17.7	Not Needed		92	939	10.0%	B	10.8	Not Needed		B	11.3	Not Needed		B	14.2	Not Needed		131	1,059	12.0%
		WB	C	27.9	Not Needed		C	30.2	Not Needed		C	28.6	Not Needed		25	60	42.0%	C	25.1	Not Needed		C	27.5	Not Needed		C	27.3	Not Needed		30	91	33.0%
		NWB	C	25.8	Not Needed		C	28.3	Not Needed		C	28.6	Not Needed		0	47	0.0%	C	29.3	Not Needed		C	31.7	Not Needed		C	30.9	Not Needed		0	23	0.0%
		NB	B	13.0	Not Needed		B	14.1	Not Needed		B	17.9	Not Needed		25	629	4.0%	A	9.2	Not Needed		A	9.5	Not Needed		B	10.3	Not Needed		31	510	6.0%
		SB	A	7.9	Not Needed		A	7.9	Not Needed		B	10.1	Not Needed		42	203	21.0%	A	8.7	Not Needed		A	8.9	Not Needed		B	14.6	Not Needed		70	435	16.0%
7	Sylvan Rd & Dill Ave	Overall	C	20.6	Not Needed		D	32.0	B	10.9	F	156.1	B	13.4	460	1,480	31.0%	C	24.0	Not Needed		E	42.0	B	10.4	F	273.8	C	32.2	656	1,891	35.0%
		EB	B	12.4	Not Needed		B	14.0	B	12.0	F	55.4	B	13.7	126	295	43.0%	C	17.6	Not Needed		C	24.1	B	12.1	F	171.1	C	27.1	153	407	38.0%
		WB	B	14.3	Not Needed		C	16.9	B	13.5	F	70.2	B	16.1	75	313	24.0%	C	18.8	Not Needed		D	26.5	B	12.2	F	116.3	C	27.7	91	381	24.0%
		NB	D	28.8	Not Needed		F	50.3	B	10.1	F	>300	B	13.0	50	549	9.0%	D	34.6	Not Needed		F	72.5	A	9.7	F	279.8	B	17.9	61	498	12.0%
		SB	B	11.5	Not Needed		B	12.7	A	7.0	F	89.5	B	11.4	209	323	65.0%	C	17.8	Not Needed		C	24.7	A	8	F	>300	D	49.5	351	605	58.0%
8	Sylvan Rd & Avon Ave	Overall	-	-	Not Needed		-	-	Not Needed		-	-	A	7.9	460	1,148	40.0%	-	-	Not Needed		-	-	Not Needed		-	-	A	7.2	657	1,370	48.0%
		EB	C	16.3	Not Needed		C	18.1	Not Needed		D	27.3	B	18.1	25	37	68.0%	B	14.2	Not Needed		C	15.2	Not Needed		C	20.0	B	15.5	31	38	82.0%
		WB	B	13.7	Not Needed		B	14.5	Not Needed		F	59.1	B	16.8	25	47	53.0%	B	12.9	Not Needed		B	13.8	Not Needed		F	98.4	B	15.3	31	55	56.0%
		NBL	A	8.5	Not Needed		A	8.5	Not Needed		A	9.6	A	7.6	208	752	28.0%	A	8.4	Not Needed		A	8.5	Not Needed		A	9.8	A	7	351	763	46.0%
		SBL	A	8.7	Not Needed		A	8.9	Not Needed		A	9.7	A	4.3	202	312	65.0%	A	8.1	Not Needed		A	8.2	Not Needed		A	9.3	A	5.6	244	514	47.0%
9	Sylvan Rd & Murphy Ave	Overall	E	42.3	C	24.6	F	99.4	C	24.2	F	177.0	C	24.5	368	1,496	25.0%	C	22.6	C	26.1	E	40.2	C	26.2	F	213.6	C	28.1	525	1,684	31.0%
		EB	A	0.4	A	7.6	A	0.5	A	8.5	A	0.3	B	10.2	151	283	53.0%	A	0.4	A	8	A	0.4	A	9.6	A	0.3	B	15.9	183	447	41.0%
		WB	F	68.9	B	11.2	F	182.3	B	13.2	F	>300	B	16.1	166	728	23.0%	D	30.1	A	9.6	F	60.1	B	11.7	F	>300	C	23.2	281	712	39.0%

ID	Intersection	Movement	AM															PM														
			Existing		Mitigated		No-Build		Mitigated		Build		Mitigated		Site Traffic	Total Traffic	% of Total Traffic	Existing		Mitigated		No-Build		Mitigated		Build		Mitigated		Site Traffic	Total Traffic	% of Total Traffic
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay				LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay			
		NB	C	22.2	D	47.6	C	18.3	D	44.5	C	21.9	D	45.3	0	345	0.0%	C	22.9	D	44.6	D	32.0	D	42.2	D	27.6	C	33.8	0	222	0.0%
		SB	C	17.5	D	38.2	D	29.2	C	33.5	C	16.8	D	43.7	51	140	36.0%	D	31.7	D	48.2	F	58.8	D	46.7	F	207.5	D	49.8	61	303	20.0%
10	Dill Ave & Alene Ave	Overall	A	8.6	Not Needed	A	8.9	Not Needed	B	10.6	Not Needed	184	650	28.0%	A	10.0	Not Needed	B	10.7	Not Needed	C	16.0	Not Needed	262	919	29.0%						
		EB	A	8.7		A	9.1		B	10.5		63	261	24.0%	B	10.6		B	11.5		C	17.9		105	432	24.0%						
		WB	A	8.8		A	9.1		B	11.1		100	303	33.0%	A	9.8		B	10.5		C	15.7		122	382	32.0%						
		NB	A	8.0		A	8.2		A	8.8		0	28	0.0%	A	8.5		A	8.7		A	9.8		0	20	0.0%						
		SB	A	8.0		A	8.1		A	9.1		21	58	36.0%	A	8.6		A	8.8		B	10.7		35	85	41.0%						
11	Metropolitan Pkwy & Dill Ave	Overall	B	14.3	Not Needed	B	16.7	Not Needed	C	28.5	B	19.0	184	2,238	8.0%	B	13.6	Not Needed	B	15.4	Not Needed	D	41.2	B	18.7	262	2,536	10.0%				
		EB	D	45.3		D	44.7		D	49.5	D	38.1	84	325	26.0%	D	44.7		D	43.9		D	49.8	D	36	140	395	35.0%				
		WB	C	30.7		C	29.3		C	25.5	C	29.6	0	51	0.0%	C	30.3		C	28.6		C	21.6	C	28.6	0	52	0.0%				
		NB	B	10.9		B	14.4		C	30.0	B	18.2	50	1,369	4.0%	A	8.6		B	10.9		E	63.0	B	18.5	61	903	7.0%				
		SB	A	6.4		A	7.4		A	9.9	A	7.3	50	493	10.0%	A	9.1		B	11.5		C	20.6	B	12.1	61	1,186	5.0%				

Table B: Queue Analysis Result Summary – Existing, No-Build, and Build Condition Relationships

ID	Intersection	Control	Movement	Storage Length	Queue Length 50th/95th Percentile											
					Existing				No-Build				Build			
					AM		PM		AM		PM		AM		PM	
1	Lee St & Campbellton Rd / Dill Ave	Signal	EBL	545	141	220	112	163	146	249	122	177	173	310	134	262
			EBT	620	62	96	77	110	123	188	153	217	162	237	198	280
			EBR	620					0	0	0	0	0	0	0	0
			WBL	50	37	61	101	146	39	60	111	154	87	112	205	353
			WBTR	175	45	64	103	144	55	71	121	161	90	103	176	224
			NBL	1,035	12	27	32	64	15	35	36	73	17	38	42	86
			NBTR	1,035	720	986	420	514	1,039	1,234	489	641	1,218	1,331	615	757
2	Lee St & Avon Ave	Signal	EB	620	144	194	83	144	159	214	94	156	180	253	111	180
3	Lee St & Sylvan Rd	Signal	WBL	60	14	37	38	72	15	39	41	77	47	91	102	149
			WBR	60	103	200	0	59	129	267	0	60	239	432	31	109
			NBTR	1,160	436	354	174	620	276	1,004	363	740	408	1,053	710	755
4	Dill Ave & Murphy Ave	TWSC (AWS Future)	EBL	50	41	82	38	75	112	156	146	172	142	173	163	181
			EBTR	175	4	30	7	47								
			WBL	245	0	0	0	0	48	76	59	93	74	131	889	1,615
			WBTR	1,810	4	22	27	98								
			NBL	140	53	107	59	116	48	81	41	72	52	85	64	120
			NBTR	355	19	40	19	44								
SBLTR	1,535	28	63	217	494	38	72	99	169	32	55	656	927			
7	Sylvan Rd & Dill Ave	AWSC	EBLTR	1,810	54	94	72	116	61	111	63	108	154	313	225	523
			WBLTR	1,520	66	102	70	116	61	93	72	119	147	346	381	867
			NBLTR	395	105	177	115	194	125	194	138	258	1,024	1,748	968	1,703
			SBLTR	1,340	44	82	60	90	45	78	81	143	70	107	134	286
8	Sylvan Rd & Avon Ave	TWSC	WBLTR	1,280	12	43	17	41	22	50	17	44	244	462	451	917
9	Sylvan Rd & Murphy Ave	3-Way Stop	WBLTR	700	311	828	140	367	808	1,631	272	552	1,430	1,451	1,414	1,525
			SBLTR	845	42	79	110	267	54	122	154	276	59	110	555	925
11	Metropolitan Pkwy & Dill Ave	Signal	NBLTR	670	262	379	132	218	344	483	171	278	497	636	403	505

To receive the Notice of Decision Request for Non-Expedited DRI #4430 – Sylvan Road Mixed-Use, the following General Conditions and Roadway Improvement Conditions of Approval are recommended.

General Conditions:

Pedestrian, Bicycle, and Transit Facilities

- Provide sidewalk along road frontage of Sylvan Road including ramps and crosswalks across the proposed access points in accordance with City of Atlanta’s requirements.
- Provide space for the MARTA Bus Stop service along Sylvan Road.
- Provide continuous and accessible pedestrian pathways connecting all buildings within the development to existing and planned sidewalks and public spaces.
- Provide direct pedestrian and bicycle connectivity to the future Beltline Westside Trail along the western edge of the site.
- Continue collaboration with the City of Atlanta, GDOT, and MARTA to identify and implement enhancements to the local transportation network, including transit accessibility, pedestrian safety, and bicycle connectivity. Consider hosting coordination meetings with stakeholders during the design and development processes to align project goals with ongoing and planned improvements in the area.
- Evaluate the feasibility of adding or improving multimodal connections to existing MARTA rail stations, prioritizing infrastructure that reduces first-mile/last-mile barriers, as well as working with MARTA to identify opportunities for improved bus stop facilities and enhanced connectivity to nearby transit hubs.
- Install wayfinding signage at entrances and exits of development to desired destinations, transit stations, and preferred pedestrian and bicycle routes.

Recommended Roadway Improvement Conditions of Approval:

10th Street

- Work with City of Atlanta DOT and the Atlanta BeltLine to include pedestrian improvements at the intersection of Sylvan Road with Avon Avenue and ensure site construction allows for improvements including a possible signal at the intersection

Recommended Roadway Improvement Advisory Conditions:

Lee Street at Campbellton Road / Dill Avenue

- Maintain the existing eastbound lane configuration
- Add a second eastbound left-turn lane
- Add a northbound right-turn lane
- Reduce the cycle length of the intersection to 110 seconds during both peak periods

Lee Street at Avon Avenue

- Add a second eastbound left-turn lane (the shared left/right would remain)
- Reduce the cycle length to 110 seconds during the AM peak period and 100 seconds during the PM peak period.

Lee Street at Sylvan Road

- Add a westbound right-turn overlap phase with the existing southbound left-turn phase
- Reduce the cycle length to 110 seconds during both peak periods

Murphy Avenue at Dill Avenue

- Signalize the intersection
- Keep the existing eastbound and northbound left-turn lanes
- Include an eastbound left-turn phase

Sylvan Road at Dill Avenue

- Signalize the intersection
- Add an eastbound left-turn lane

Sylvan Road at Avon Avenue

- Signalize the intersection

Sylvan Road at Murphy Avenue

- Signalize the intersection

Metropolitan Parkway at Dill Avenue

- Add an eastbound left-turn lane

Other Recommendations:

- Recommend that MARTA consider restoring bus service along Sylvan Road in front of the proposed development at Avon Avenue and Cox Avenue.

These conditions are based on the approved Methodology Meeting inputs and parameters identified in the Georgia Regional Transportation Authority (GRTA) Letter of Understanding (LOU), dated Tuesday, June 10, 2025. The GRTA LOU is provided at the end of this report for reference.

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A. Introduction

A new mixed-use development is proposed for construction at the southwest corner of the intersection of Sylvan Road with Avon Avenue in Atlanta, Georgia (see Appendix A for the site plan detail). The proposed development will consist of 3,032 high-rise apartments, a 300-room hotel, 20,000 square feet of civic space, 257,050 square feet of office space, and 147,255 square feet of retail/restaurant space. The development will construct two (2) new access points along the west side of Sylvan Road on either side of a recently constructed townhome development. The development is divided into five (5) building areas with the following breakdown:

- Building Area A will comprise of 300 residential units and 42,989 SF of retail
- Building Area B will comprise of 68 residential units and 4,460 SF of retail
- Building Area C will comprise of 682 residential units and 27,454 SF of retail
- Building Area D will comprise of 486 residential units, the 300-room hotel and 33,657 SF of retail
- Building Area E will comprise of 1,496 residential units, the 257,050 SF of office space, the 20,000 SF of civic space, and 38,695 SF of retail

Building Areas A-D will have access to Sylvan Road via one (1) full-access driveway via Cox Avenue and Building Area E will have its own exclusive access to Sylvan Road north of a townhome development (located at 1285 Sylvan Road). There is currently no vehicular circulation planned between Building Area E and the rest of the development.

The purpose of this assessment is to identify the traffic expected to be generated by new vehicular trips when the development is completed in the year 2035. The traffic study includes existing traffic volumes, future traffic volumes (2035), trip generation, directional distribution, and anticipated traffic impacts at the following existing intersections:

1. Lee Street (US 29) & Campbellton Road / Dill Avenue
2. Lee Street (US 29) & Avon Avenue
3. Lee Street (US 29) & Sylvan Road
4. Murphy Avenue & Dill Avenue
5. Murphy Avenue & Avon Avenue
6. Sylvan Road & Deckner Avenue / Brewer Boulevard
7. Sylvan Road & Dill Avenue
8. Sylvan Road & Avon Avenue
9. Sylvan Road & Murphy Avenue
10. Dill Avenue & Allene Avenue
11. Metropolitan Parkway (US 19/41) & Dill Avenue
12. Sylvan Road & Site Driveway A
13. Sylvan Road & Site Driveway B

Figure 1 shows the location of the proposed development in the City of Atlanta.

Figure 1. Site Location

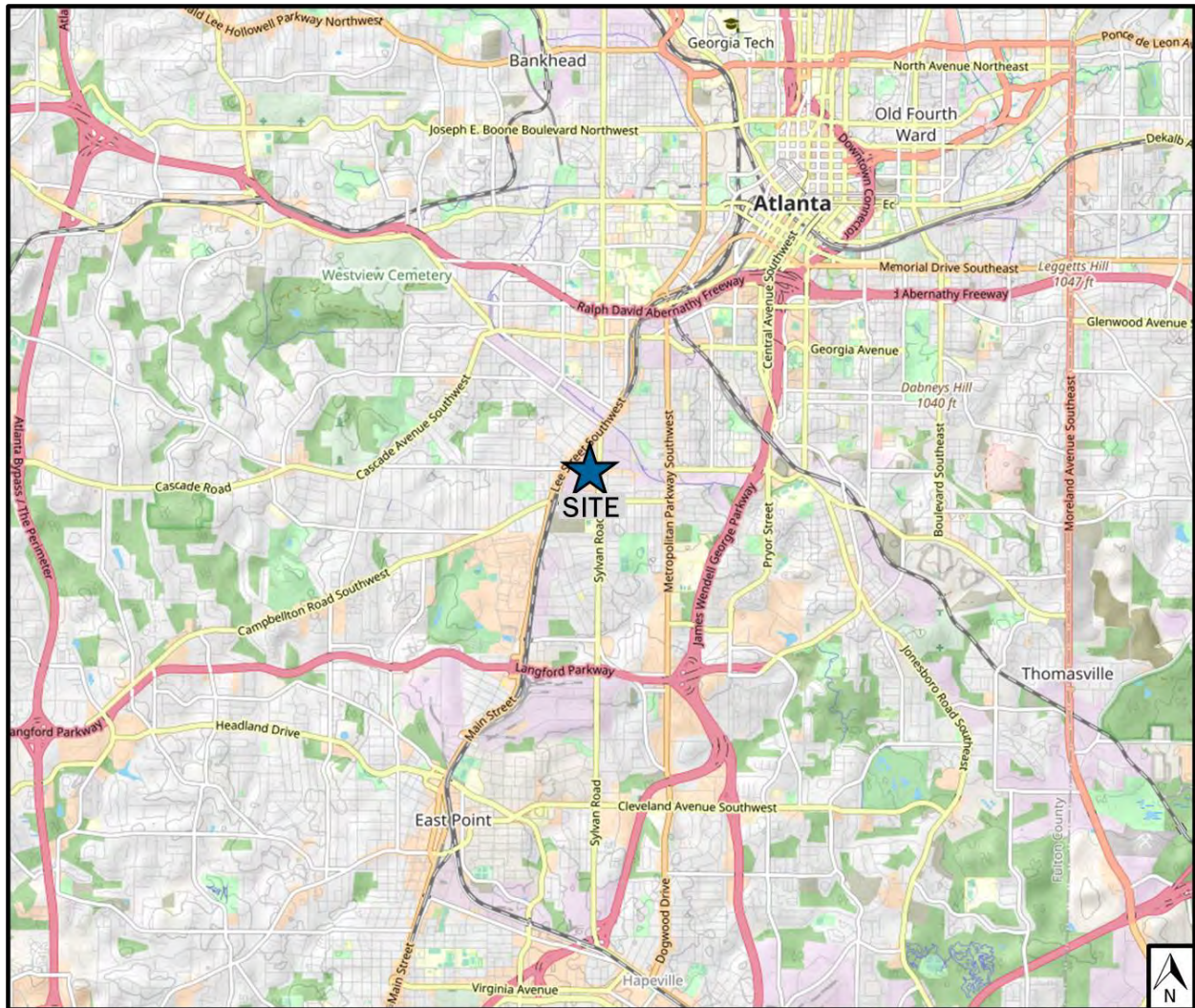
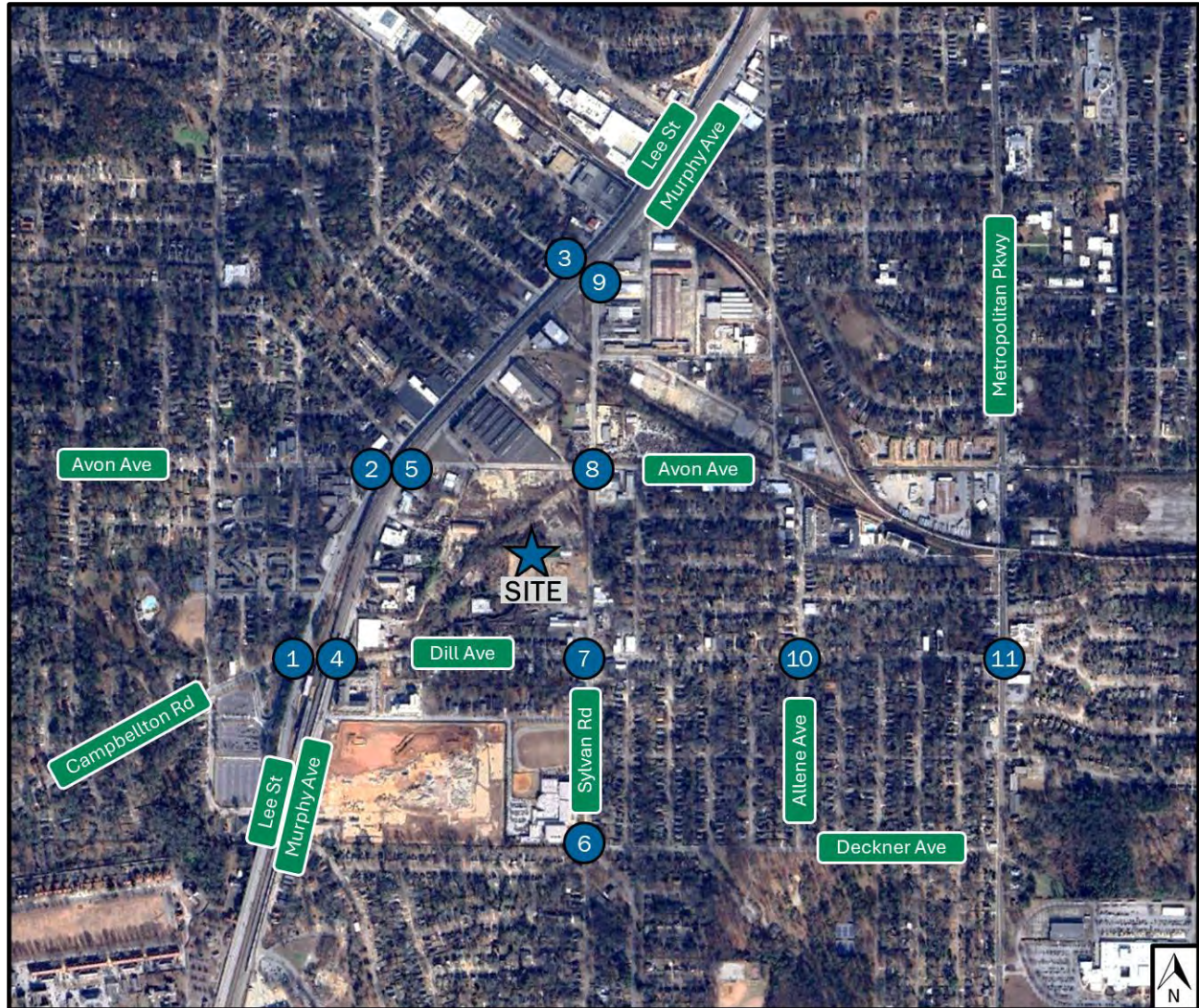


Figure 2 shows the site location and study intersections mentioned above. Figure 3 shows the proposed development with associated driveway locations. Access to the site will be via the two (2) outlets shown in Figure 3 and mentioned above. The proposed site plan is provided in Appendix A.

Figure 2. Site Location Aerial & Study Intersections



- | | |
|--|---|
| 1. Lee Street (US 29) & Campbellton Road / Dill Avenue | 7. Sylvan Road & Dill Avenue |
| 2. Lee Street (US 29) & Avon Avenue | 8. Sylvan Road & Avon Avenue |
| 3. Lee Street (US 29) & Sylvan Road | 9. Sylvan Road & Murphy Avenue |
| 4. Murphy Avenue & Dill Avenue | 10. Dill Avenue & Allene Avenue |
| 5. Murphy Avenue & Avon Avenue | 11. Metropolitan Parkway (US 19/41) & Dill Avenue |
| 6. Sylvan Road & Deckner Avenue / Brewer Boulevard | |

Figure 3. Site Driveway Locations



B. Existing Conditions

B.1. Project Phasing

For the purposes of this study, the development will be completed in a single phase by 2035.

B.2. Transportation Facilities and LOS Standards

Major Roadways:

Sylvan Road is a two-lane undivided minor arterial roadway with dedicated bike lanes. Sylvan Road runs south from its intersection with Lee Street towards the Hartsfield-Jackson International airport. Sylvan Hills Middle School is located half a mile south of its intersection with Avon Avenue and the speed limit on the roadway reduces from 35 MPH to 25 MPH within the school zone. Land use along Sylvan Road north of Dill Avenue is primarily industrial with residential south of Dill Avenue.

Murphy Avenue is a two-lane undivided major collector that runs north/south, parallel to Lee Street on the east side of the Norfolk Southern Railroad and the red/gold MARTA rail line. Murphy Avenue has markings for bikes to share the road, and some sections have dedicated bike lanes. The speed limit along Murphy Avenue is 25 MPH and land use is primarily industrial in the area around the proposed site.

Dill Avenue is a two-lane undivided local roadway that runs east from its intersection with Lee Street towards US-41. The roadway has markings for bicyclists and sections of the roadway also have dedicated lanes for bikes. It has a posted speed limit of 25 MPH and land use along Dill Avenue is primarily residential. The roadway shares an intersection with Lee Street opposite Campbellton Road.

Campbellton Road is a four-lane undivided local roadway that runs west from its intersection with Lee Street towards Interstate 285 and SR 154. Campbellton Road has a posted speed limit of 35 MPH near the project site and most of the land uses along Campbellton Road are residential. The Oakland City MARTA station is located on the southeast corner of the intersection of Campbellton Road and Lee Street.

Lee Street (US 29) is a five-lane undivided major collector that runs north from its intersection with Dill Avenue towards Atlanta, Georgia and south towards East Point. The roadway has a posted speed limit of 40 MPH and runs parallel to the red/gold MARTA rail line. Land use along Lee Street is primarily commercial.

Minor Roadways:

Avon Avenue is a two-lane undivided principal arterial that runs east-west in the study area. The road runs east from its intersection with Murphy Avenue and loops south until it intersects with Dill Avenue, changing to being called **Allene Avenue** when it changes to a north/south orientation. The roadway has a speed limit of 25 miles per hour (MPH) and land uses are primarily industrial along its length. A spur of the Atlanta Beltline is proposed along the north side of the roadway. Avon Avenue also runs west of Lee Street but does not have a crossing

over the railroad that separates Lee Street and Murphy Avenue.

Deckner Avenue is a two-lane, undivided local road that runs largely parallel to Dill Avenue and provides another connection in the area between Sylvan Road and Metropolitan Parkway. The posted speed limit along Deckner Avenue is 25 MPH and is primarily a residential roadway.

Brewer Boulevard is another two-lane undivided local road that shares an intersection at Sylvan Road with Deckner Avenue, running southeast into a residential neighborhood and eventually Perkerson Elementary School. The speed limit along Brewer Boulevard is 30 MPH.

LOS D is considered the minimum standard unless Existing Conditions are lower.

B.3. Pedestrian and Multi-Use Facilities

There are sidewalks along the roadways adjacent to the proposed site, though they are often incomplete or only along one side of the roadway. There are dedicated bike lanes along Murphy Avenue, Sylvan Road, and Dill Avenue near the site. There is also the Atlanta Beltline Southside and Westside Trails that are located just northeast of the site, providing easy long-range bike and pedestrian access. The Beltline has multiple sections under construction with plans to eventually provide a continuous loop around the city.

Future trails include the Lee Street Trail, which is projected to be constructed by 2030 along the east side of Lee Street from the West End MARTA station to the Lakewood-Fort McPherson station and include pedestrian intersection improvements at all intersections along Lee Street in this section. The Beltline Southside Trail is proposed to get another spur trail which will run along the west side of the proposed mixed-use development between it and the neighboring Avon Avenue development. The spur is expected to run from the existing spur at the intersection of Allene Avenue and Avon Avenue and run southwest with connection to Dill Avenue and the Oakland City MARTA Station entrance on Murphy Avenue with a signalized crossing at Division Street. This spur of the Beltline is projected for construction to be completed by the end of 2028.

Figure 4 illustrates the existing and future sidewalks, bike lanes, and trails that will surround the proposed development.

B.4. Transit Facilities

MARTA Route 79 (Sylvan Hills) currently operates along Avon Avenue with stops at the intersections of Avon Avenue with Sylvan Road and Sylvan Road with Cox Avenue. The route runs between Oakland City Station and East Point Station; however, it was noted at the June 2, 2025, methodology meeting, that service along Murphy Avenue, Avon Avenue, and Sylvan Road is being discontinued. The Campbellton Corridor BRT project is projected for construction by the end of 2030 which will provide rapid transit along Campbellton Road to the Greenbriar Mall area of west Atlanta. This will include a stop at the Oakland City MARTA Station. Figure 5 shows the planned MARTA bus routes in the area and nearby rail station.

Figure 4. Alternative Transportation Map – Pedestrian & Multi-Use Path Infrastructure

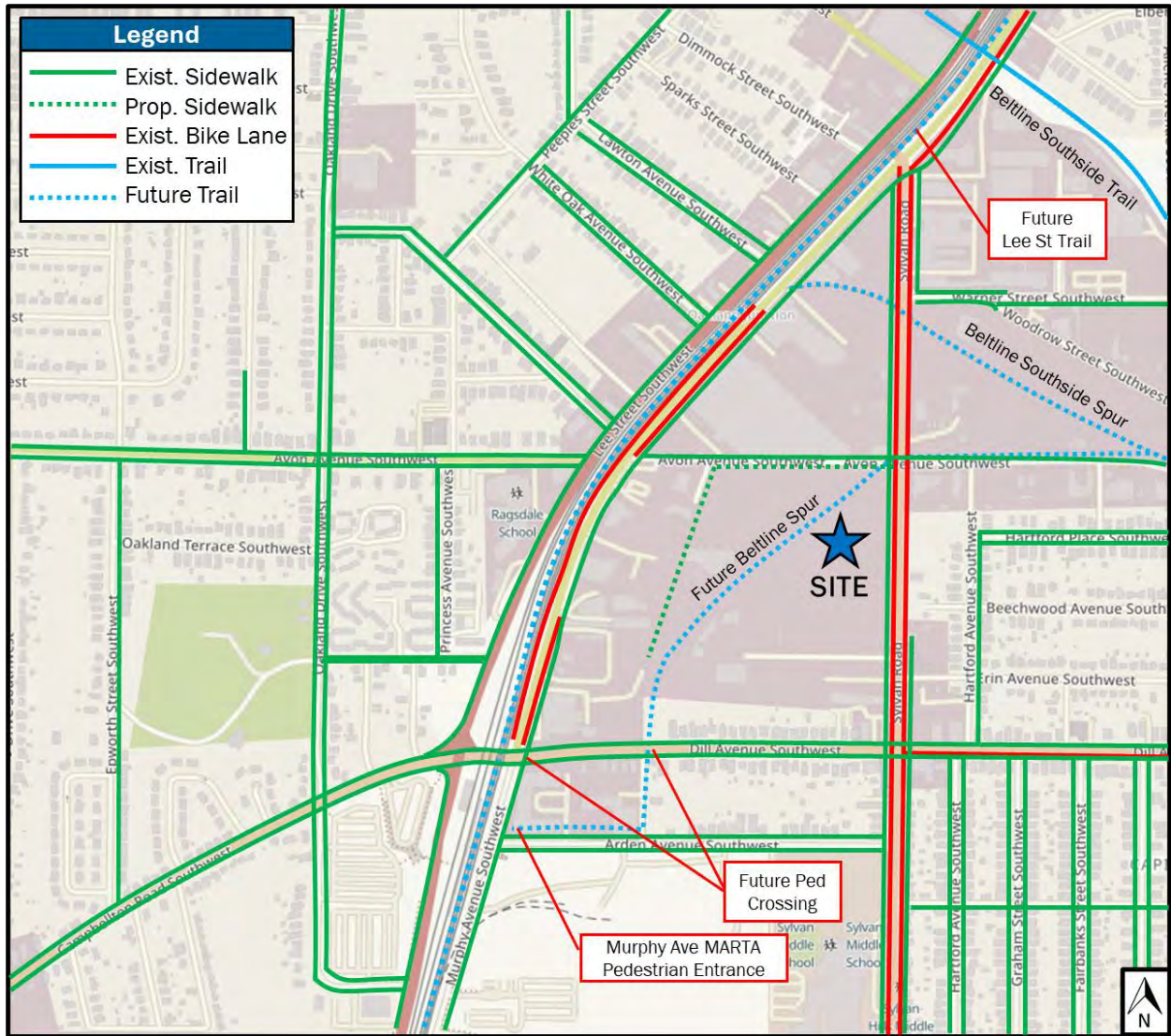
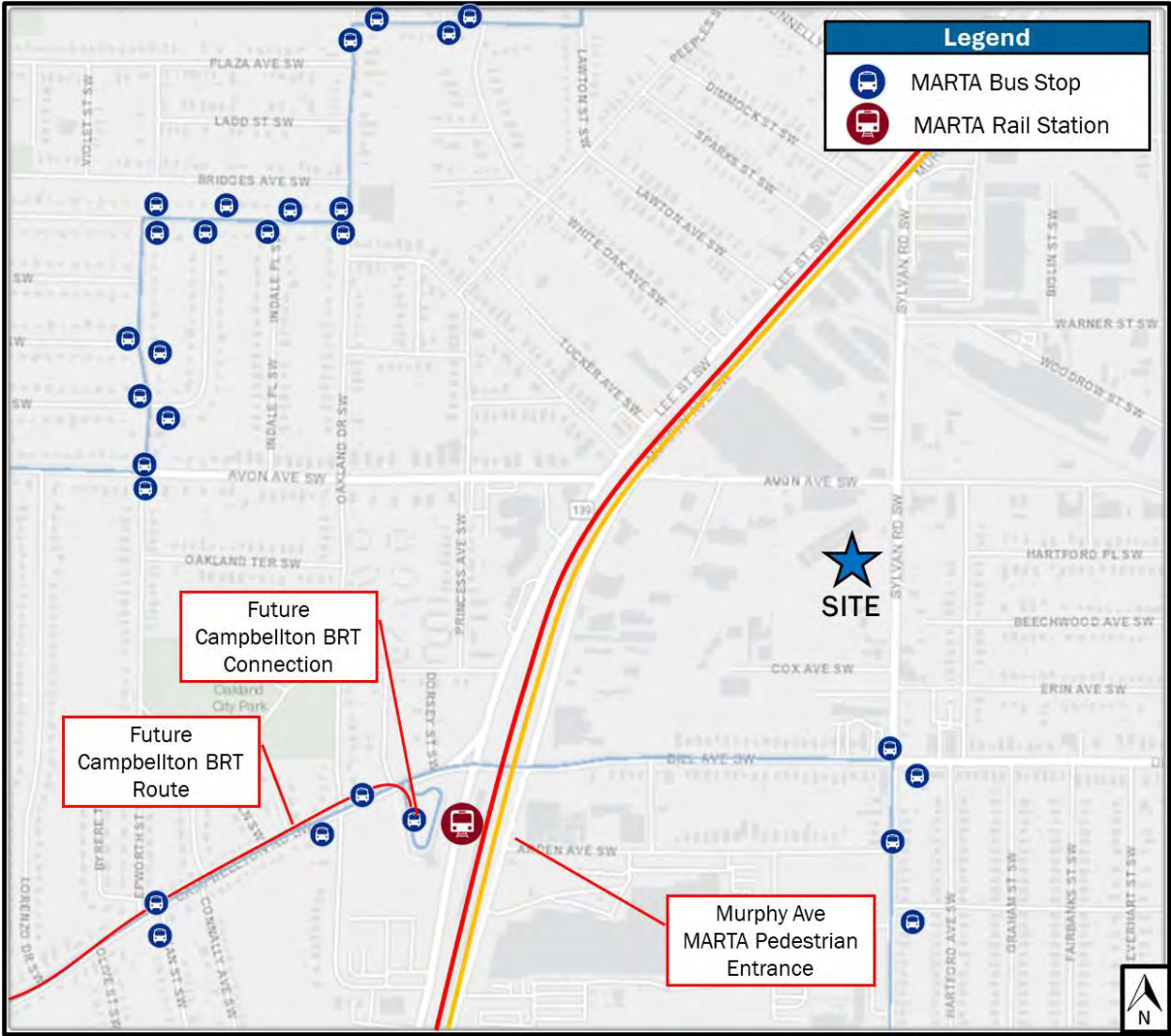


Figure 5. Alternative Transportation Map – Transit Stations

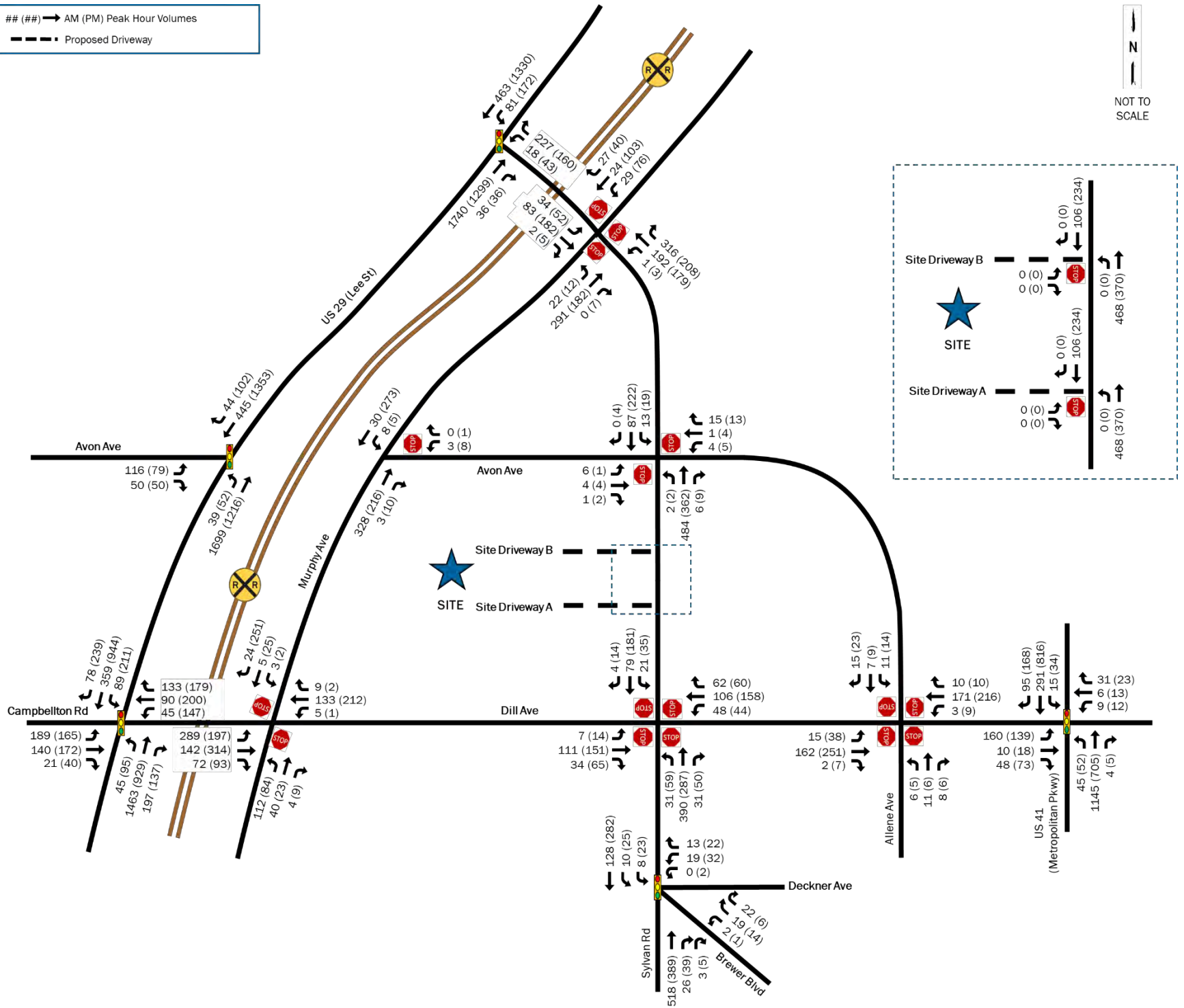


B.5. Traffic Counts

Turning movement counts (TMCs) were collected on Tuesday May 20, 2025, at the intersections listed in the letter of understanding, based on feedback received at the Methodology Meeting. Also, a 24-hour bi-directional count was collected along Sylvan Road near the project site. Traffic count data is provided in Appendix B and depicted in Figure 6: 2025 Existing Traffic Volumes.

Figure 6. 2025 Existing Traffic Volumes

(##) → AM (PM) Peak Hour Volumes
 - - - - Proposed Driveway



C. Future Conditions

C.1. Background Growth

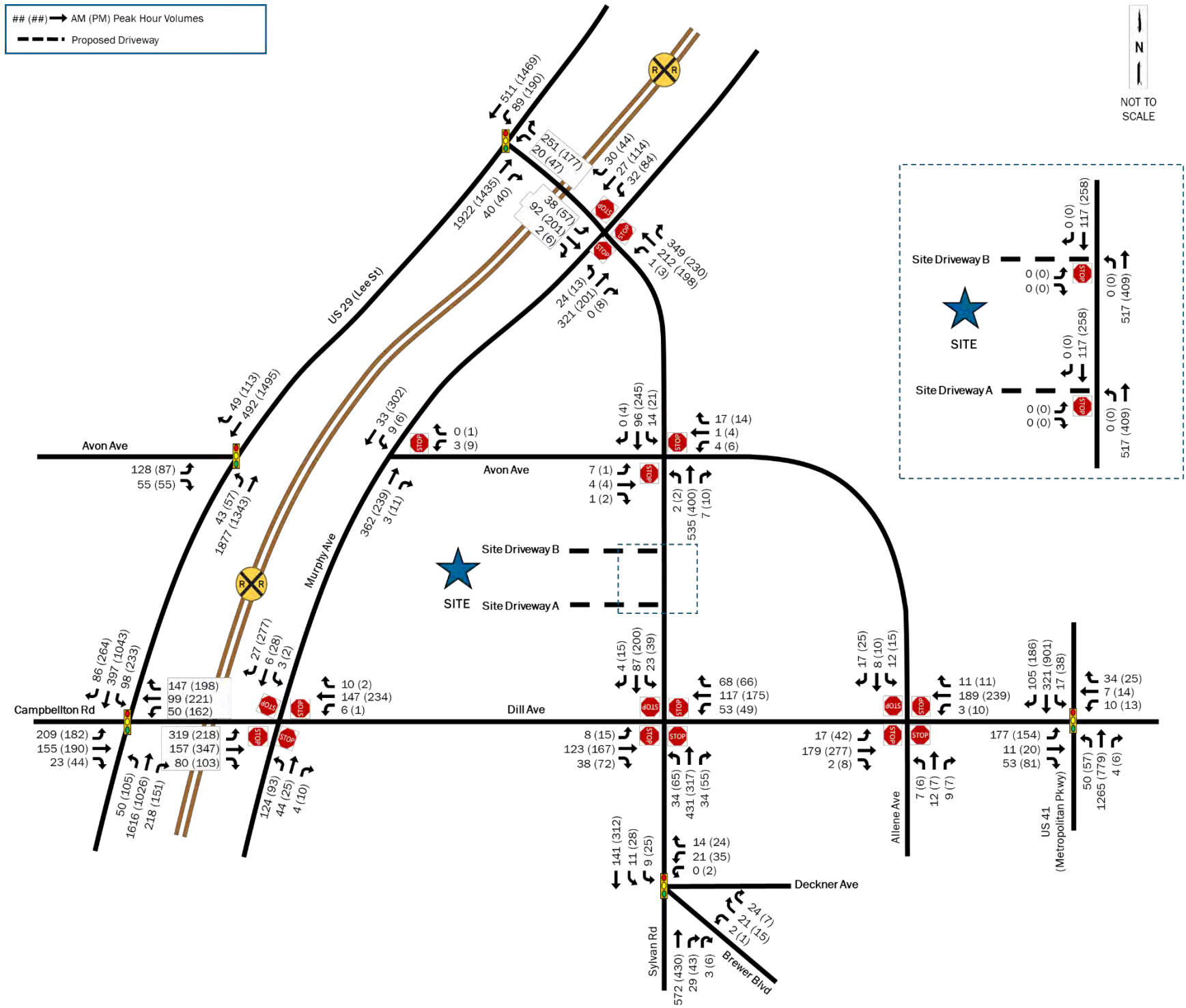
The growth rate in the study area is based on an analysis of historical traffic data available from the Georgia Department of Transportation (GDOT). The project will be built out in 2035. To account for future traffic growth, the existing base year traffic volumes were grown by 1% for ten (10) years to develop the 2035 No-Build and 2035 Build traffic volumes. Supporting traffic data used in this analysis is provided in Appendix C. Figure 7 depicts the 2035 No-Build traffic volumes.

C.2. Programmed & Planned Regional Transportation Improvements

Regional transportation improvements were investigated using the Atlanta Regional Commission's (ARC's) Transportation Improvement Program (TIP) database to verify if any large-scale infrastructure projects are planned in the immediate area as well as correspondence with local agencies. There are three (3) projects planned for the area that are expected to be completed by 2035:

1. The City of Atlanta and GDOT are working to install pedestrian improvements and a shared-use path along the west side of Lee Street in the project area. While this project is not expected to significantly impact vehicular traffic in the area, it will greatly improve pedestrian safety and multi-modal transportation along the major corridor.
2. A nearby industrial development proposes changes to the intersections of Dill Avenue with Lee Street and Murphy Avenue. These changes include installing an all-way stop at the intersection of Dill Avenue with Murphy Avenue and reducing each approach to a single lane. Along with this, the eastbound approach at Lee Street will be changed to have a single through-lane and a right-turn only lane.
3. The City of Atlanta plans to upgrade the signals at the intersection of Lee Street with Avon Avenue and Sylvan Road. These improvements are relatively minor and are not expected to have a significant impact on traffic operations, though they will increase safety and include flashing-yellow arrow signals.

Figure 7. 2035 No-Build Traffic Volumes



C.3. Project Trip Generation

Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, 2021. The proposed Sylvan Mixed Use site is expected to include 3,032 high-rise apartments (LUC 222), a 300-room hotel (LUC 310), 20,000 square feet of civic space (LUC 495), 257,050 square feet of office space (LUC 710), and 147,255 square feet of retail space (LUC 821).

Table 1: Project Trip Generation

Land Use (ITE Code)	Variable	Daily	AM Peak		PM Peak	
			IN	OUT	IN	OUT
222	3,032 Dwelling Units	12,006	230	467	449	339
310	300 Keys	2,828	80	63	99	95
495	20,000 Square Feet	576	25	13	40	45
710	257,050 Square Feet	2,638	332	45	62	302
821	147,255 Square Feet	9,942	158	97	374	390
Gross New Trips		27,990	825	685	1,024	1,171
<i>Internal Capture</i>		-4,859	-146	-120	-177	-203
<i>Pass-By (Affects Retail Only)</i>		-994	-13	-13	-38	-38
<i>Alternative Mode Reduction</i>		-5,399	-162	-134	-197	-227
Net New Trips		16,738	504	418	612	703

The development is expected to generate a total of 922 new trips (504 entering and 418 exiting) in the AM peak hour and 1,015 new trips (612 entering and 703 exiting) in the PM peak hour.

C.3.1. Trip Reductions

Trip reductions refer to adjustments made to the estimated number of trips generated by a development project, based on factors that reduce travel demand. Because the proposed project is a mixed-use development, ITE suggests that a portion of the development trips are expected to remain internal to the site, known as **Internal Capture**. This includes people moving between the residential and commercial, residential and office, and commercial and office. For this specific development, it was calculated that approximately 18% of site traffic will travel between different sections of the development. ITE also recommends a vehicle trip reduction for **Pass-By** trips. This reduction is typically limited to retail uses only and is estimated by ITE to be around 10% of the retail trips.

An **Alternative Mode Reduction** was incorporated to reflect the anticipated use of pedestrian, bicycle, and transit options by future site users, thereby reducing reliance on automobile travel. The proposed development benefits from existing multimodal infrastructure, including sidewalks along adjacent roadways and convenient access to a nearby bus stop. Pedestrians can reach

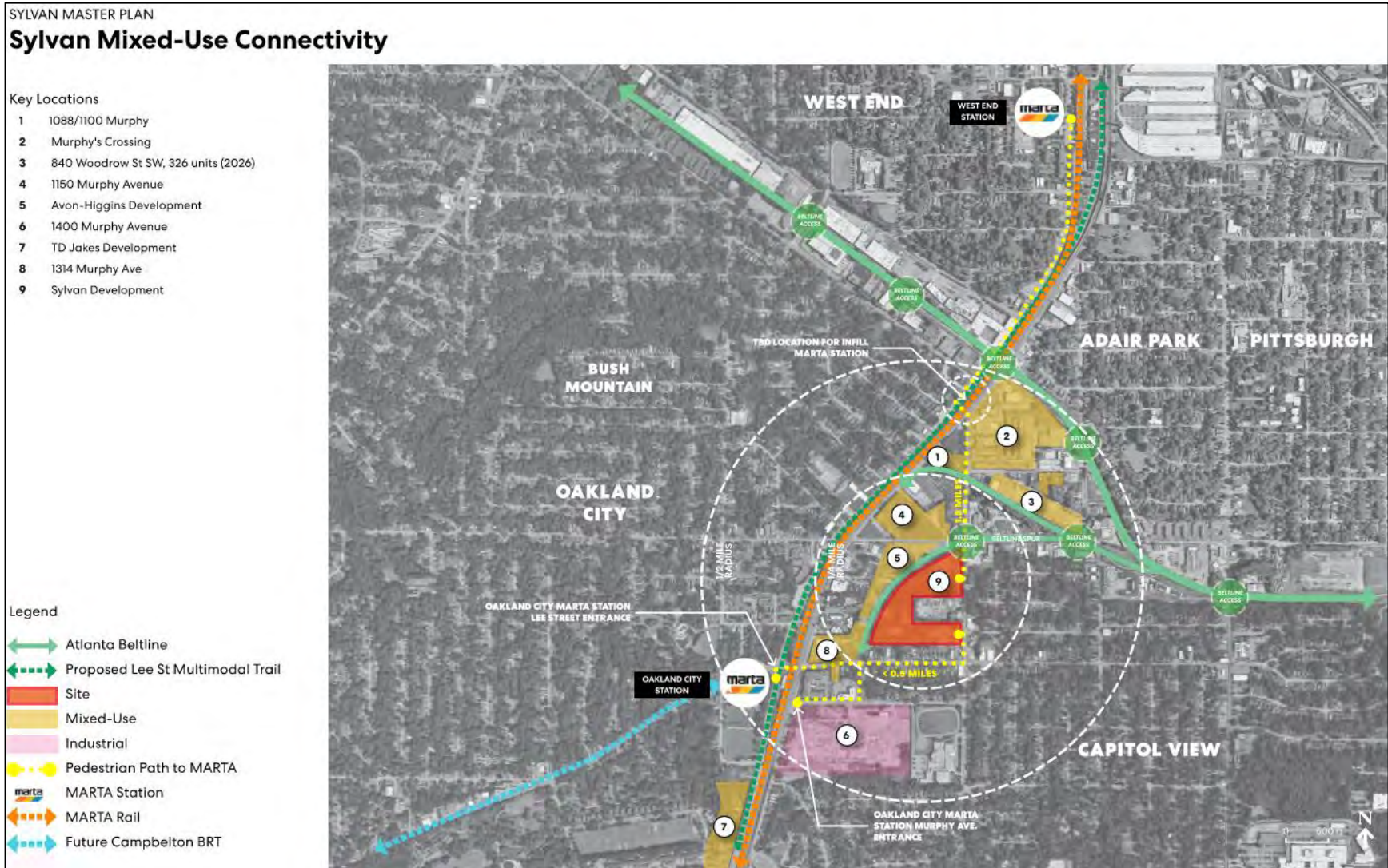
the Oakland City MARTA Rail Station via Sylvan Road, Dill Avenue, and Murphy Avenue, while dedicated bike lanes along these corridors further support non-vehicular travel. Additionally, a planned spur of the Beltline Westside Trail is expected to run along the western edge of the site, offering a direct connection for pedestrians and cyclists to the MARTA station. Future transit enhancements such as the Campbellton Corridor Bus Rapid Transit (BRT) project will further improve connectivity, providing rapid service along Campbellton Road to the Greenbriar Mall area, including a stop at the Oakland City MARTA station.

Additional nearby developments are anticipated to further support the Alternative Mode Reduction by strengthening multimodal connectivity throughout the area. The following major projects are either currently under construction or formally approved and are expected to complement the Sylvan Mixed Use development and contribute to a more integrated transportation network, encouraging greater use of pedestrian, bicycle, and public transit options.

1. 1088/1100 Murphy Avenue: 128 Residential Units / 25,805 sf Non-Residential
2. Murphy Crossing: 1,100 Residential Units / TBD sf Non-Residential
3. 840 Woodrow: 325 Residential Units / 15,000 sf Non-Residential
4. 1150 Murphy Avenue: Atlanta Beltline (plans not available)
5. Avon Higgins Development, DRI #4330: 850 Residential Units / 98,336 sf Retail
6. 1400 Murphy Avenue, DRI #3716: 614,036 sf Industrial Warehouse
7. TD Jakes Development Fort Mac Village One, DRI #4370: 179 single-family detached homes, 191 townhomes, 817 multifamily mid-rise units, 84 senior adult multifamily units, a hotel with 270 rooms, a private charter K-8 school with approximately 500 students, 60,675 square feet of general office space, 23,625 square feet of medical office space, 125,778 square feet of shopping center space including a grocery store, 3,600 square feet of fast casual restaurant space, and 3,500 square feet of fast-food restaurant space.
8. 1314 Murphy Avenue: 545 Residential Units

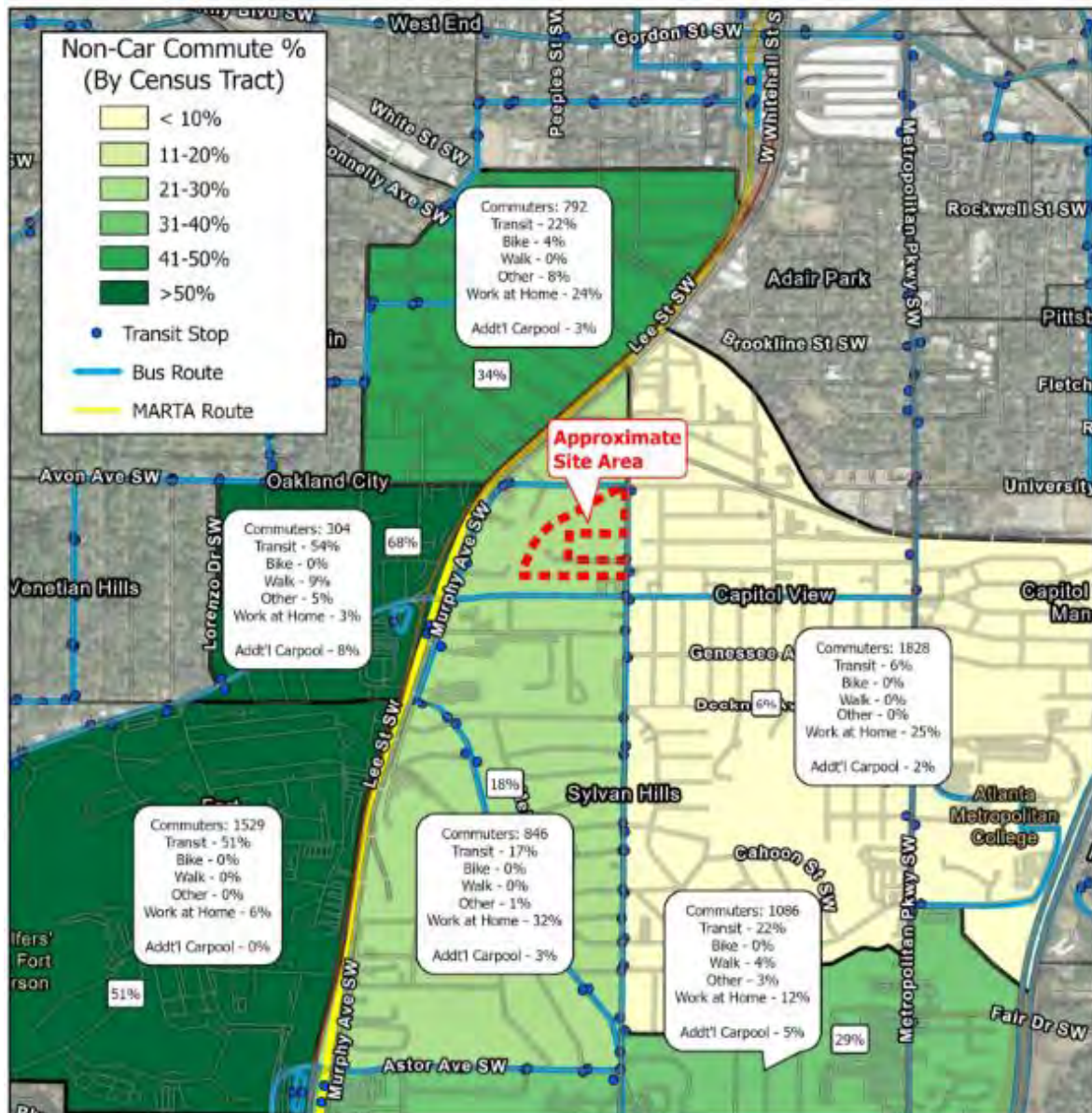
Figure 8 illustrates existing and future multi-modal connectivity surrounding the proposed Sylvan Mixed Use site along with the location of the nearby developments identified above.

Figure 8. Sylvan Mixed Use Connectivity



Lastly, to enhance the accuracy of the Alternative Mode Reduction, commuter data from adjacent census tracts was analyzed using the 2022 American Community Survey (ACS) Commute to Work dataset. This analysis revealed that approximately 34% of commuters in the area surrounding the proposed Sylvan Mixed Use development utilize alternative transportation modes. Among these, public transit emerged as the predominant choice, accounting for an average of 29% of total commute trips, see Figure 9 below. However, to provide a conservative analysis, an Alternative Mode Reduction of 20% was applied to site traffic.

Figure 9. Alternative Modes of Transportation



C.4. Trip Distribution and Assignment

The assignment and directional distribution of new project trips is based on existing traffic patterns observed in the overall study area and based on a collaboration with the Georgia Regional Transportation Authority (GRTA) and Georgia Department of Transportation (GDOT) during the DRI MMP Meetings held for this development.

From the trips generated, the following distribution of traffic is expected through the site:

- 20% of traffic will enter and exit the site from the southwest via Lee Street.
- 15% of traffic will enter and exit the site from the southwest via Campbellton Road.
- 5% of traffic will enter and exit the site from the west via Avon Avenue.
- 20% of traffic will enter and exit the site from the northwest via Lee Street.
- 10% of traffic will enter and exit the site from the north via Murphy Avenue.
- 10% of traffic will enter and exit the site from the northeast via Metropolitan Parkway.
- 10% of traffic will enter and exit the site from the southeast via Metropolitan Parkway.
- 5% of traffic will enter and exit the site from the southeast via Deckner Avenue.
- 5% of traffic will enter and exit the site from the south via Sylvan Road.

Figure 10 depicts the Trip Distribution for the proposed mixed-use development. Figure 11 depicts the New Trip Assignments for the development based on the trip distribution. Figure 12 depicts the Pass-By Traffic Distribution which is expected to come from Sylvan Road. Figure 13 shows the total pass-by trips and Figure 14 shows the total project development trips. Figure 15 depicts the 2035 Build Traffic Volumes for the site (No Build + Total Combined Project Trips).

Figure 10. New Vehicle Traffic Distribution

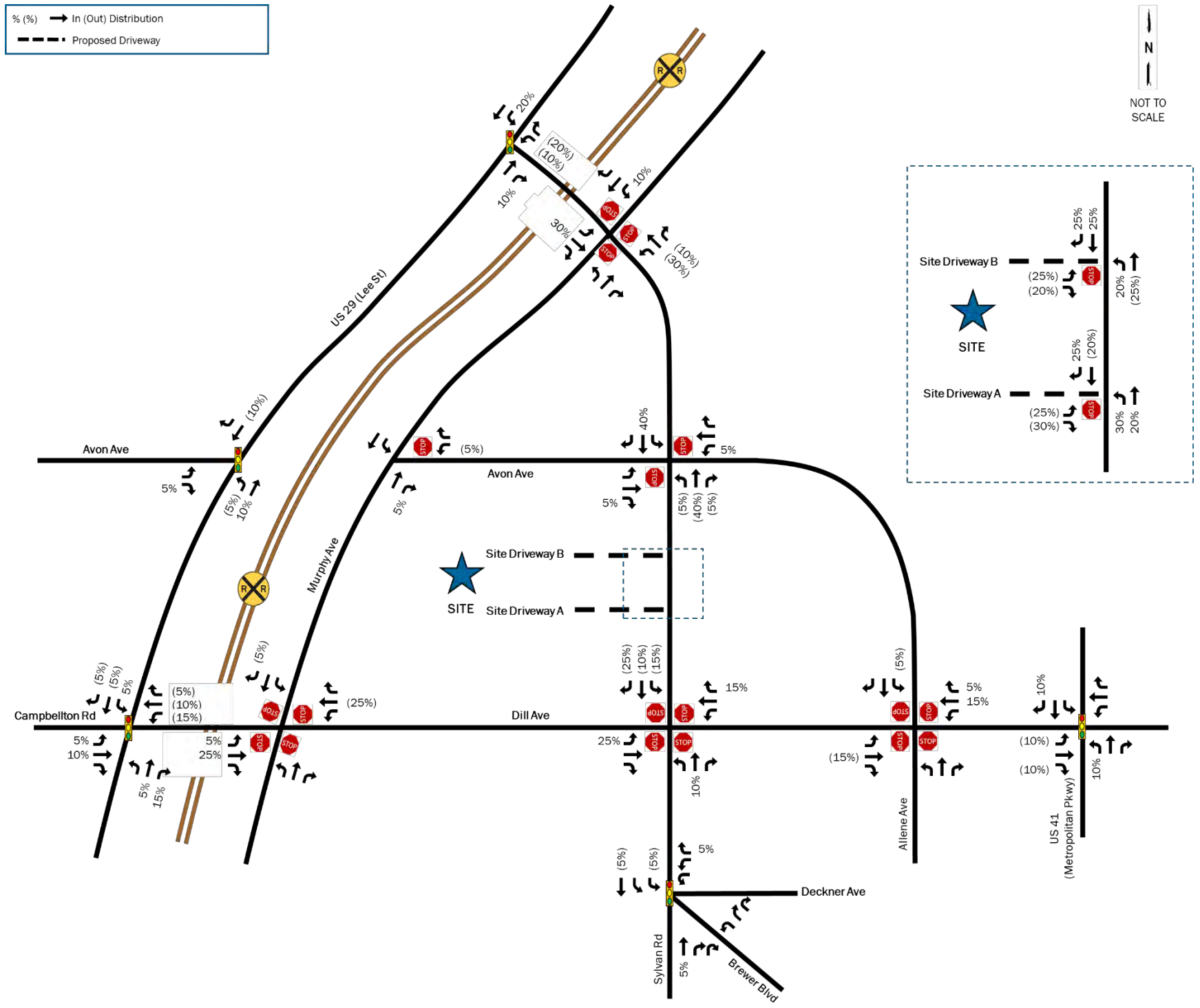


Figure 11. New Vehicle Trip Assignment

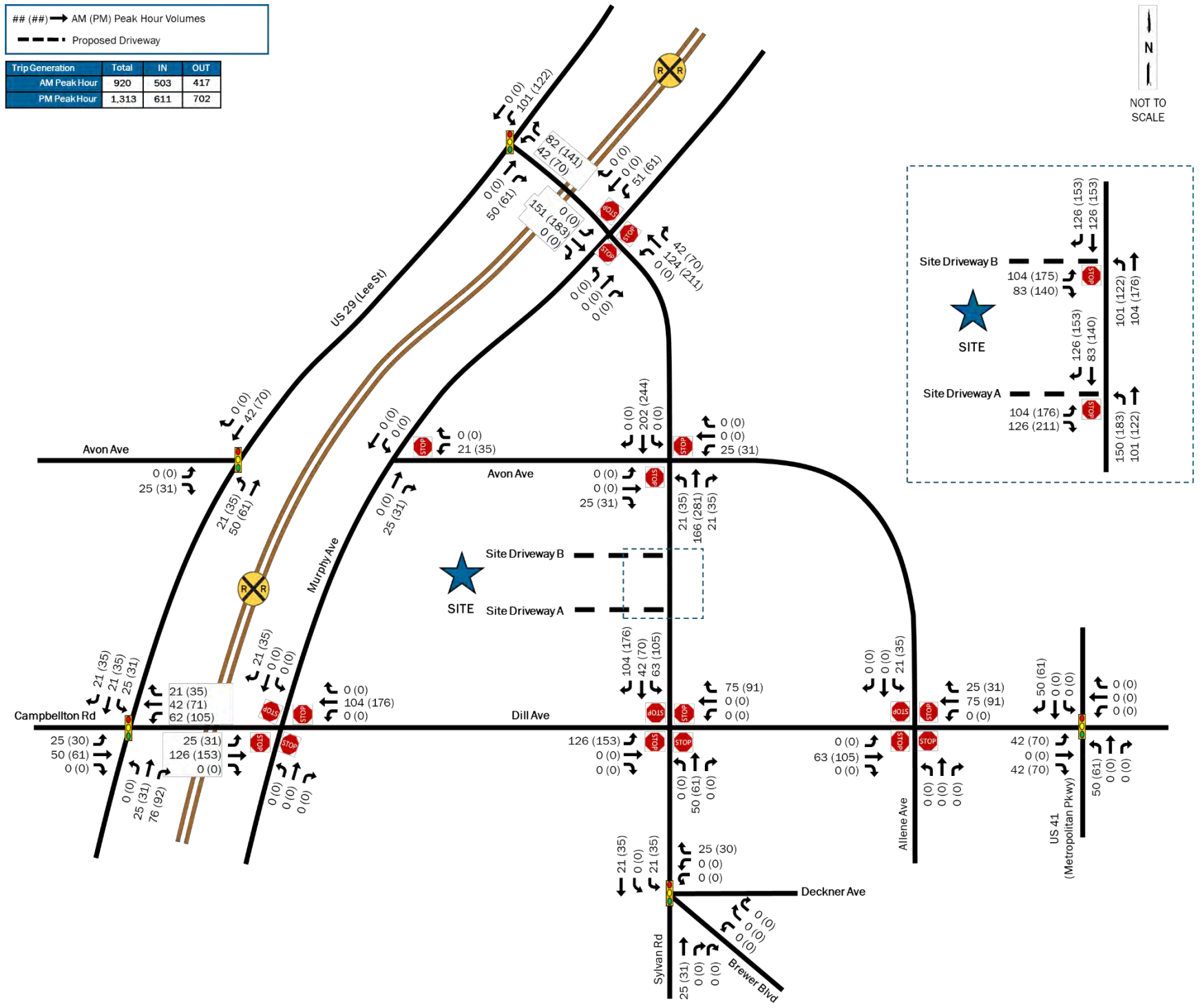


Figure 12. Pass-By Trip Distribution

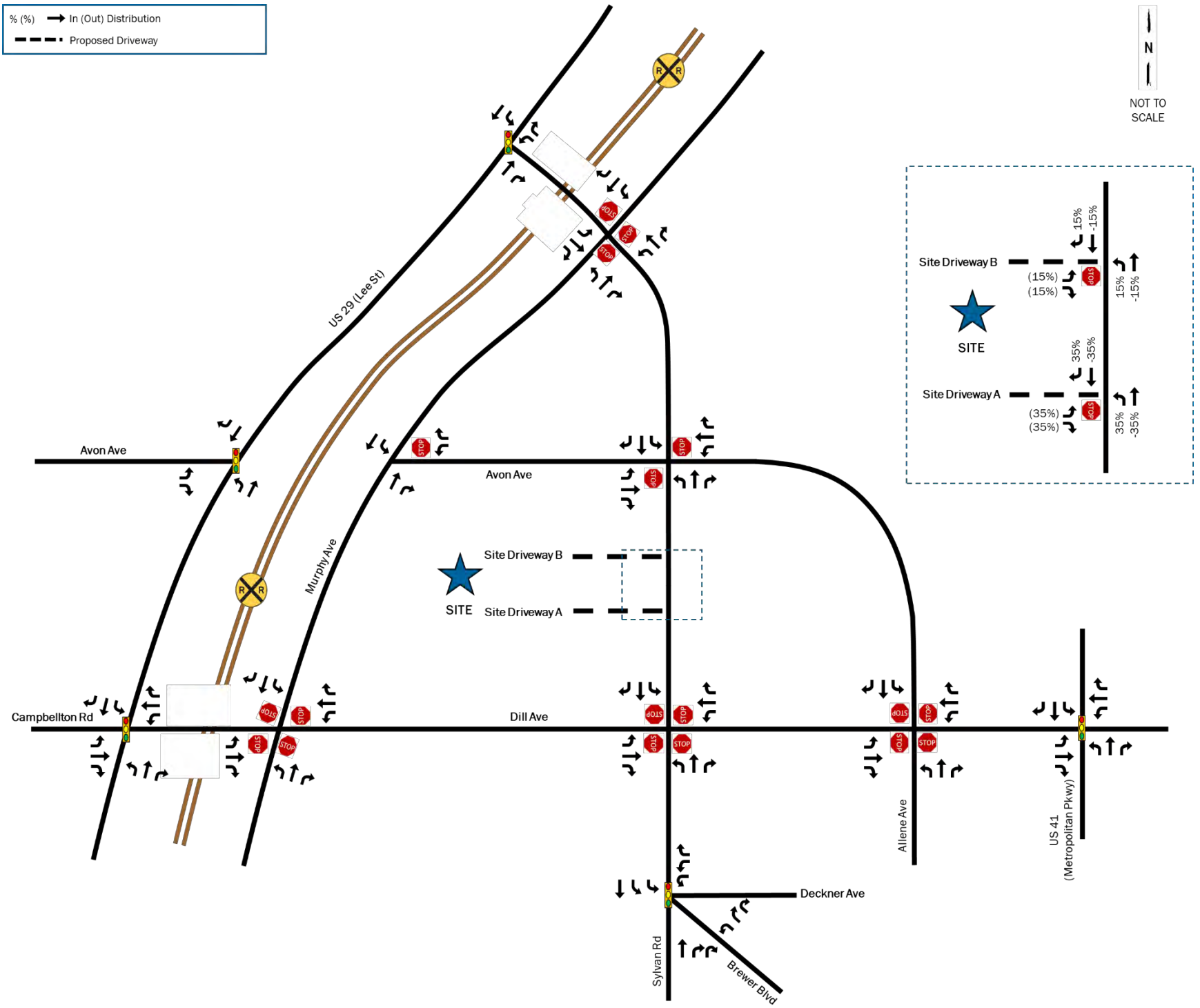


Figure 13. Pass-By Trip Assignment

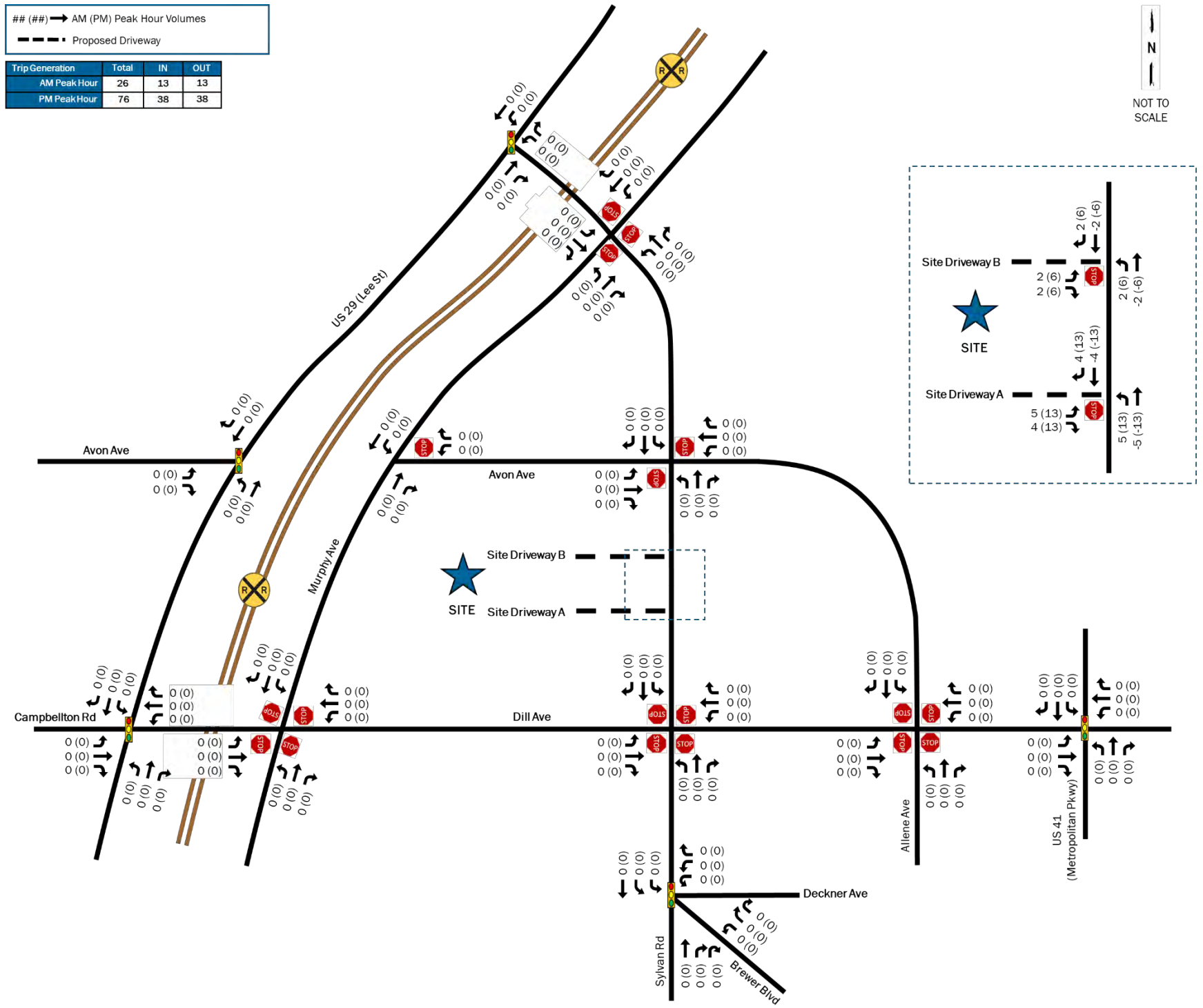


Figure 14. Total Site Traffic Volumes

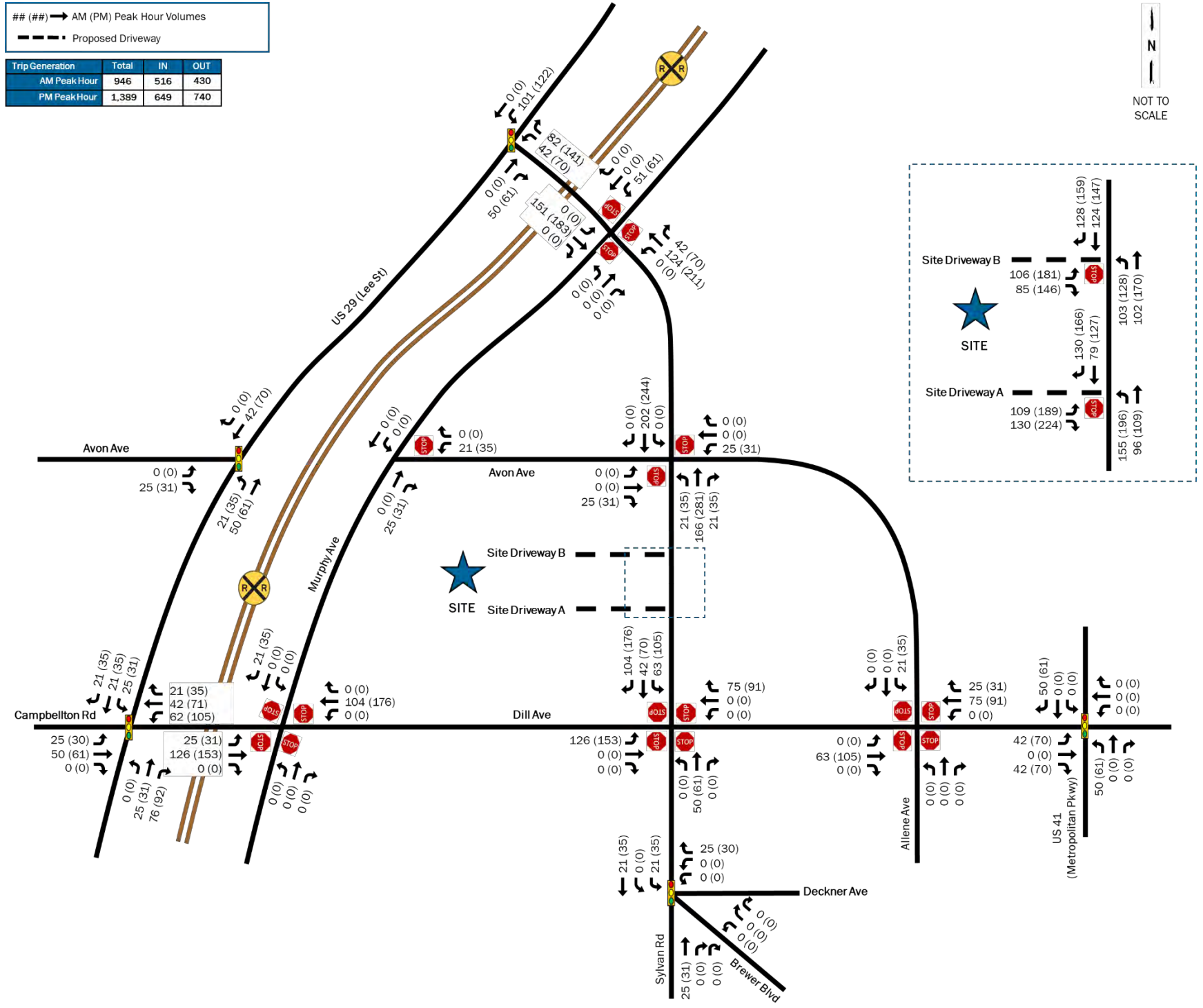
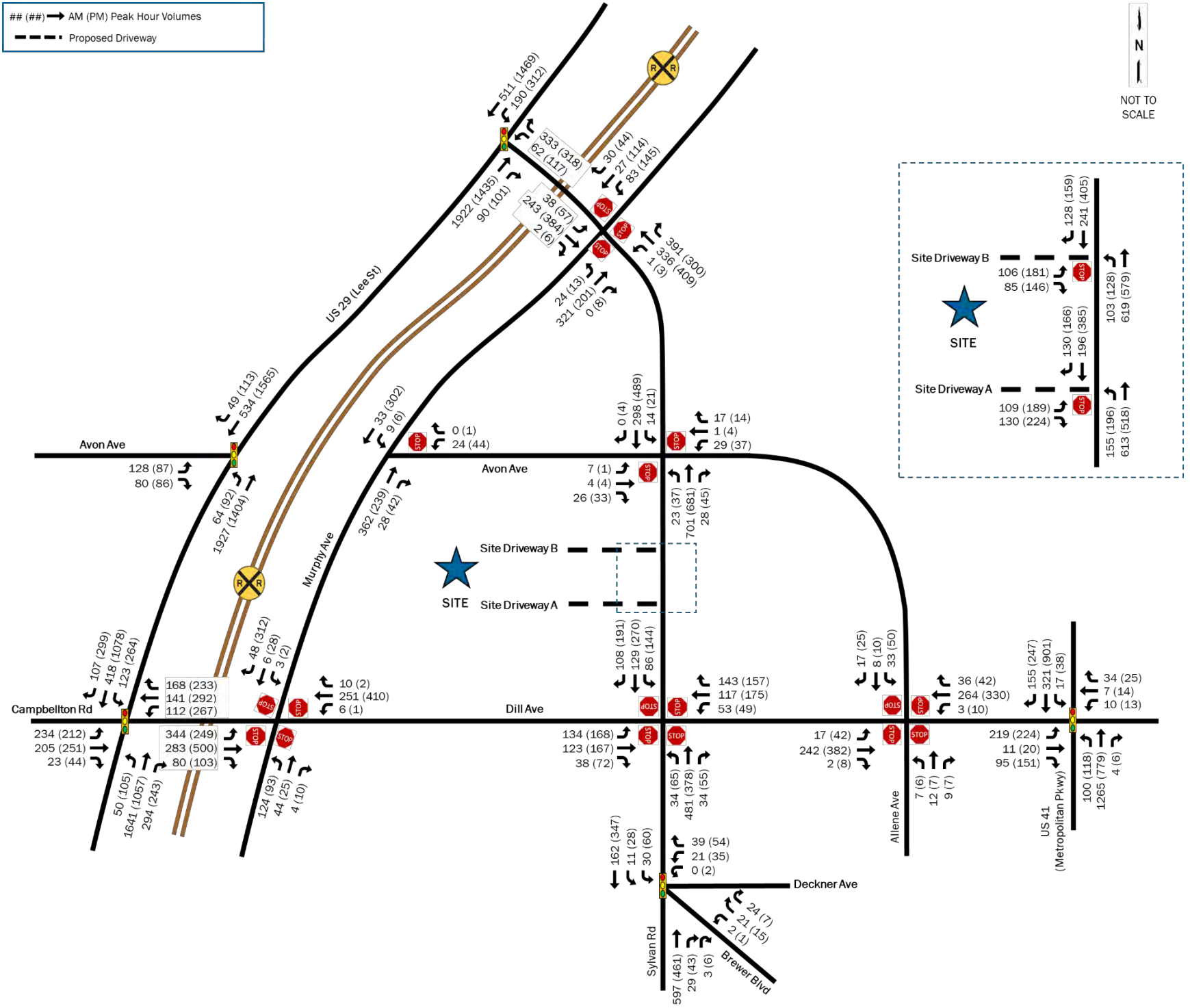


Figure 15. 2035 Build Traffic Volumes



D. Traffic Impact Analysis

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 12. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual, 7th Edition (HCM 7). The intersections of Sylvan Road with Deckner Avenue / Brewer Boulevard and Metropolitan Parkway with Dill Avenue / Manford Road could not be calculated using HCM 7, so instead methodologies from the 2000 edition of the Highway Capacity Manual were used. Lastly, delay at the intersection of Sylvan Road with Murphy Avenue was calculated using SimTraffic® since HCM does not include methodology for calculating delay at a three-way stop.

Performance Criteria pertaining to the HCM methodology is shown in Table 2. The study considers an LOS D as a benchmark for acceptable intersection operation. Synchro® output reports for the study intersections are included in Appendix D.

Table 2: HCM Level-of-Service Performance Criteria

Levels of Service (LOS)	Average Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.1 – 20.0	> 10.1 – 15.0
C	> 20.1 – 35.0	> 15.1 – 25.0
D	> 35.1 – 55.0	> 25.1 – 35.0
E	> 55.1 – 80.0	> 35.1 – 50.0
F	> 80.0	> 50.0

D.1. Existing Capacity Analysis

The capacity analysis results of the Existing Conditions are shown in Table 3, representing volumes presented in Figure 6.

Table 3: Capacity Analysis Results –Existing Conditions

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Lee St & Campbellton Rd / Dill Ave	Signal	Overall	C	31.5	C	24.9
			EB	E	58.6	D	48.4
			WB	D	50.5	D	52.3
			NB	C	31.0	C	22.4
			SB	A	6.3	B	11.7
2	Lee St & Avon Ave	Signal	Overall	A	6.9	A	5.1
			EB	E	72.5	E	62.9
			NB	A	0.3	A	0.8
			SB	A	4.0	A	3.8
3	Lee St & Sylvan Rd	Signal	Overall	B	13.2	C	23.0
			WB	F	97.9	E	59.1

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
			NB	A	4.3	C	33.6
			SB	A	5.2	A	8.1
4	Dill Ave & Murphy Ave	Minor-Stop	NB	F	227.0	F	236.1
			SB	C	21.2	C	21.2
			EBL	A	8.6	A	8.4
			WBL	A	8.1	A	8.4
5	Murphy Ave & Avon Ave	Minor-Stop	WB	C	15.3	B	14.2
			SB	A	8.5	A	8.0
6	Sylvan Rd & Deckner Ave / Brewer Blvd	Signal	Overall	B	13.7	B	10.8
			WB	C	27.9	C	25.1
			NWB	C	25.8	C	29.3
			NB	B	13.0	A	9.2
			SB	A	7.9	A	8.7
7	Sylvan Rd & Dill Ave	All-Way Stop	Overall	C	20.6	C	24.0
			EB	B	12.4	C	17.6
			WB	B	14.3	C	18.8
			NB	D	28.8	D	34.6
			SB	B	11.5	C	17.8
8	Sylvan Rd & Avon Ave	Minor-Stop	EB	C	16.3	B	14.2
			WB	B	13.7	B	12.9
			NBL	A	8.5	A	8.4
			SBL	A	8.7	A	8.1
9	Sylvan Rd & Murphy Ave	3-Way Stop	Overall	E	42.3	C	22.6
			EB	A	0.4	A	0.4
			WB	F	68.9	D	30.1
			NB	C	22.2	C	22.9
			SB	C	17.5	D	31.7
10	Dill Ave & Alene Ave	All-Way Stop	Overall	A	8.6	A	10.0
			EB	A	8.7	B	10.6
			WB	A	8.8	A	9.8
			NB	A	8.0	A	8.5
			SB	A	8.0	A	8.6
11	Metropolitan Pkwy & Dill Ave	Signal	Overall	B	14.3	B	13.6
			EB	D	45.3	D	44.7
			WB	C	30.7	C	30.3
			NB	B	10.9	A	8.6
			SB	A	6.4	A	9.1

As shown in Table 3, multiple study intersections have approaches that currently operate with unsatisfactory LOS during the peak hours. This includes the following:

Lee Street at Campbellton Road / Dill Avenue

The eastbound approach currently operates at LOS E during the AM peak period, though traffic volumes are relatively low at the approach compared to Lee Street, and queuing is relatively low (220 feet). To reduce the delay, a second left-turn lane would be needed as well as adjusting the cycle length of the intersection to 110 seconds.

Lee Street at Avon Avenue

The eastbound approach currently operates at LOS E during both peak periods, though like Campbellton Road, the approach has relatively low traffic volume compared to Lee Street. To reduce the delay a second left-turn lane would be needed as well as adjusting the cycle length of the intersection to 110 seconds. The existing shared left/right lane would have to be maintained.

Lee Street at Sylvan Road

The westbound approach currently operates at LOS F during the AM peak period and LOS E during the PM peak period with the signal timings needing to favor the heavier traffic along Lee Street. To reduce the delay, a westbound right-turn overlap phase could be installed to allow more vehicles to turn onto Lee Street and reduce backup along Sylvan Road.

Murphy Avenue at Dill Avenue

The northbound approach currently operates at LOS F during both peak periods. Due to the proximity of this intersection to Lee Street, an all-way stop would likely result in traffic queuing onto the highway, so the most likely improvement would be to install a traffic signal at the intersection. This should be done ensuring an eastbound left-turn lane and a northbound left-turn lane, at the minimum, and should also include a turn phase for eastbound left-turns.

Sylvan Road at Murphy Avenue

The westbound approach currently experiences high delay, operating at LOS F during the AM peak period. This is due to the approach having to come to a stop so that the eastbound traffic can freely move across the railroad. Stopping the eastbound approach is not desired, so the most likely improvement would be to install a traffic signal at the intersection, coordinating the signal with the one at Lee Street. Currently, many vehicles were observed traveling in the bike lanes to get around the traffic backup, and installing a signal could reduce the need for this behavior.

D.2. 2035 No-Build Capacity Analysis

The results of the 2035 No-Build condition capacity analysis are shown in Table 4 and include analysis of the volumes presented in Figure 7.

Table 4: Capacity Analysis Results –2035 No-Build Conditions

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Lee St & Campbellton Rd / Dill Ave	Signal	Overall	D	45.1	C	32.5
			EB	E	70.9	D	53.4
			WB	D	50.9	E	62.6
			NB	D	48.6	C	26.0
			SB	A	9.1	C	23.2
2	Lee St & Avon Ave	Signal	Overall	A	7.4	A	5.2
			EB	E	75.5	E	62.2
			NB	A	0.4	A	0.6
			SB	A	4.5	A	4.3
3	Lee St & Sylvan Rd	Signal	Overall	B	17.6	C	25.8
			WB	F	126.8	E	60.9
			NB	A	6.7	D	37.1
			SB	A	5.4	B	10.4
4	Dill Ave & Murphy Ave	All-Way Stop	Overall	F	69.9	F	138.7
			NB	B	15.0	C	16.3
			SB	B	11.4	C	23.3
			EB	F	104.3	F	219.8
			WB	B	12.6	C	19.4
5	Murphy Ave & Avon Ave	Minor-Stop	WB	C	16.3	C	15.2
			SB	A	8.7	A	8.1
6	Sylvan Rd & Deckner Ave / Brewer Blvd	Signal	Overall	B	14.7	B	11.3
			WB	C	30.2	C	27.5
			NWB	C	28.3	C	31.7
			NB	B	14.1	A	9.5
			SB	A	7.9	A	8.9
7	Sylvan Rd & Dill Ave	All-Way Stop	Overall	D	32.0	E	42.0
			EB	B	14.0	C	24.1
			WB	C	16.9	D	26.5
			NB	F	50.3	F	72.5
			SB	B	12.7	C	24.7
8	Sylvan Rd & Avon Ave	Minor-Stop	EB	C	18.1	C	15.2
			WB	B	14.5	B	13.8
			NBL	A	8.5	A	8.5
			SBL	A	8.9	A	8.2
9			Overall	F	99.4	E	40.2

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
	Sylvan Rd & Murphy Ave	3-Way Stop	EB	A	0.5	A	0.4
			WB	F	182.3	F	60.1
			NB	C	18.3	D	32.0
			SB	D	29.2	F	58.8
10	Dill Ave & Alene Ave	All-Way Stop	Overall	A	8.9	B	10.7
			EB	A	9.1	B	11.5
			WB	A	9.1	B	10.5
			NB	A	8.2	A	8.7
			SB	A	8.1	A	8.8
11	Metropolitan Pkwy & Dill Ave	Signal	Overall	B	16.7	B	15.4
			EB	D	44.7	D	43.9
			WB	C	29.3	C	28.6
			NB	B	14.4	B	10.9
			SB	A	7.4	B	11.5

As shown in Table 4, with the applied background growth rate and the planned roadway changes, some of the intersections are expected to operate better while others are expected to worsen. The intersections of Dill Avenue with Lee Street and Murphy Avenue are expected to worsen greatly with the planned changes to the intersections. The intersection of Sylvan Road with Dill Avenue is expected to operate unsatisfactory with added traffic from ten years of growth. The following intersections are expected to see unsatisfactory operations:

Lee Street at Campbellton Road / Dill Avenue

The eastbound approach is expected to continue to operate at LOS E during the AM peak period, and added traffic is expected to make the westbound approach operate at LOS E during the PM peak period. To reduce the delay, a second left-turn lane would be needed as well as adjusting the cycle length of the intersection to 110 seconds. In addition, since two eastbound lanes would be needed at Murphy Avenue (discussed below), the eastbound lanes should be maintained as they are now, with two through-lanes at the intersection.

Lee Street at Avon Avenue

The eastbound approach will continue to operate similarly to existing conditions (LOS E) with ten years of background growth. The same improvements suggested in the Existing conditions analysis would improve the 2035 No-build conditions, though a cycle length of 110 seconds could be used for both peak periods.

Lee Street at Sylvan Road

The westbound approach will continue to operate at LOS F during the AM peak period and LOS E during the PM peak period with the signal timings needing to favor the heavier traffic along Lee Street. In addition to the previously recommended westbound right-turn overlap phase, reducing the cycle length

of the signal to 110 seconds would reduce the level of service along the westbound approach to satisfactory levels.

Murphy Avenue at Dill Avenue

Installing an all-way stop at the intersection is expected to move the delay from the northbound approach to the eastbound approach, making it operate at LOS F during both peak periods, and potentially leading to traffic queuing onto the highway. As mentioned in the Existing conditions analysis, the most likely improvement would be to install a traffic signal at the intersection, ensuring an eastbound left-turn lane and a northbound left-turn lane, and also including a turn phase for eastbound left-turns.

Sylvan Road at Dill Avenue

Added traffic from ten years of background growth leads the northbound approach to operate at LOS F during both the AM and PM peak periods. It is likely that the signal will need to be reinstalled at the intersection to reduce the delay of all approaches back to satisfactory levels of service.

Sylvan Road at Murphy Avenue

The westbound approach is expected to continue to operate at LOS F during the AM peak period and both the westbound and southbound approaches are expected to operate at LOS F during the PM peak period. The same recommendation from the Existing conditions analysis, to install a traffic signal at the intersection, is expected to improve each approach back to acceptable levels of service.

D.3. 2035 Build Capacity Analysis

The results of the 2035 Build condition capacity analysis are shown in Table 5 and include analyses of the volumes presented in Figure 14.

Table 5: Capacity Analysis Results – 2035 Build Conditions

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Lee St & Campbellton Rd / Dill Ave	Signal	Overall	F	96.9	E	62.9
			EB	E	62.0	E	55.2
			WB	D	48.0	F	149.1
			NB	F	129.2	D	37.1
			SB	C	23.9	D	54.5
2	Lee St & Avon Ave	Signal	Overall	A	8.6	A	6.4
			EB	F	80.1	E	60.8
			NB	A	0.7	A	1.4
			SB	A	5.3	A	5.3
3	Lee St & Sylvan Rd	Signal	Overall	D	38.5	D	45.0
			WB	F	236.7	F	91.7
			NB	A	9.1	E	57.6
			SB	B	14.3	C	21.3
4	Dill Ave & Murphy Ave	All-Way Stop	Overall	F	181.5	F	>300
			NB	C	17.7	C	23.0
			SB	B	13.7	E	45.7
			EB	F	285.8	F	>300
			WB	C	19.1	F	82.3
5	Murphy Ave & Avon Ave	Minor-Stop	WB	C	19.2	C	17.9
			SB	A	8.8	A	8.2
6	Sylvan Rd & Deckner Ave / Brewer Blvd	Signal	Overall	B	17.7	B	14.2
			EB	C	28.6	C	27.3
			WB	C	28.6	C	30.9
			NB	B	17.9	B	10.3
			SB	B	10.1	B	14.6
7	Sylvan Rd & Dill Ave	Signal	Overall	F	156.1	F	273.8
			EB	F	55.4	F	171.1
			WB	F	70.2	F	116.3
			NB	F	>300	F	279.8
			SB	F	89.5	F	>300
8	Sylvan Rd & Avon Ave	Minor-Stop	EB	D	27.3	C	20.0
			WB	F	59.1	F	98.4
			NBL	A	9.6	A	9.8
			SBL	A	9.7	A	9.3
9			Overall	F	177.0	F	213.6

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
	Sylvan Rd & Murphy Ave	3-Way Stop	EB	A	0.3	A	0.3
			WB	F	>300	F	>300
			NB	C	21.9	D	27.6
			SB	C	16.8	F	207.5
10	Dill Ave & Alene Ave	All-Way Stop	Overall	B	10.6	C	16.0
			EB	B	10.5	C	17.9
			WB	B	11.1	C	15.7
			NB	A	8.8	A	9.8
			SB	A	9.1	B	10.7
11	Metropolitan Pkwy & Dill Ave	Signal	Overall	C	28.5	D	41.2
			EB	D	49.5	D	49.8
			WB	C	25.5	C	21.6
			NB	C	30.0	E	63.0
			SB	A	9.9	C	20.6
12	Sylvan Rd & Site Driveway A	Minor-Stop	EB	F	240.6	F	>300
			NBL	A	8.7	A	9.8
13	Sylvan Rd & Site Driveway B	Minor-Stop	EB	F	60.6	F	>300
			NBL	A	8.4	A	9.7

As shown in Table 5, the study intersections are expected to see an increase in delay due to the addition of project traffic. The most impacted intersections are those closest to the proposed development along Sylvan Road, though the intersection of Metropolitan Parkway with Dill Avenue is also expected to see increased delay resulting in slightly unsatisfactory LOS during the PM peak period. The remaining intersections that were expected to operate with unsatisfactory LOS during No-Build conditions are expected to worsen with the addition of traffic from the proposed mixed-use development. Discussion on mitigation is included in section D.5 and includes the following intersections:

Lee Street at Campbellton Road / Dill Avenue

The addition of traffic from the proposed mixed-use development combined with the already planned reduction in lane capacity at the intersection is expected to lead to heavy delay at the intersection, with the eastbound approach operating at LOS E during both peak hours, the northbound approach operating at LOS F during the AM peak period, and the westbound approach operating at LOS F during the PM peak period.

Lee Street at Avon Avenue

The eastbound approach will experience a slight increase in delay with the addition of traffic from the proposed mixed-use development, leading to AM peak period operations changing from LOS E to F.

Lee Street at Sylvan Road

The westbound approach will continue to operate at LOS F during the AM peak period and LOS E during

the PM peak period, and the addition of traffic from the proposed development will likely lead to the northbound approach operating at LOS E during the PM peak period with the southbound left-turn signal phase expected to trigger more often.

Murphy Avenue at Dill Avenue

The all-way stop that is planned to help alleviate northbound traffic at the intersection is expected to greatly impact delay at the other approaches with the addition of traffic from the proposed mixed-use development. Like the No-Build analysis, the eastbound approach is expected to operate at LOS F with vehicles possibly queuing back onto Lee Street. The southbound approach is expected to operate at LOS E during the PM peak period, and the westbound approach is expected to operate at LOS F during the PM peak period.

Sylvan Road at Dill Avenue

Added traffic from the development on top of ten (10) years of background growth is expected to push the all-way stop intersection over capacity, operating at LOS F during both peak periods at all approaches.

Sylvan Road at Avon Avenue

While very little traffic is expected to be added to the westbound approach at the intersection, the approach is expected to operate at LOS F with increased traffic along Sylvan Road. This is somewhat expected for a very low-volume side-street approach that intersects with a higher volume roadway.

Sylvan Road at Murphy Avenue

The westbound approach is expected to continue to operate at LOS F during the AM peak period and both the westbound and southbound approaches are expected to operate at LOS F during the PM peak period, and the added traffic from the proposed development will extend the already long queues.

Metropolitan Parkway at Dill Avenue / Manford Road

The northbound approach at the intersection is expected to operate at LOS E, though this is likely due to increased traffic on the eastbound approach needing to trigger the signal more often.

D.4. Queue Length Analysis

Queue length analysis was conducted for the study intersections that are expected to have at least one approach operate at LOS E or F in future conditions. Queue length analysis results are modeled according to Highway Capacity Manual procedures, using the traffic analysis software Synchro® 12. Queue lengths reported include 50th percentile (average) queues, 95th percentile queues, and existing storage lengths to intersection approaches.

Table 6 shows intersection queue results comparing Existing, No-Build, and Build Conditions where approaches at study intersections have failing LOS, and/or queues exceeding storage lengths under future traffic conditions and where site traffic is expected to use the movements. An inventory of queue length output reports is included in Appendix E.

Table 6: Queue Analysis Comparisons

ID	Intersection	Control	Movement	Storage Length	Queue Length 50th/95th Percentile											
					Existing				No-Build				Build			
					AM		PM		AM		PM		AM		PM	
1	Lee St & Campbellton Rd / Dill Ave	Signal	EBL	545	141	220	112	163	146	249	122	177	173	310	134	262
			EBT	620	62	96	77	110	123	188	153	217	162	237	198	280
			EBR	620					0	0	0	0	0	0		
			WBL	50	37	61	101	146	39	60	111	154	87	112	205	353
			WBTR	175	45	64	103	144	55	71	121	161	90	103	176	224
			NBL	1,035	12	27	32	64	15	35	36	73	17	38	42	86
			NBTR	1,035	720	986	420	514	1,039	1,234	489	641	1,218	1,331	615	757
2	Lee St & Avon Ave	Signal	EB	620	144	194	83	144	159	214	94	156	180	253	111	180
3	Lee St & Sylvan Rd	Signal	WBL	60	14	37	38	72	15	39	41	77	47	91	102	149
			WBR	60	103	200	0	59	129	267	0	60	239	432	31	109
			NBTR	1,160	436	354	174	620	276	1,004	363	740	408	1,053	710	755
4	Dill Ave & Murphy Ave	TWSC (AWS Future)	EBL	50	41	82	38	75	112	156	146	172	142	173	163	181
			EBTR	175	4	30	7	47								
			WBL	245	0	0	0	0	48	76	59	93	74	131	889	1,615
			WBTR	1,810	4	22	27	98								
			NBL	140	53	107	59	116	48	81	41	72	52	85	64	120
			NBTR	355	19	40	19	44								
SBLTR	1,535	28	63	217	494	38	72	99	169	32	55	656	927			
7	Sylvan Rd & Dill Ave	AWSC	EBLTR	1,810	54	94	72	116	61	111	63	108	154	313	225	523
			WBLTR	1,520	66	102	70	116	61	93	72	119	147	346	381	867
			NBLTR	395	105	177	115	194	125	194	138	258	1,024	1,748	968	1,703
			SBLTR	1,340	44	82	60	90	45	78	81	143	70	107	134	286
8	Sylvan Rd & Avon Ave	TWSC	WBLTR	1,280	12	43	17	41	22	50	17	44	244	462	451	917
9	Sylvan Rd & Murphy Ave	3-Way Stop	WBLTR	700	311	828	140	367	808	1,631	272	552	1,430	1,451	1,414	1,525
			SBLTR	845	42	79	110	267	54	122	154	276	59	110	555	925

ID	Intersection	Control	Movement	Storage Length	Queue Length 50th/95th Percentile											
					Existing				No-Build				Build			
					AM		PM		AM		PM		AM		PM	
11	Metropolitan Pkwy & Dill Ave	Signal	NBLTR	670	262	379	132	218	344	483	171	278	497	636	403	505

Queueing analysis suggests that many of the approaches with very short storage lanes are exceeded during the peak periods or are expected to be in the future. The segments between Lee Street and Murphy Avenue are most affected, and since there is no space to improve the storage or add lanes, other changes to the nearby intersections are likely needed to keep traffic flowing. The approaches with very high queues that show additional improvements are likely needed are the northbound approach at the intersection of Lee Street with Campbellton Road / Dill Avenue, the westbound approach at the intersection of Sylvan Road with Murphy Avenue, and the northbound approach at the intersection of Sylvan Road with Dill Avenue. The two approaches along Sylvan Road likely need signals installed at the intersections to allow traffic to flow better along Sylvan Road. The intersection along Lee Street could benefit from the inclusion of a northbound right-turn lane onto Dill Avenue.

D.5. 2035 Build Mitigation Capacity Analysis

The intersections expected to operate with unsatisfactory LOS were analyzed to see how feasible it would be to improve the approaches back to acceptable LOS. The capacity analysis results of the Build condition with mitigations are shown in Table 7. The Synchro® output reports for the Mitigation conditions are included in Appendix F. A full analysis of the possible mitigation is included in the Executive Summary of this report. The following changes were analyzed:

Lee Street at Campbellton Road / Dill Avenue

- Maintain the existing eastbound lane configuration.
- Add a second eastbound left-turn lane
- Add a northbound right-turn lane
- Reduce the cycle length of the intersection to 110 seconds during both peak periods.

Lee Street at Avon Avenue

- Add a second eastbound left-turn lane (the shared left/right would remain)
- Reduce the cycle length to 110 seconds during the AM peak period and 100 seconds during the PM peak period.

Lee Street at Sylvan Road

- Add a westbound right-turn overlap phase with the existing southbound left-turn phase
- Reduce the cycle length to 110 seconds during both peak periods

Murphy Avenue at Dill Avenue

- Signalize the intersection
- Keep the existing eastbound and northbound left-turn lanes
- Include an eastbound left-turn phase

Sylvan Road at Dill Avenue

- Signalize the intersection
- Add an eastbound left-turn lane

Sylvan Road at Avon Avenue

- Signalize the intersection

Sylvan Road at Murphy Avenue

- Signalize the intersection

Metropolitan Parkway at Dill Avenue

- Add an eastbound left-turn lane

Table 7: Capacity Analysis Results –2035 Build Mitigation Conditions

ID	Intersection	Mitigation	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Lee St & Campbellton Rd / Dill Ave	1. Restore EB to Existing Conditions 2. Add EB LT Lane 3. Add NB RT Lane 4. 110s Cycle	Overall	C	34.4	D	36.8
			EB	D	54.0	D	54.0
			WB	D	42.8	D	49.5
			NB	C	32.4	C	28.4
			SB	B	14.7	C	33.8
2	Lee St & Avon Ave	1. Add EB LT Lane 2. 110/100s Cycle	Overall	A	5.7	A	6.5
			EB	D	54.7	D	50.8
			NB	A	0.4	A	4.6
			SB	A	3.1	A	3.6
3	Lee St & Sylvan Rd	1. Add WB RT Overlap 2. 110s Cycle	Overall	D	46.0	C	29.4
			WB	D	49.2	C	34.5
			NB	D	52.3	D	38.0
			SB	C	29.2	C	20.4
4	Dill Ave & Murphy Ave	1. Signalize Intersection 2. Keep EB & NB LT Lanes 3. EB LT Phase	Overall	B	14.7	C	29.0
			NB	A	4.3	C	25.4
			SB	B	17.4	C	22.1
			EB	D	45.9	D	40.0
			WB	D	42.0	D	43.0
7	Sylvan Rd & Dill Ave	1. Signalize Intersection	Overall	B	13.4	C	32.2
			EB	B	13.7	C	27.1
			WB	B	16.1	C	27.7
			NB	B	13.0	B	17.9
			SB	B	11.4	D	49.5
8	Sylvan Rd & Avon Ave	1. Signalize Intersection	Overall	A	7.9	A	7.2
			EB	B	18.1	B	15.5
			WB	B	16.8	B	15.3

ID	Intersection	Mitigation	Movement	AM		PM	
				LOS	Delay	LOS	Delay
			NBL	A	7.6	A	7.0
			SBL	A	4.3	A	5.6
9	Sylvan Rd & Murphy Ave	1. Signalize Intersection	Overall	C	24.5	C	28.1
			EB	B	10.2	B	15.9
			WB	B	16.1	C	23.2
			NB	D	45.3	C	33.8
			SB	D	43.7	D	49.8
11	Metropolitan Pkwy & Dill Ave	1. Add EB LT Lane	Overall	B	19.0	B	18.7
			EB	D	38.1	D	36.0
			WB	C	29.6	C	28.6
			NB	B	18.2	B	18.5
			SB	A	7.3	B	12.1
12	Sylvan Rd & Site Driveway A	1. 2 Exit Lanes 2. TWLT Between Driveways & Avon Avenue	EB	C	18.8	D	29.3
			NBL	A	8.7	A	9.8
13	Sylvan Rd & Site Driveway B		EB	C	15.9	D	31.8
			NBL	A	8.4	A	9.7

D.6. Site Driveway Analysis

The site driveways were also analyzed to see if they warranted turn lanes using methodologies from GDOT's access manual which looks at the average annual daily traffic along the roadway, speed limit, number of lanes, and the number of daily vehicles making turns at an intersection. According to GDOT's methodologies, both of the driveways warrant turn lanes. Since there is a bike lane along Sylvan Road, a right-turn lane may not be desired for bike safety, though a two-way left-turn lane between the southernmost driveway and Avon Avenue is likely needed to allow traffic to exit the site smoothly without installing traffic signals at the driveways. The driveways each need two exiting lanes to separate right and left-turning vehicles. The result of this configuration is shown in Table 7 above.

D.7. Additional Analysis

The development and others in the area are expected to bring thousands of residents to the area that would likely use public transit since parking will be limited. It is recommended that in the future MARTA consider restoring bus service directly to this portion of Sylvan Road and the developer consider instituting a transportation demand management program such as including MARTA memberships for tenants to reduce the need for vehicular traffic on the roadways.

The BeltLine is planned to run behind the proposed mixed-use development and will cross the road at or near the intersection of Sylvan Road with Avon Avenue. It is recommended that the developer and the City of Atlanta work together to provide a safe crossing at the intersection that may include installing a traffic signal at the intersection.

E. Conclusion & Recommendations

A new mixed-use development is proposed for construction at the southwest corner of the intersection of Sylvan Road with Avon Avenue in Atlanta, Georgia (see Appendix A for the site plan detail). The proposed development will consist of 3,032 high-rise apartments, a 300-room hotel, 20,000 square feet of civic space, 257,050 square feet of office space, and 147,255 square feet of retail/restaurant space. The development will construct two (2) new access points along the west side of Sylvan Road on either side of a recently constructed townhome development.

The proposed development will be constructed in five (5) building with parking decks below and will repurpose an existing building for affordable housing. Building Areas A-D will have access to Sylvan Road via Driveway A and Building Area E will have exclusive access to Driveway B.

The development is expected to be completed by 2035 and will generate a total of 16,738 new daily trips according to data from the Institute of Transportation Engineers (ITE) trip generation manual. Of these daily volumes, 922 new trips (504 entering and 418 exiting) will occur in the AM peak hour and 1,015 new trips (612 entering and 703 exiting) will occur in the PM peak hour.

In Existing conditions, there are several intersections that operate at unsatisfactory levels of service (LOS) during the peak periods, particularly the side street approaches at the signalized intersections along Lee Street and the first intersections opposite the railroad crossing along Murphy Avenue. The delay at the signalized intersections is relatively minor but could be improved with additional lanes or signal adjustments. The delay at the unsignalized intersections along Murphy Avenue would require traffic signals to both reduce the delay and ensure that traffic does not back up across the railroad crossings onto Lee Street. These signals would need to be coordinated with the existing ones along Lee Street.

The City of Atlanta is currently working on minor signal upgrades to the intersections along Lee Street, and they are also working on a major project at the intersection of Lee Street with Dill Avenue / Campbellton Road and Dill Avenue with Murphy Avenue. This change is expected to allow traffic from an industrial development along Murphy Avenue to make safe turns, though it will in turn decrease capacity of the eastbound lanes, which is not recommended. With ten (10) years of background growth, the same intersections that already see unsatisfactory delay will continue to see high delay during the peak periods, and the same improvement recommendations will likely reduce the delay added by the background growth. The intersection of Sylvan Road with Dill Avenue is expected to see an increase in delay due to background growth that will likely lead to a signal at the intersection being necessary again. (It was previously set to flash in 2022).

In Build conditions, the addition of project traffic is expected to have impacts on future traffic operations at the study intersections, especially the intersections closest to the proposed development along Sylvan Road. The intersections already experiencing high delays are expected to worsen without the changes recommended from the Existing and No-Build analysis. The intersection of Sylvan Road with Avon Avenue is expected to see increased westbound delay, though this is a low-volume approach

and may not warrant the significant changes needed to reduce the delay. The City of Atlanta and BeltLine may consider signaling the intersection to create a safe crossing for the future BeltLine construction. The only other intersection that is expected to see an increase in delay and operate unsatisfactorily is the intersection of Metropolitan Parkway with Dill Avenue, though this is likely due to the increase in eastbound traffic triggering the signal more often and could be reduced by adding an eastbound left-turn lane to the intersection.

Based on the analysis prepared for this study, there are few practical geometric mitigation measures for the surrounding roadways. It is recommended that the proposed development includes infrastructure for pedestrians (i.e. sidewalks and crosswalks) along the site's road frontage in accordance with the City of Atlanta's standards. Additionally, the developer should continue to work with the Atlanta BeltLine on improvements such as a signalized crossing at the intersection of Sylvan Road with Avon Avenue for bike safety.

The development is recommended to have separate exit lanes for right and left-turning traffic and to make improvements needed along Sylvan Road for safe turns onto and off of the roadway.

While the site traffic is expected to have an impact on the nearby intersections, the impact is expected to be felt in the future without the development as well. It is recommended that the City of Atlanta consider signaling the intersections of Murphy Avenue with Dill Avenue, Sylvan Road with Dill Avenue, and Sylvan Road with Murphy Avenue to increase traffic flow in the area rather than using all-way stops. This alternative would also provide safer crossings for pedestrians and traffic counts suggest that signals are likely warranted at the three intersections. Other recommendations for the City of Atlanta are to investigate the feasibility of an eastbound left-turn lane at the intersection of Sylvan Road with Dill Avenue, possibly by removing on-street parking at the intersection.

It is recommended that MARTA consider changing bus routes in the future to run to the project area to support this development, as well as other planned developments, and to promote transit use.

Lastly, it is recommended that GDOT investigate separating eastbound left-turns at the intersection of Metropolitan Parkway and Dill Avenue, as allowing the side-street to clear may lead to the northbound and southbound approaches operating continuously.

APPENDIX

APPENDIX A – SITE PLAN

APPENDIX B – TRAFFIC COUNT DATA

APPENDIX C – GDOT HISTORICAL TRAFFIC DATA & GROWTH RATE

APPENDIX D – EXISTING, NO-BUILD, & BUILD SYNCHRO REPORTS

APPENDIX E – QUEUE LENGTH REPORTS

APPENDIX F – BUILD MITIGATION SYNCHRO REPORTS

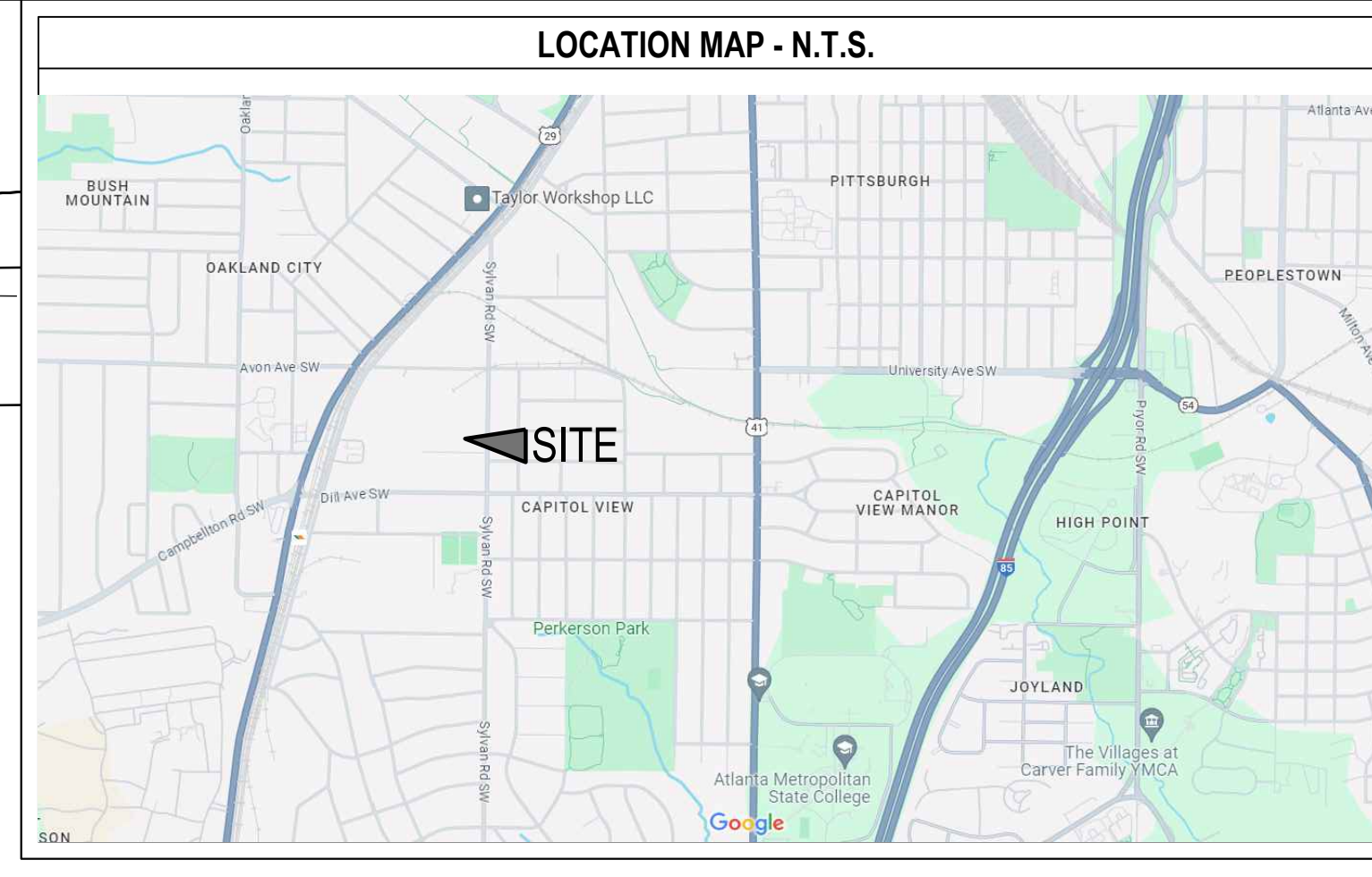
APPENDIX G – GRTA LETTER OF UNDERSTANDING (LOU)

APPENDIX A
SITE PLAN

11/02/2024

N/F THE ATLANTA DEVELOPMENT AUTHORITY, INC. ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010127

N/F INTERNATIONAL FUNDING GROUP LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000002118



E&A
EBERLY & ASSOCIATES

TEL 770.452.7849 FAX 770.452.0086
2951 FLOWERS ROAD SOUTH, STE 119 ATLANTA, GEORGIA 30341
WWW.EBERLY.NET

LAND PLANNING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE

DRI #: 4430

SITE DATA
CURRENT ZONING USE: I-1-C, BELTLINE OVERLAY
PROPOSED ZONING USE: MRC-3, BELTLINE OVERLAY
CITY OF ATLANTA
FULTON COUNTY, GA
LAND LOT: T20 DISTRICT 14TH
PARCELS LISTED: 14 012000020111 (1215 SYLVAN ROAD)
14 012000020103 (0 SYLVAN ROAD)
14 012000010146 (887 COX AVENUE)
14 012000010137 (885 COX AVENUE)
14 012000010188 (884 COX AVENUE)
14 012000020509 (1313 SYLVAN ROAD)

LOT AREA:
NET LOT AREA (NLA) = 604,003 SF (13.87 ACRES)

BUILDING COVERAGE:
MAX ALLOWED 85% OF NLA (513,403 SF)
COVERAGE PROVIDED: 80.3% (488,272 SF)

FLOOR AREA:
RESIDENTIAL FLOOR AREA = 716,200 SF
NON-RESIDENTIAL FLOOR AREA = 44,000 SF
NON-RESIDENTIAL FLOOR PROVIDED = 44,000 SF

USABLE OPEN SPACE:
LOS RATIO REQUIRED: 0.75 * 604,003 = 453,002 SF
LOS PROVIDED: 453,002 SF

PARKING DATA:
REQUIRED RESIDENTIAL (0.001) = 3,002 UNITS * 0 = 0 SPACES
NON-RESIDENTIAL REQUIRED: 1,190 SPACES
TOTAL PARKING REQUIRED: 1,194 SPACES
TOTAL PARKING PROVIDED: 1,200 SPACES
BICYCLE PARKING PROVIDED: 50 SPACES
RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
NON-RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
TOTAL LOADING SPACES PROVIDED: 4 SPACES



SYLVAN MIXED USE

LAND LOT 120
14TH DISTRICT
CITY OF ATLANTA
FULTON COUNTY, GEORGIA
1313 & 215 SYLVAN RD, 984, 985 & 997 COX AVE

REVISION

DATE	DESCRIPTION	BY	CHK
11/15/2024	CRC SUBMITTAL		
5/23/2025	DRI METHODOLOGY MEETING		
6/13/2025	MMP COMMENTS		

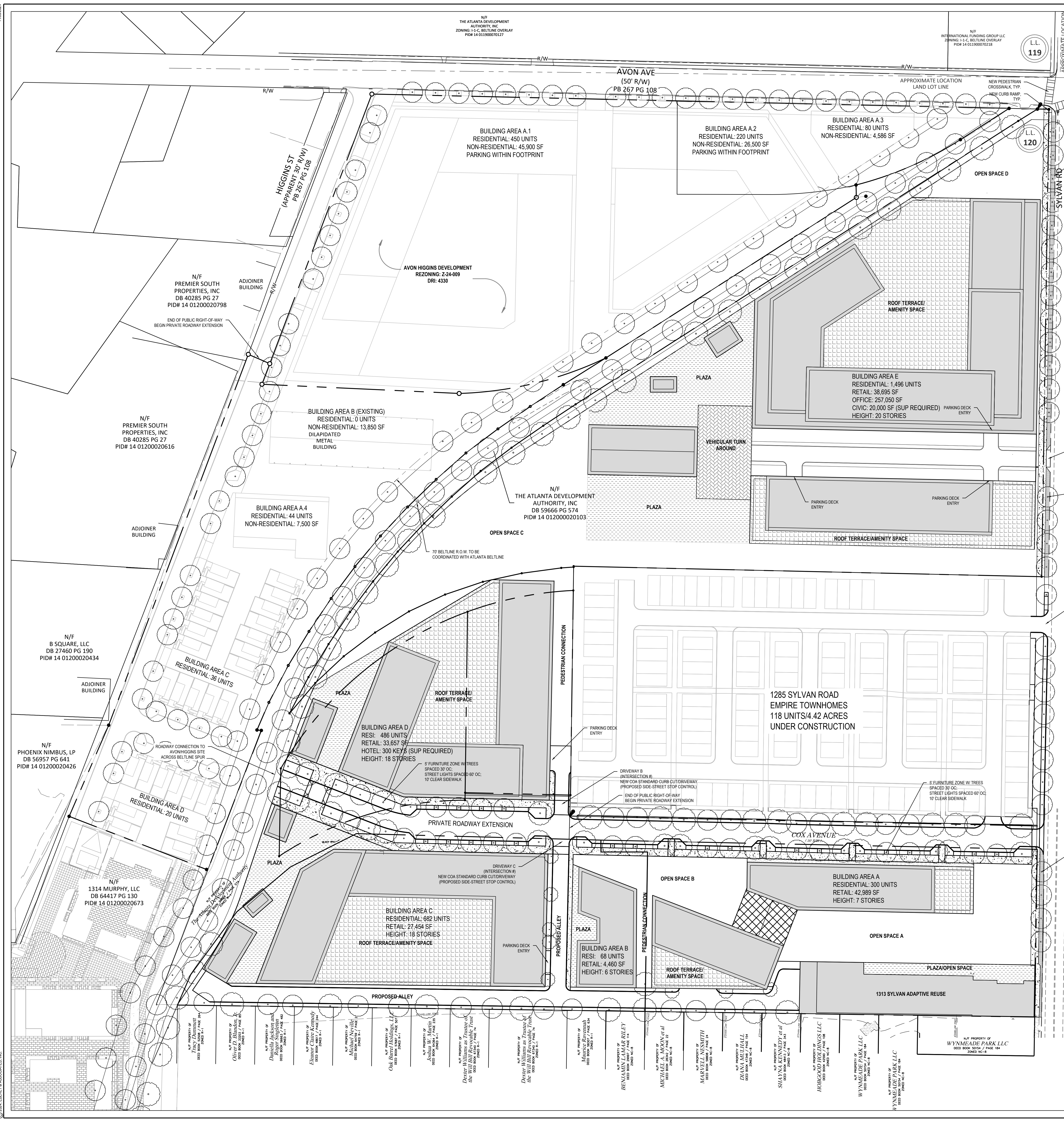
DRI SITE PLAN

SCALE: 1" = 50'
DATE: 11/02/2024
DRAWN BY: [Blank]
PROJECT ENGINEER: [Blank]
CHECK REVIEWER: [Blank]

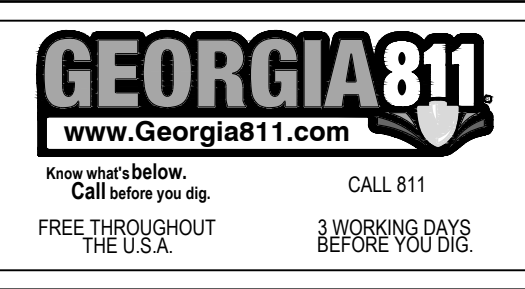
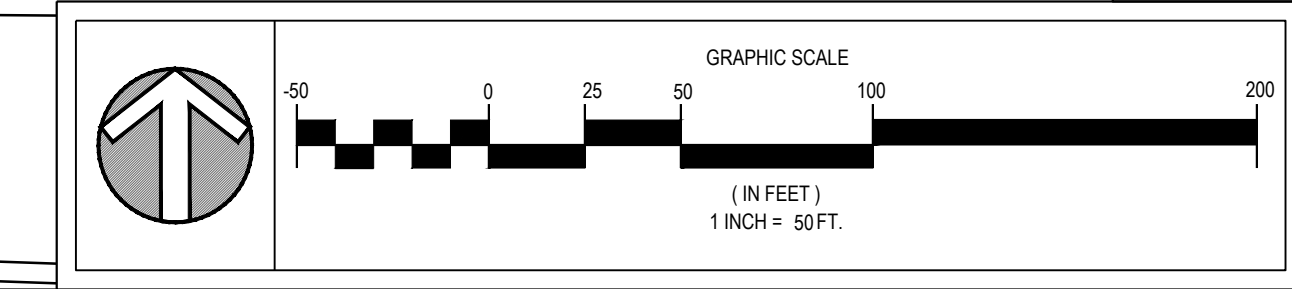
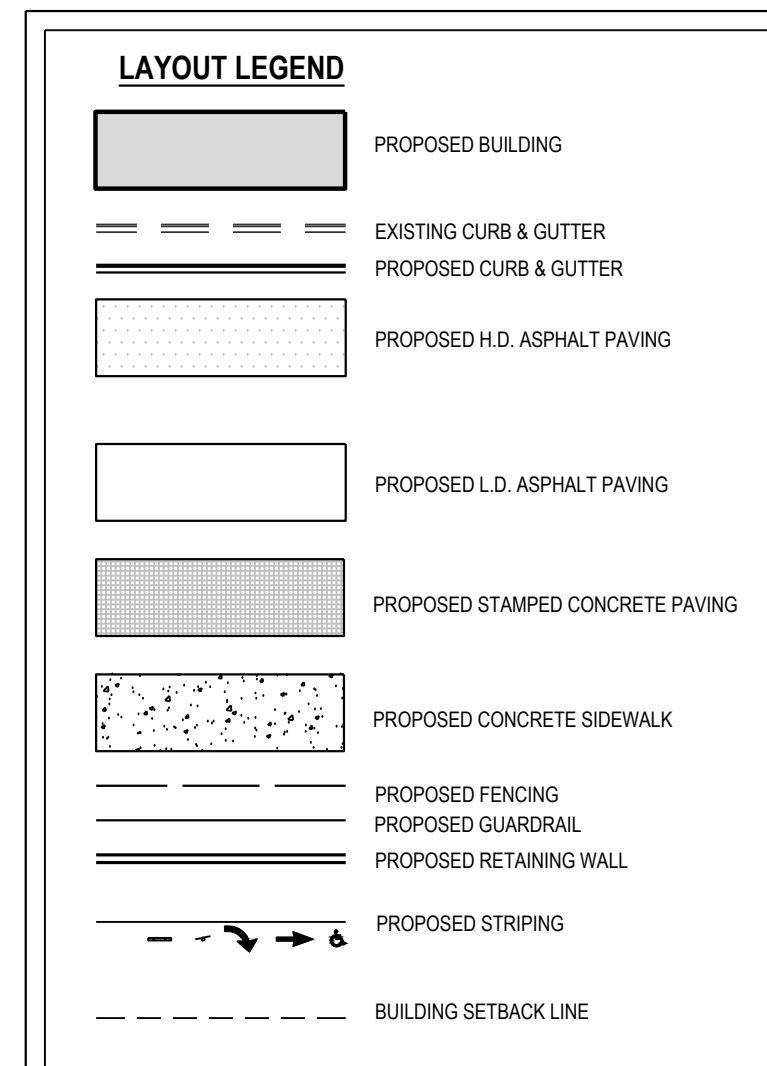
EBERLY PROJECT NUMBER:
24-075

SHEET NUMBER:
DR1.0

NOT ISSUED FOR CONSTRUCTION

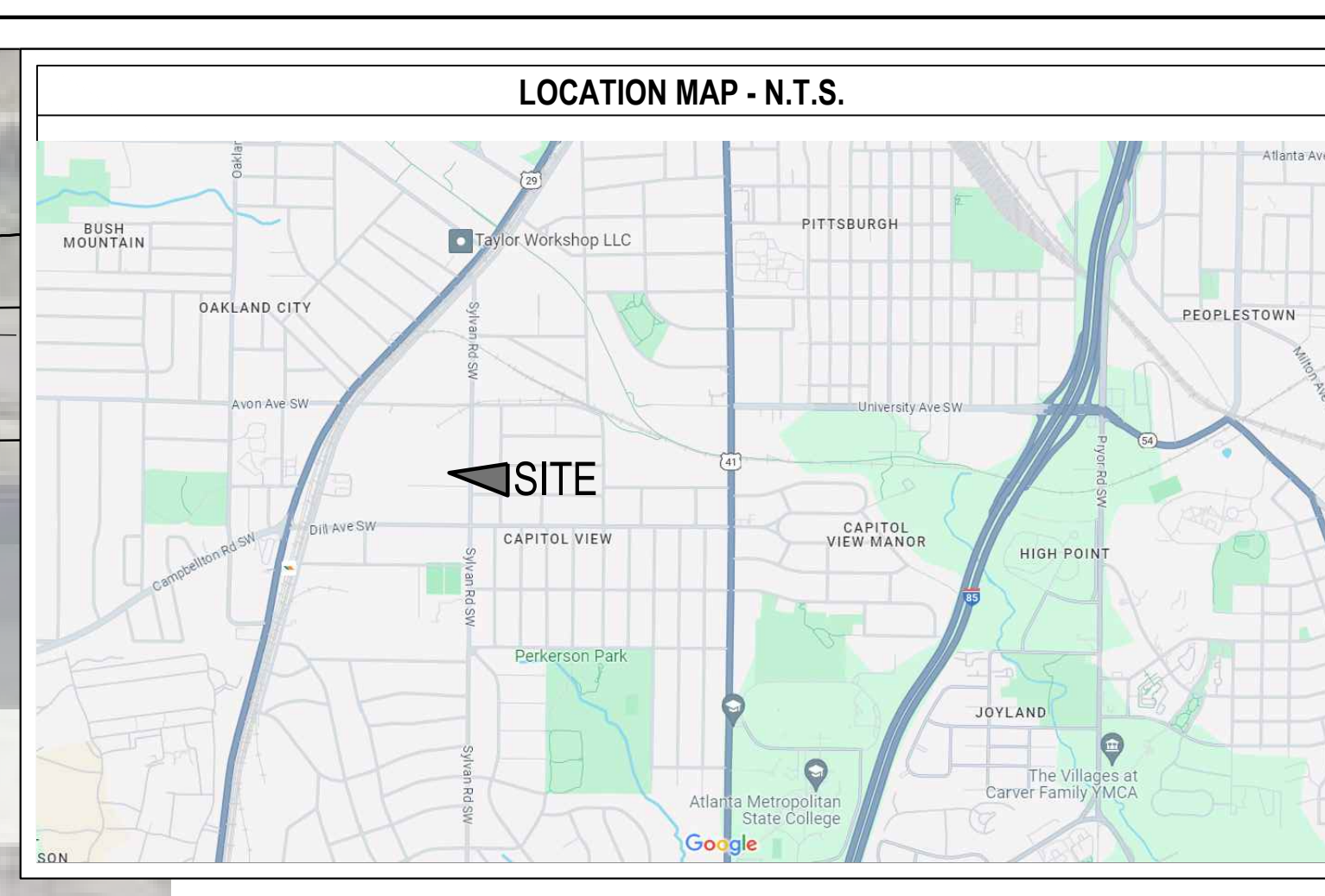


- N/F TTC PROPERTIES LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010079
- N/F TTC PROPERTIES LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010061
- N/F GEORGIA STATE UNIVERSITY FOUNDATION INC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010053
- N/F SCOTTDALE PARTNERS LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010442
- N/F SCOTTDALE PARTNERS LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010186
- N/F HARMON EDGE LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010178
- N/F CRG CONSOLIDATED LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010160
- N/F GREENER MARY ET AL ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010099
- N/F SCOTTDALE PARTNERS LLC ZONING: I-1-C, BELTLINE OVERLAY PID# 14 012000010186
- N/F AGED CHOCOLATE HOLDINGS LLC ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010301
- N/F 1285 SYLVAN ROAD PARTNERS LLC ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010293
- N/F CELESTIAL CHURCH OF CHRIST ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010285
- N/F GARAGE VENTURES ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010277
- N/F AAA PARK PROPERTY LLC ZONING: N-C, BELTLINE OVERLAY PID# 14 012000010475



C:\Users\PHILLI~1\AppData\Local\Temp\chobas_310024\075 BASE.dwg September 29, 2025

11/03/2024



DRI #: 4430

SITE DATA
 CURRENT ZONING USE: I-1-C, BELTLINE OVERLAY
 PROPOSED ZONING USE: MRC-3, BELTLINE OVERLAY
 CITY OF ATLANTA
 FULTON COUNTY, GA
 LAND LOT: 120 DISTRICT 14TH
 PARCELS (IDS): 14 01200020111 (1215 SYLVAN ROAD)
 14 01200020103 (0 SYLVAN ROAD)
 14 01200020146 (887 COX AVENUE)
 14 01200020137 (885 COX AVENUE)
 14 01200020186 (884 COX AVENUE)
 14 01200020209 (1313 SYLVAN ROAD)

LOT AREA:
 NET LOT AREA (NLA) = 604,003 SF (13.87 ACRES)

BUILDING COVERAGE:
 MAX ALLOWED 85% OF NLA (513,403 SF)
 COVERAGE PROVIDED: 60.8% (367,272 SF)

MAXIMUM ALLOWED BUILDING HEIGHT: 225 FT
 HEIGHT PROVIDED: 225 FT

FLOOR AREA:
 RESIDENTIAL FLOOR AREA = 716,200 SF
 RESIDENTIAL FAR ALLOWED = 3.2
 AFFORDABLE BONUS = 1.0
 RESIDENTIAL FAR PROVIDED = 4.02

NON-RESIDENTIAL FLOOR AREA = 716,200 SF
 NON-RESIDENTIAL FAR ALLOWED = 4.0
 NON-RESIDENTIAL FAR PROVIDED = 1.19

USABLE OPEN SPACE:
 LOS RATIO REQUIRED: 0.75 * 604,003 = 453,002 SF
 LOS PROVIDED: 453,002 SF

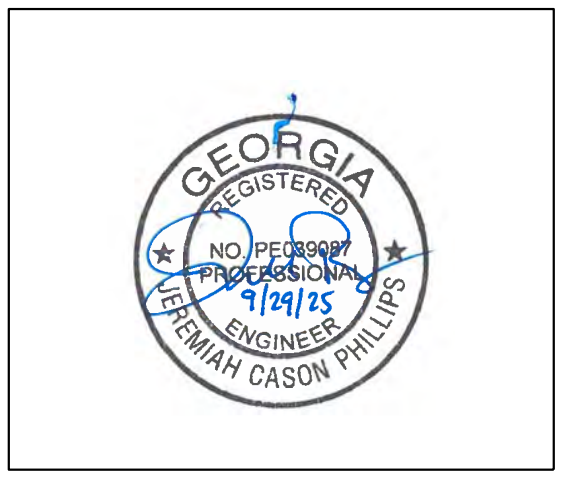
PARKING DATA:
 REQUIRED RESIDENTIAL (0.001) = 3,002 UNITS * 0 = 0 SPACES
 NON-RESIDENTIAL REQUIRED: 1,180 SF * 1.19 = 139 SPACES
 TOTAL PARKING REQUIRED: 139 SPACES

TOTAL PARKING PROVIDED: 1,200 SPACES
 BICYCLE PARKING PROVIDED: 50 SPACES
 RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
 NON-RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
 TOTAL LOADING SPACES PROVIDED: 4 SPACES

E&A
EBERLY & ASSOCIATES

TEL 770.452.7849 FAX 770.452.0086
 2951 FLOWERS ROAD SOUTH, STE 119
 ATLANTA, GEORGIA 30341
 WWW.EBERLY.NET

LAND PLANNING
 CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE



SYLVAN MIXED USE

LAND LOT 120
 14TH DISTRICT
 CITY OF ATLANTA
 FULTON COUNTY, GEORGIA
 1313 & 215 SYLVAN RD, 984, 985 & 997 COX AVE

REVISION

DATE	DESCRIPTION	BY	CHK
11/15/2024	CRC SUBMITTAL		
5/23/2025	DRI METHODOLOGY MEETING		
6/13/2025	MMP COMMENTS		

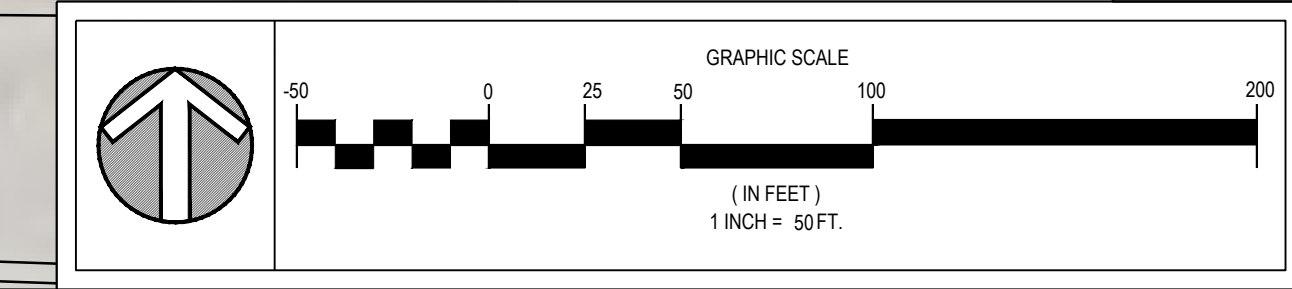
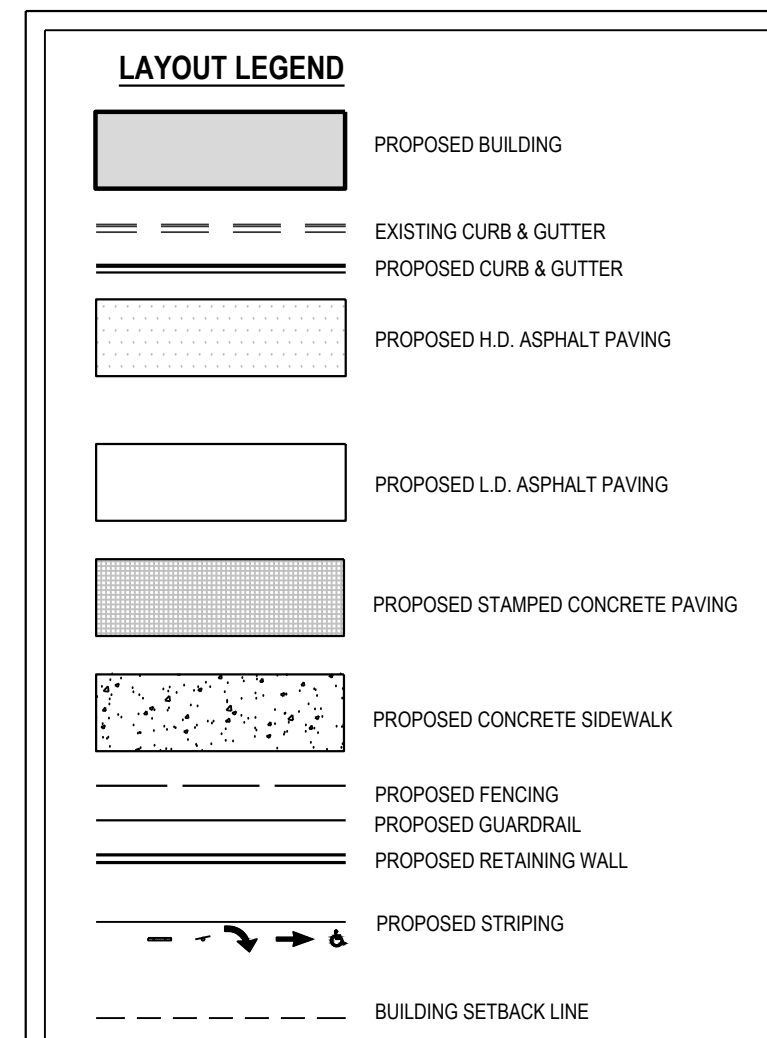
DRI SITE PLAN W/ AERIAL

SCALE	DATE	DRAWN BY	PROJECT ENGINEER	QA/QC REVIEWER
1" = 50'	11/03/2024			

EBERLY PROJECT NUMBER:
24-075

SHEET NUMBER:
DR2.0

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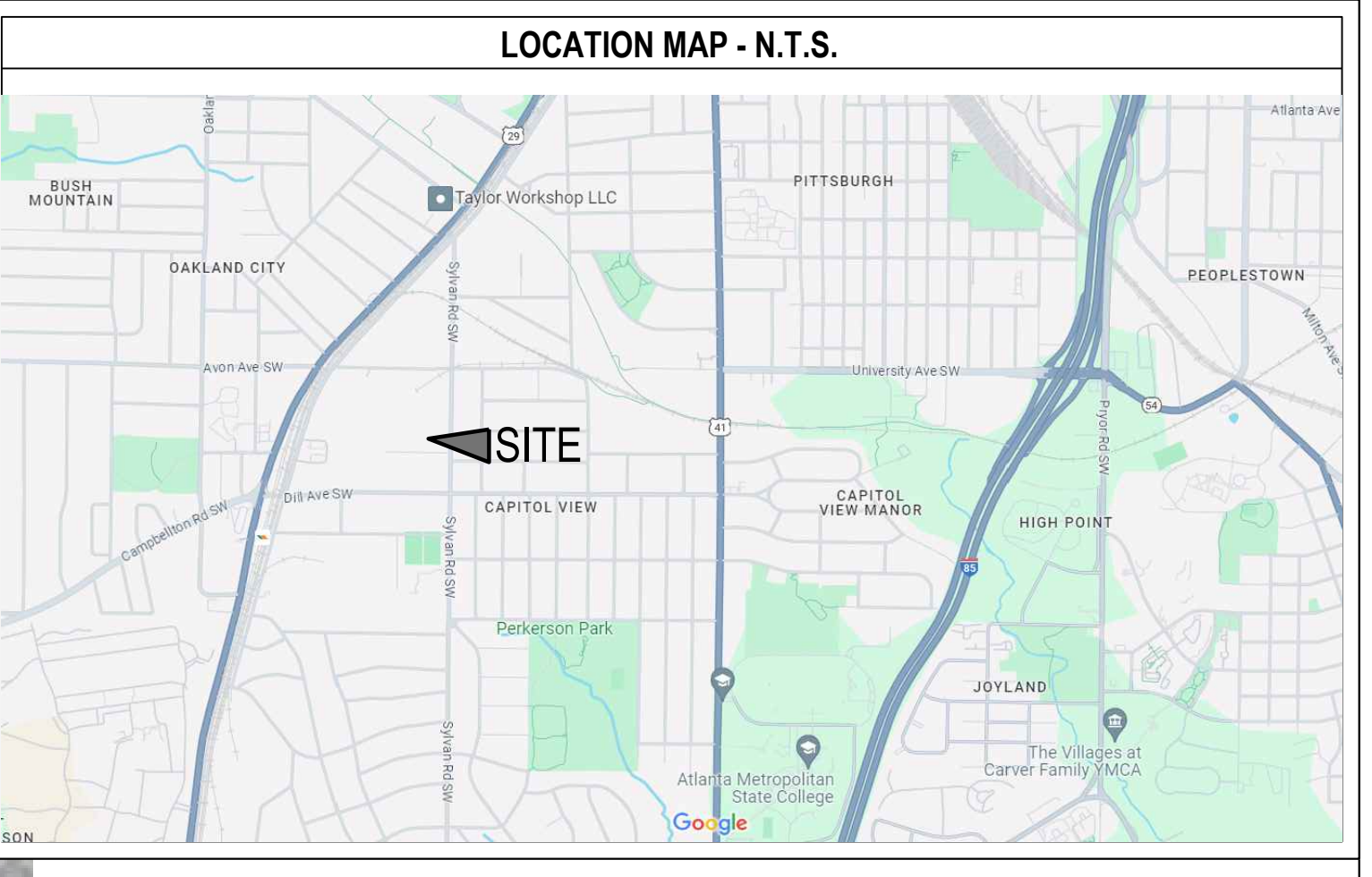
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11/03/2024

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DRI #: 4430

SITE DATA
 CURRENT ZONING USE: I-1-C, BELTLINE OVERLAY
 PROPOSED ZONING USE: MRC-3, BELTLINE OVERLAY
 CITY OF ATLANTA
 FULTON COUNTY, GA
 LAND LOT: 120 DISTRICT 14TH
 PARCELS LOTS: 14 01 200 020 2111 (1215 SYLVAN ROAD)
 14 01 200 020 2103 (0 SYLVAN ROAD)
 14 01 200 020 2104 (887 COX AVENUE)
 14 01 200 020 2137 (885 COX AVENUE)
 14 01 200 020 2165 (884 COX AVENUE)
 14 01 200 020 2209 (1313 SYLVAN ROAD)

LOT AREA:
 NET LOT AREA (NLA) = 604,003 SF (13.87 ACRES)

BUILDING COVERAGE:
 MAX ALLOWED 85% OF NLA (513,403 SF)
 COVERAGE PROVIDED: 80.8% (488,272 SF)

MAXIMUM ALLOWED BUILDING HEIGHT: 225 FT
 HEIGHT PROVIDED: 225 FT

FLOOR AREA:
 RESIDENTIAL FLOOR AREA = 2,425,896 SF
 RESIDENTIAL FAR ALLOWED = 3.2
 AFFORDABLE BONUS = 1.0
 RESIDENTIAL FAR PROVIDED = 4.02

NON-RESIDENTIAL FLOOR AREA = 716,200 SF
 NON-RESIDENTIAL FAR ALLOWED = 4.0
 NON-RESIDENTIAL FAR PROVIDED = 1.19

USABLE OPEN SPACE:
 UOS RATIO REQUIRED: 0.75 * 604,003 = 453,002 SF
 UOS PROVIDED: 453,002 SF

PARKING DATA:
 REQUIRED RESIDENTIAL (0.00/UNIT) = 3,032 UNITS * 0 = 0 SPACES
 NON-RESIDENTIAL REQUIRED (1.00/SF) = 1,194 SPACES
 TOTAL PARKING REQUIRED: 1,194 SPACES
 TOTAL PARKING PROVIDED: 1,200 SPACES
 BICYCLE PARKING REQUIRED: 50 SPACES
 BICYCLE PARKING PROVIDED: 50 SPACES
 RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
 NON-RESIDENTIAL LOADING SPACES REQUIRED: 2 SPACES
 TOTAL LOADING SPACES PROVIDED: 4 SPACES

DRI DATA:
 DRI NUMBER: 4430
 OVERALL SITE AREA: 13.87 ACRES
 REZONING NUMBER: C-25-01

RESIDENTIAL UNITS: 3,032 UNITS
 UNITS PER ACRE: 218.6 UNITS/ACRE
 HOTEL/HOSPITALITY: 300 KEYS
 RETAIL: 147,255 SF
 OFFICE: 257,650 SF
 CIVIL/CULTURAL: 20,000 SF

DEVELOPMENT PROGRAM:

BUILDING A	RESIDENTIAL: 300 UNITS
	RETAIL: 42,899 SF
	HEIGHT: 7 STORES
BUILDING B	RESIDENTIAL: 68 UNITS
	RETAIL: 4,481 SF
	HEIGHT: 6 STORES
BUILDING C	RESIDENTIAL: 662 UNITS
	RETAIL: 27,454 SF
	HEIGHT: 18 STORES
BUILDING D	RESIDENTIAL: 486 UNITS
	HOTEL: 300 KEYS (SUP REQUIRED)
	RETAIL: 33,637 SF
	HEIGHT: 18 STORES
BUILDING E	RESIDENTIAL: 1,496 UNITS
	RETAIL: 38,855 SF
	OFFICE: 257,650 SF
	CIVIC: 20,000 SF (SUP REQUIRED)
	HEIGHT: 22 STORES

PARKING DATA:
 MINIMUM PARKING REQUIRED: 1,194 SPACES
 PARKING PROVIDED: 1,200 SPACES
 BICYCLE CARRIAGEWAY & EV PARKING WILL BE PROVIDED TO MEET OR EXCEED CITY OF ATLANTA REQUIREMENTS

TEL 770.452.7849 FAX 770.452.0086
 2951 FLOWERS ROAD SOUTH, STE 119 ATLANTA, GEORGIA 30341
 WWW.EBERLY.NET
 LAND PLANNING
 CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE



SYLVAN MIXED USE
 LAND LOT 120
 14TH DISTRICT
 CITY OF ATLANTA
 FULTON COUNTY, GEORGIA
 1313 & 215 SYLVAN RD, 984, 985 & 997 COX AVE

REVISION

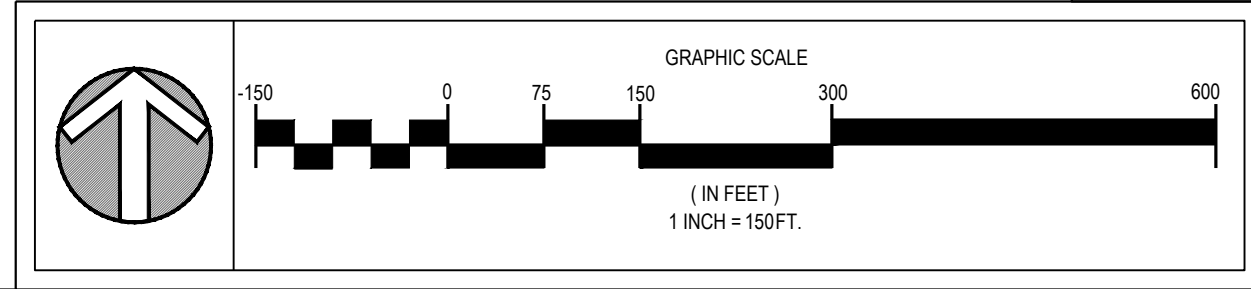
11/15/2024	CRC SUBMITTAL
5/23/2025	DRI METHODOLOGY MEETING
6/13/2025	MMP COMMENTS

SITE PLAN WITH ADJACENT PROJECTS

SCALE	1" = 60'
DATE	11/03/2024
DRAWN BY	PA
PROJECT ENGINEER	JP
CAD/CRC REVIEWER	MM

EBERLY PROJECT NUMBER:
24-075

SHEET NUMBER:
DR3.0
 NOT ISSUED FOR CONSTRUCTION



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APPENDIX B TRAFFIC COUNT DATA

VOLUME

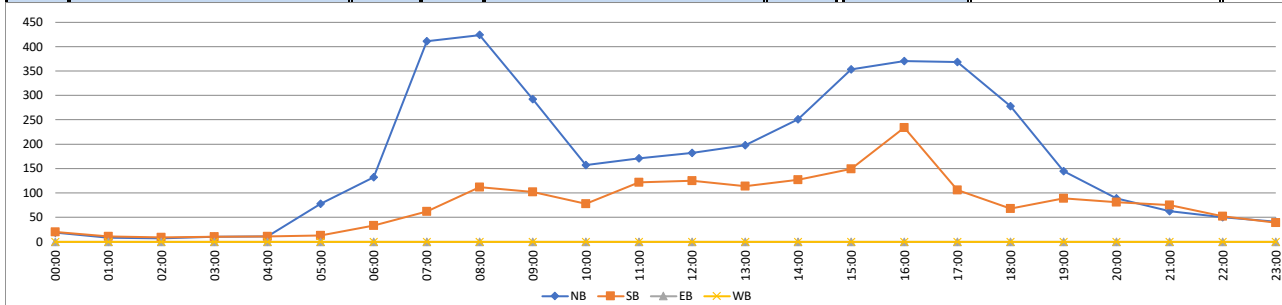
Sylvan Rd SW N/O Cox Ave SW

Day: Tuesday
Date: 5/20/2025

City: Atlanta
Project #: GA25_180155_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS					
						4,108	1,842	0	0	5,950						

15-Minutes Interval											Hourly Intervals																																																																																																																																				
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL																																																																																																																														
0:00	9	4			13	12:00	41	32			73	00:00	19	20			39																																																																																																																														
0:15	2	8			10	12:15	46	31			77	01:00	8	11			19																																																																																																																														
0:30	3	4			7	12:30	49	33			82	02:00	7	9			16																																																																																																																														
0:45	5	4			9	12:45	46	29			75	03:00	10	10			20																																																																																																																														
1:00	3	3			6	13:00	43	17			60	04:00	11	11			22																																																																																																																														
1:15	0	3			3	13:15	55	28			83	05:00	78	13			91																																																																																																																														
1:30	2	3			5	13:30	50	32			82	06:00	132	33			165																																																																																																																														
1:45	3	2			5	13:45	50	37			87	07:00	411	62			473																																																																																																																														
2:00	3	2			5	14:00	59	25			84	08:00	424	112			536																																																																																																																														
2:15	1	4			5	14:15	45	31			76	09:00	292	102			394																																																																																																																														
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2:45	2	3			5	14:45	77	28			105	11:00	171	122			293																																																																																																																														
3:00	1	1			2	15:00	121	25			146	12:00	182	125			307																																																																																																																														
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4:00	1	3			4	16:00	83	51			134	16:00	370	234			604																																																																																																																														
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4:30	4	3			7	16:30	97	67			164	18:00	278	68			346																																																																																																																														
4:45	3	4			7	16:45	89	56			145	19:00	145	89			234																																																																																																																														
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6:00	27	6			33	18:00	82	18			100	STATISTICS <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr style="background-color: #2c5e8c; color: white;"> <th></th><th>NB</th><th>SB</th><th>EB</th><th>WB</th><th>TOTAL</th></tr> </thead> <tbody> <tr><td>Peak Period</td><td>00:00</td><td>to</td><td>12:00</td><td></td><td></td></tr> <tr><td>Volume</td><td>1720</td><td>583</td><td></td><td></td><td>2303</td></tr> <tr><td>Peak Hour</td><td>7:30</td><td>10:45</td><td></td><td></td><td>7:30</td></tr> <tr><td>Peak Volume</td><td>496</td><td>127</td><td></td><td></td><td>591</td></tr> <tr><td>Peak Hour Factor</td><td>0.849</td><td>0.934</td><td></td><td></td><td>0.879</td></tr> <tr><td>Peak Period</td><td>12:00</td><td>to</td><td>00:00</td><td></td><td></td></tr> <tr><td>Volume</td><td>2388</td><td>1259</td><td></td><td></td><td>3647</td></tr> <tr><td>Peak Hour</td><td>15:45</td><td>16:00</td><td></td><td></td><td>16:00</td></tr> <tr><td>Peak Volume</td><td>373</td><td>234</td><td></td><td></td><td>604</td></tr> <tr><td>Peak Hour Factor</td><td>0.923</td><td>0.873</td><td></td><td></td><td>0.921</td></tr> <tr><td>Peak Period</td><td>07:00</td><td>to</td><td>09:00</td><td></td><td></td></tr> <tr><td>Volume</td><td>835</td><td>174</td><td></td><td></td><td>1009</td></tr> <tr><td>Peak Hour</td><td>7:30</td><td>8:00</td><td></td><td></td><td>7:30</td></tr> <tr><td>Peak Volume</td><td>496</td><td>112</td><td></td><td></td><td>591</td></tr> <tr><td>Peak Hour Factor</td><td>0.849</td><td>0.875</td><td></td><td></td><td>0.879</td></tr> <tr><td>Peak Period</td><td>16:00</td><td>to</td><td>18:00</td><td></td><td></td></tr> <tr><td>Volume</td><td>738</td><td>340</td><td></td><td></td><td>1078</td></tr> <tr><td>Peak Hour</td><td>16:00</td><td>16:00</td><td></td><td></td><td>16:00</td></tr> <tr><td>Peak Volume</td><td>370</td><td>234</td><td></td><td></td><td>604</td></tr> <tr><td>Peak Hour Factor</td><td>0.916</td><td>0.873</td><td></td><td></td><td>0.921</td></tr> </tbody> </table>							NB	SB	EB	WB	TOTAL	Peak Period	00:00	to	12:00			Volume	1720	583			2303	Peak Hour	7:30	10:45			7:30	Peak Volume	496	127			591	Peak Hour Factor	0.849	0.934			0.879	Peak Period	12:00	to	00:00			Volume	2388	1259			3647	Peak Hour	15:45	16:00			16:00	Peak Volume	373	234			604	Peak Hour Factor	0.923	0.873			0.921	Peak Period	07:00	to	09:00			Volume	835	174			1009	Peak Hour	7:30	8:00			7:30	Peak Volume	496	112			591	Peak Hour Factor	0.849	0.875			0.879	Peak Period	16:00	to	18:00			Volume	738	340			1078	Peak Hour	16:00	16:00			16:00	Peak Volume	370	234			604	Peak Hour Factor	0.916	0.873			0.921
	NB	SB	EB	WB	TOTAL																																																																																																																																										
Peak Period	00:00	to	12:00																																																																																																																																												
Volume	1720	583			2303																																																																																																																																										
Peak Hour	7:30	10:45			7:30																																																																																																																																										
Peak Volume	496	127			591																																																																																																																																										
Peak Hour Factor	0.849	0.934			0.879																																																																																																																																										
Peak Period	12:00	to	00:00																																																																																																																																												
Volume	2388	1259			3647																																																																																																																																										
Peak Hour	15:45	16:00			16:00																																																																																																																																										
Peak Volume	373	234			604																																																																																																																																										
Peak Hour Factor	0.923	0.873			0.921																																																																																																																																										
Peak Period	07:00	to	09:00																																																																																																																																												
Volume	835	174			1009																																																																																																																																										
Peak Hour	7:30	8:00			7:30																																																																																																																																										
Peak Volume	496	112			591																																																																																																																																										
Peak Hour Factor	0.849	0.875			0.879																																																																																																																																										
Peak Period	16:00	to	18:00																																																																																																																																												
Volume	738	340			1078																																																																																																																																										
Peak Hour	16:00	16:00			16:00																																																																																																																																										
Peak Volume	370	234			604																																																																																																																																										
Peak Hour Factor	0.916	0.873			0.921																																																																																																																																										
6:15	32	6			38	18:15	85	15			100																																																																																																																																				
6:30	25	9			34	18:30	56	8			64																																																																																																																																				
6:45	48	12			60	18:45	55	27			82																																																																																																																																				
7:00	54	5			59	19:00	47	13			60																																																																																																																																				
7:15	75	14			89	19:15	33	27			60																																																																																																																																				
7:30	136	21			157	19:30	32	27			59																																																																																																																																				
7:45	146	22			168	19:45	33	22			55																																																																																																																																				
8:00	94	32			126	20:00	25	20			45																																																																																																																																				
8:15	120	20			140	20:15	27	18			45																																																																																																																																				
8:30	108	32			140	20:30	14	30			44																																																																																																																																				
8:45	102	28			130	20:45	23	13			36																																																																																																																																				
9:00	83	23			106	21:00	19	19			38																																																																																																																																				
9:15	62	33			95	21:15	12	26			38																																																																																																																																				
9:30	74	22			96	21:30	16	12			28																																																																																																																																				
9:45	73	24			97	21:45	16	18			34																																																																																																																																				
10:00	51	18			69	22:00	6	12			18																																																																																																																																				
10:15	35	6			41	22:15	17	16			33																																																																																																																																				
10:30	29	21			50	22:30	13	13			26																																																																																																																																				
10:45	42	33			75	22:45	14	11			25																																																																																																																																				
11:00	52	27			79	23:00	11	11			22																																																																																																																																				
11:15	32	33			65	23:15	15	12			27																																																																																																																																				
11:30	41	34			75	23:30	8	7			15																																																																																																																																				
11:45	46	28			74	23:45	7	9			16																																																																																																																																				
TOTALS	1720	583	0	0	2303	TOTALS	2388	1259	0	0	3647																																																																																																																																				
SPLIT %	75%	25%	0%	0%	39%	SPLIT %	65%	35%	0%	0%	61%																																																																																																																																				



VOLUME

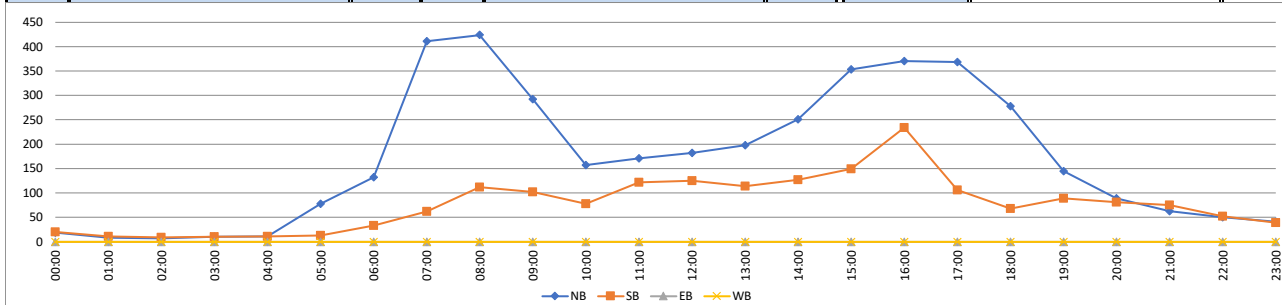
Sylvan Rd SW N/O Cox Ave SW

Day: Tuesday
Date: 5/20/2025

City: Atlanta
Project #: GA25_180155_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS					
						4,108	1,842	0	0	5,950						

15-Minutes Interval											Hourly Intervals						
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	9	4			13	12:00	41	32			73	00:00	19	20			39
0:15	2	8			10	12:15	46	31			77	01:00	8	11			19
0:30	3	4			7	12:30	49	33			82	02:00	7	9			16
0:45	5	4			9	12:45	46	29			75	03:00	10	10			20
1:00	3	3			6	13:00	43	17			60	04:00	11	11			22
1:15	0	3			3	13:15	55	28			83	05:00	78	13			91
1:30	2	3			5	13:30	50	32			82	06:00	132	33			165
1:45	3	2			5	13:45	50	37			87	07:00	411	62			473
2:00	3	2			5	14:00	59	25			84	08:00	424	112			536
2:15	1	4			5	14:15	45	31			76	09:00	292	102			394
2:30	1	0			1	14:30	70	43			113	10:00	157	78			235
2:45	2	3			5	14:45	77	28			105	11:00	171	122			293
3:00	1	1			2	15:00	121	25			146	12:00	182	125			307
3:15	2	2			4	15:15	69	42			111	13:00	198	114			312
3:30	4	3			7	15:30	71	38			109	14:00	251	127			378
3:45	3	4			7	15:45	92	44			136	15:00	353	149			502
4:00	1	3			4	16:00	83	51			134	16:00	370	234			604
4:15	3	1			4	16:15	101	60			161	17:00	368	106			474
4:30	4	3			7	16:30	97	67			164	18:00	278	68			346
4:45	3	4			7	16:45	89	56			145	19:00	145	89			234
5:00	8	3			11	17:00	78	38			116	20:00	89	81			170
5:15	13	3			16	17:15	91	23			114	21:00	63	75			138
5:30	21	4			25	17:30	93	31			124	22:00	50	52			102
5:45	36	3			39	17:45	106	14			120	23:00	41	39			80
6:00	27	6			33	18:00	82	18			100	STATISTICS					
6:15	32	6			38	18:15	85	15			100	Peak Period		00:00	to	12:00	
6:30	25	9			34	18:30	56	8			64	Volume		1720	583		2303
6:45	48	12			60	18:45	55	27			82	Peak Hour		7:30	10:45		7:30
7:00	54	5			59	19:00	47	13			60	Peak Volume		496	127		591
7:15	75	14			89	19:15	33	27			60	Peak Hour Factor		0.849	0.934		0.879
7:30	136	21			157	19:30	32	27			59	Peak Period		12:00	to	00:00	
7:45	146	22			168	19:45	33	22			55	Volume		2388	1259		3647
8:00	94	32			126	20:00	25	20			45	Peak Hour		15:45	16:00		16:00
8:15	120	20			140	20:15	27	18			45	Peak Volume		373	234		604
8:30	108	32			140	20:30	14	30			44	Peak Hour Factor		0.923	0.873		0.921
8:45	102	28			130	20:45	23	13			36	Peak Period		07:00	to	09:00	
9:00	83	23			106	21:00	19	19			38	Volume		835	174		1009
9:15	62	33			95	21:15	12	26			38	Peak Hour		7:30	8:00		7:30
9:30	74	22			96	21:30	16	12			28	Peak Volume		496	112		591
9:45	73	24			97	21:45	16	18			34	Peak Hour Factor		0.849	0.875		0.879
10:00	51	18			69	22:00	6	12			18	Peak Period		16:00	to	18:00	
10:15	35	6			41	22:15	17	16			33	Volume		738	340		1078
10:30	29	21			50	22:30	13	13			26	Peak Hour		16:00	16:00		16:00
10:45	42	33			75	22:45	14	11			25	Peak Volume		370	234		604
11:00	52	27			79	23:00	11	11			22	Peak Hour Factor		0.916	0.873		0.921
11:15	32	33			65	23:15	15	12			27						
11:30	41	34			75	23:30	8	7			15						
11:45	46	28			74	23:45	7	9			16						
TOTALS	1720	583	0	0	2303	TOTALS	2388	1259	0	0	3647						
SPLIT %	75%	25%	0%	0%	39%	SPLIT %	65%	35%	0%	0%	61%						



National Data & Surveying Services

Intersection Turning Movement Count

Location: US 29 & Campbellton Rd SW/Dill Ave SW
City: Atlanta
Control: Signalized

Project ID: 25-180154-001
Date: 5/20/2025

Data - Total

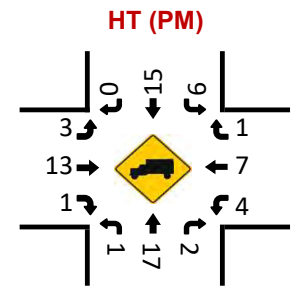
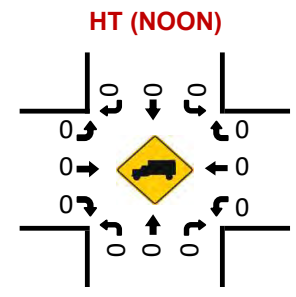
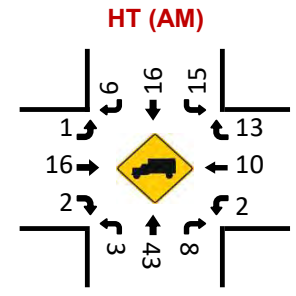
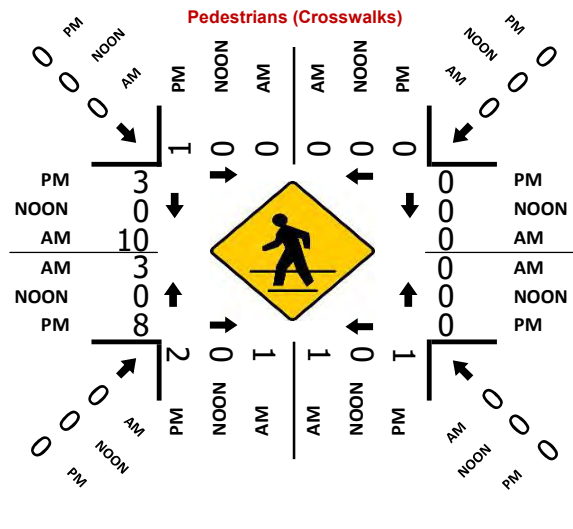
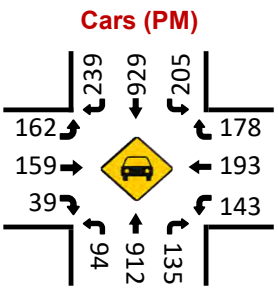
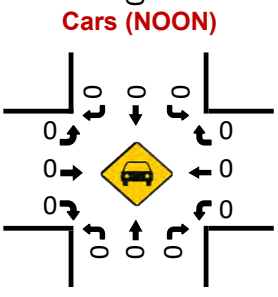
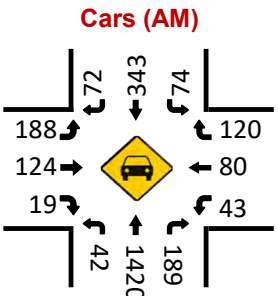
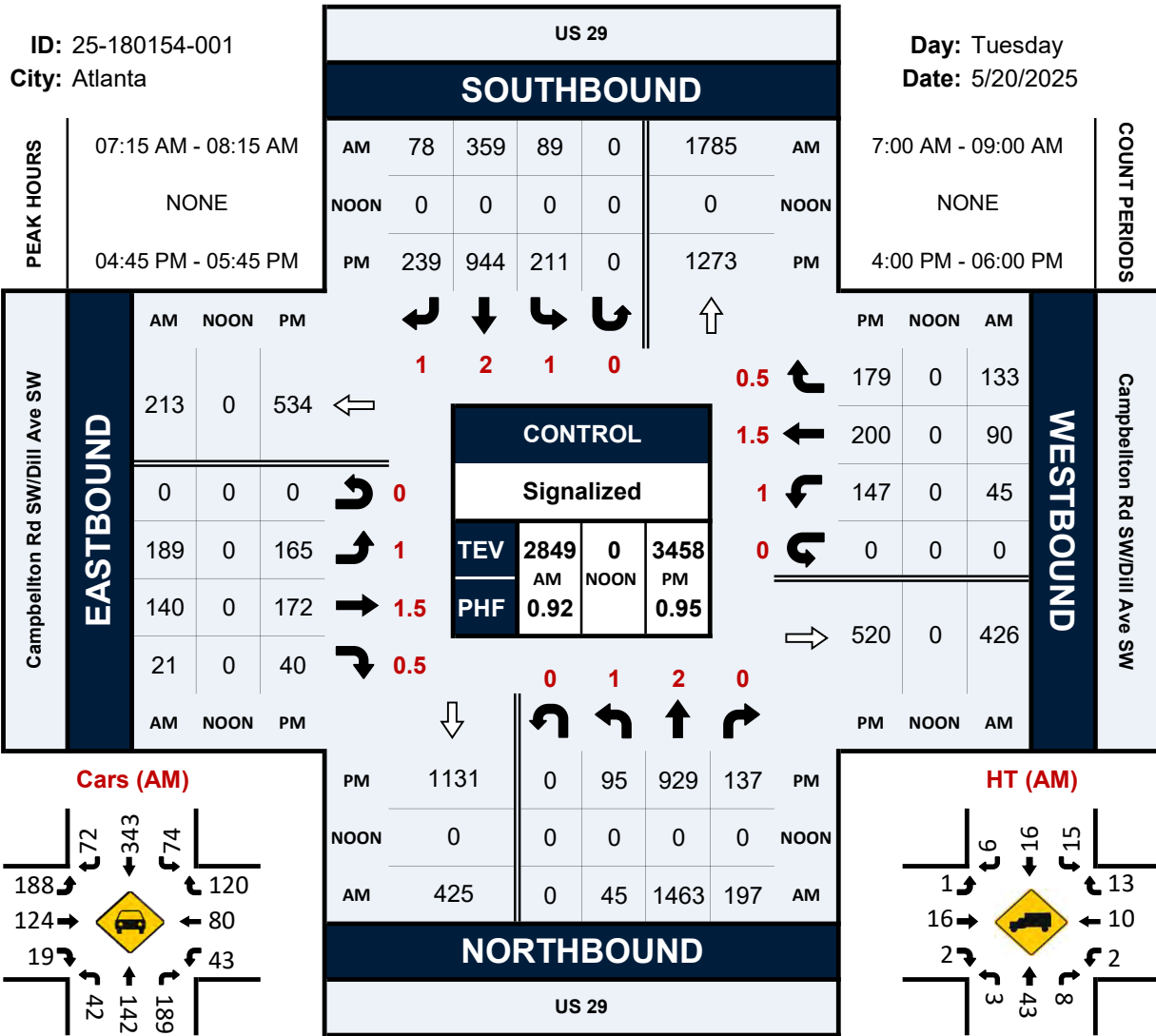
NS/EW Streets:	US 29				US 29				Campbellton Rd SW/Dill Ave SW				Campbellton Rd SW/Dill Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	1.5 WT	0.5 WR	0 WU	
7:00 AM	15	238	25	0	16	58	12	0	35	22	1	0	11	10	23	0	466
7:15 AM	11	352	21	0	17	82	24	0	54	31	4	0	12	21	28	0	657
7:30 AM	16	365	108	0	26	88	21	0	48	41	4	0	13	20	24	0	774
7:45 AM	10	359	34	0	26	90	14	0	43	38	7	0	14	24	49	0	708
8:00 AM	8	387	34	0	20	99	19	0	44	30	6	0	6	25	32	0	710
8:15 AM	2	217	59	0	23	64	20	0	66	65	4	0	8	32	24	0	584
8:30 AM	2	237	25	0	29	77	17	0	59	44	7	0	7	28	32	0	564
8:45 AM	1	282	12	0	28	57	9	0	71	34	3	0	8	35	27	0	567
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	65	2437	318	0	185	615	136	0	420	305	36	0	79	195	239	0	5030
	2.30%	86.42%	11.28%	0.00%	19.76%	65.71%	14.53%	0.00%	55.19%	40.08%	4.73%	0.00%	15.40%	38.01%	46.59%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	45	1463	197	0	89	359	78	0	189	140	21	0	45	90	133	0	2849
PEAK HR FACTOR :	0.703	0.945	0.456	0.000	0.856	0.907	0.813	0.000	0.875	0.854	0.750	0.000	0.804	0.900	0.679	0.000	0.920
	0.872				0.953				0.941				0.770				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	2 NT	0 NR	0 NU	1 SL	2 ST	1 SR	0 SU	1 EL	1.5 ET	0.5 ER	0 EU	1 WL	1.5 WT	0.5 WR	0 WU	
4:00 PM	22	246	21	0	25	166	51	0	52	28	16	0	25	40	22	0	714
4:15 PM	17	319	39	0	25	233	56	0	41	50	12	0	25	60	24	0	901
4:30 PM	16	281	66	0	23	221	51	0	34	54	5	0	25	66	23	0	865
4:45 PM	28	220	35	0	33	261	63	0	48	35	15	0	35	41	30	0	844
5:00 PM	28	213	22	0	42	233	53	0	38	47	7	0	30	59	37	0	809
5:15 PM	20	256	28	0	68	253	57	0	34	38	9	0	44	45	54	0	906
5:30 PM	19	240	52	0	68	197	66	0	45	52	9	0	38	55	58	0	899
5:45 PM	17	159	65	0	82	182	62	0	41	41	11	0	23	51	57	0	791
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	167	1934	328	0	366	1746	459	0	333	345	84	0	245	417	305	0	6729
	6.88%	79.62%	13.50%	0.00%	14.24%	67.91%	17.85%	0.00%	43.70%	45.28%	11.02%	0.00%	25.34%	43.12%	31.54%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	95	929	137	0	211	944	239	0	165	172	40	0	147	200	179	0	3458
PEAK HR FACTOR :	0.848	0.907	0.659	0.000	0.776	0.904	0.905	0.000	0.859	0.827	0.667	0.000	0.835	0.847	0.772	0.000	0.954
	0.933				0.922				0.889				0.871				

US 29 & Campbellton Rd SW/Dill Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-001
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: US 29/SR 154 & Avon Ave SW
 City: Atlanta
 Control: Signalized

Project ID: 25-180154-002
 Date: 5/20/2025

Data - Total

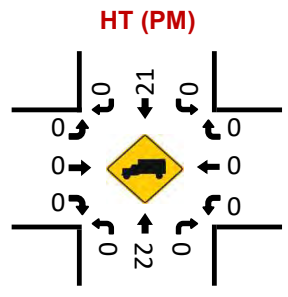
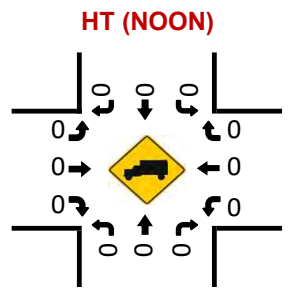
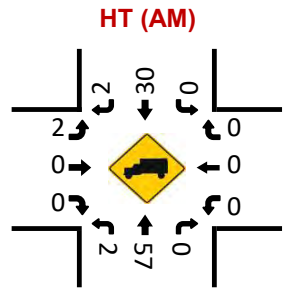
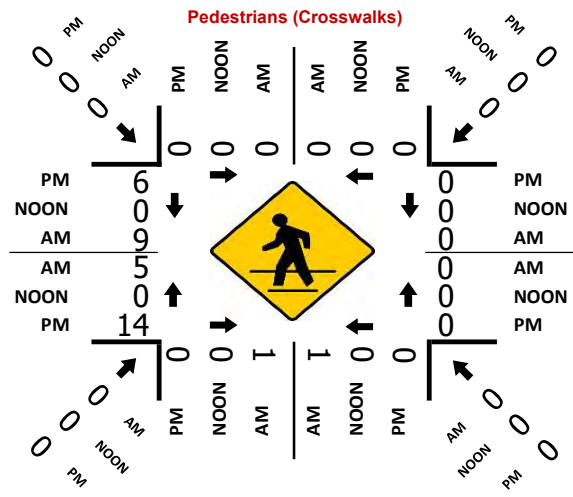
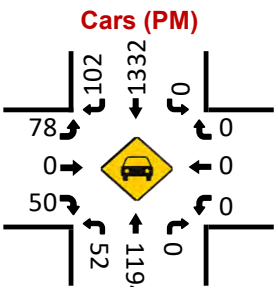
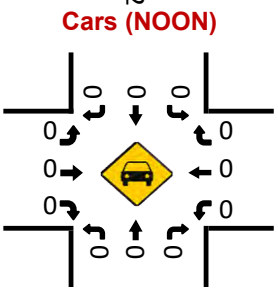
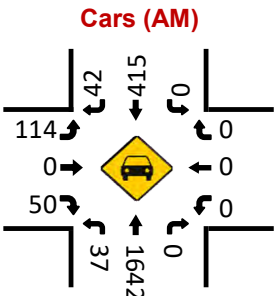
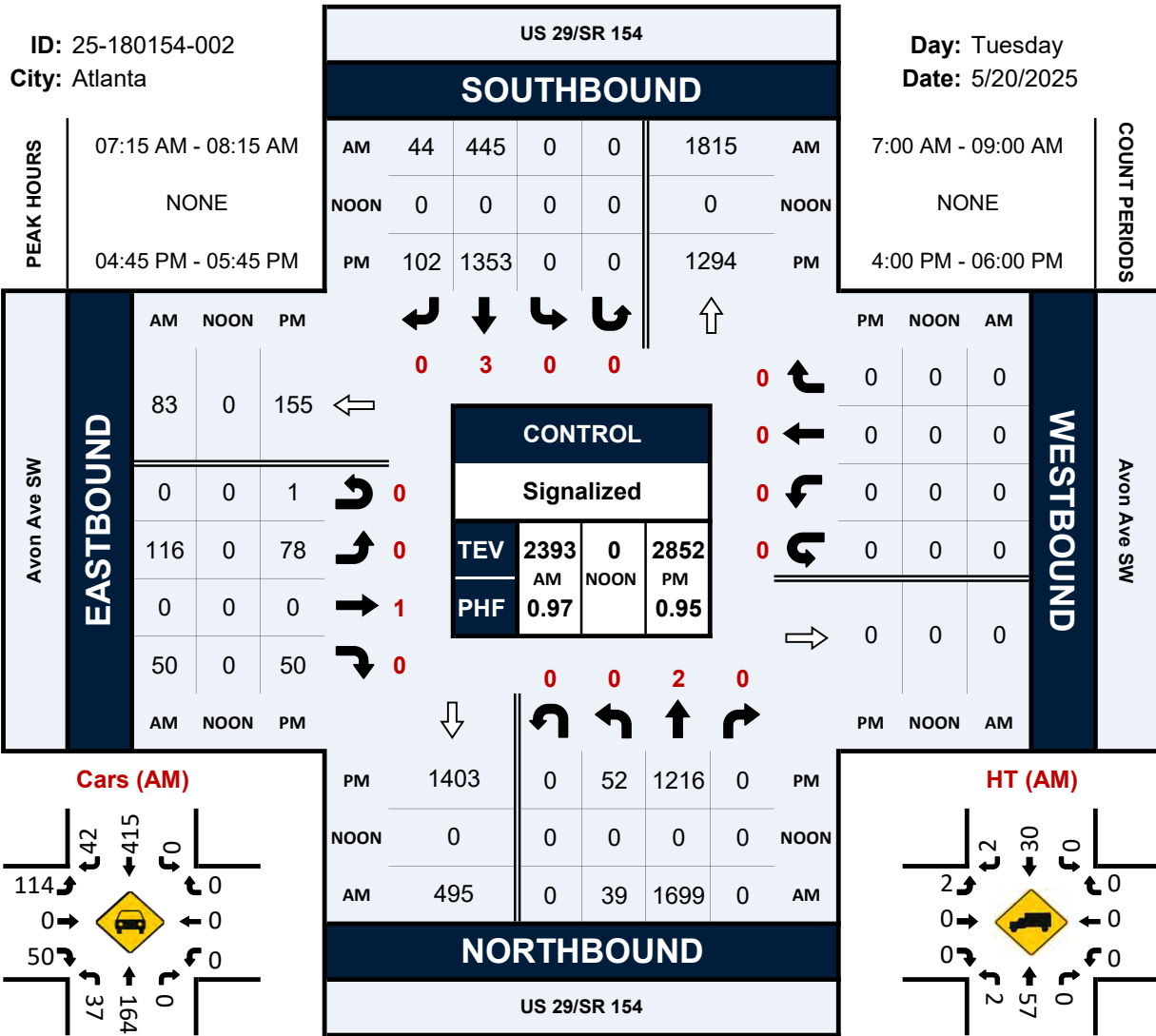
NS/EW Streets:	US 29/SR 154				US 29/SR 154				Avon Ave SW				Avon Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
7:00 AM	16	273	0	0	0	82	9	0	13	0	5	0	0	0	0	0	398
7:15 AM	10	420	0	0	0	101	11	0	40	0	12	0	0	0	0	0	594
7:30 AM	10	409	0	0	0	113	14	0	22	0	16	0	0	0	0	0	584
7:45 AM	9	442	0	0	0	98	7	0	22	0	18	0	0	0	0	0	596
8:00 AM	10	428	0	0	0	133	12	0	32	0	4	0	0	0	0	0	619
8:15 AM	4	311	0	0	0	93	15	0	31	0	7	0	0	0	0	0	461
8:30 AM	8	361	0	0	0	117	15	0	44	0	4	0	0	0	0	0	549
8:45 AM	1	365	0	0	0	84	17	0	42	0	7	0	0	0	0	0	516
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	68	3009	0	0	0	821	100	0	246	0	73	0	0	0	0	0	4317
	2.21%	97.79%	0.00%	0.00%	0.00%	89.14%	10.86%	0.00%	77.12%	0.00%	22.88%	0.00%					
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	39	1699	0	0	0	445	44	0	116	0	50	0	0	0	0	0	2393
PEAK HR FACTOR :	0.975	0.961	0.000	0.000	0.000	0.836	0.786	0.000	0.725	0.000	0.694	0.000	0.000	0.000	0.000	0.000	0.966
		0.963				0.843					0.798						
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	2 NT	0 NR	0 NU	0 SL	3 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	0 WT	0 WR	0 WU	
4:00 PM	9	306	0	0	0	224	34	0	17	0	14	0	0	0	0	0	604
4:15 PM	8	354	0	0	0	281	28	0	14	0	22	0	0	0	0	0	707
4:30 PM	6	339	0	0	0	268	30	0	16	0	13	0	0	0	0	0	672
4:45 PM	10	298	0	0	0	353	17	0	19	0	12	0	0	0	0	0	709
5:00 PM	10	277	0	0	0	335	27	0	19	0	10	1	0	0	0	0	679
5:15 PM	15	313	0	0	0	357	31	0	20	0	14	0	0	0	0	0	750
5:30 PM	17	328	0	0	0	308	27	0	20	0	14	0	0	0	0	0	714
5:45 PM	19	250	0	0	0	296	26	0	14	0	13	0	0	0	0	0	618
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	94	2465	0	0	0	2422	220	0	139	0	112	1	0	0	0	0	5453
	3.67%	96.33%	0.00%	0.00%	0.00%	91.67%	8.33%	0.00%	55.16%	0.00%	44.44%	0.40%					
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	52	1216	0	0	0	1353	102	0	78	0	50	1	0	0	0	0	2852
PEAK HR FACTOR :	0.765	0.927	0.000	0.000	0.000	0.947	0.823	0.000	0.975	0.000	0.893	0.250	0.000	0.000	0.000	0.000	0.951
		0.919				0.938					0.949						

US 29/SR 154 & Avon Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-002
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: US 29/SR 154/Lee St & Sylvan Rd SW
City: Atlanta
Control: Signalized

Project ID: 25-180154-003
Date: 5/20/2025

Data - Total

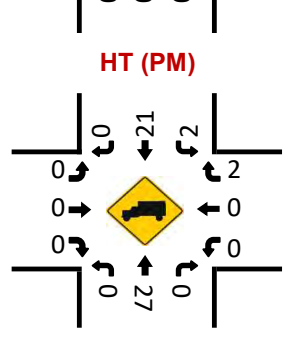
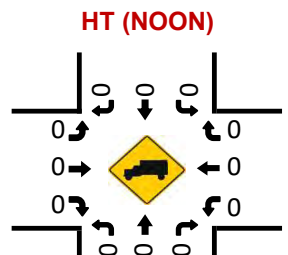
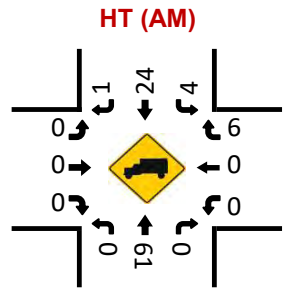
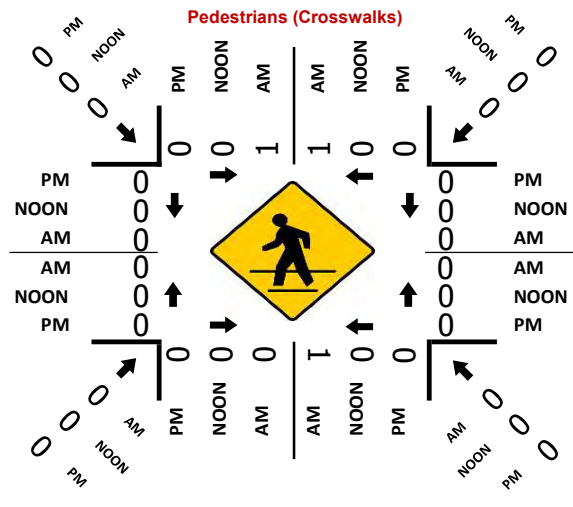
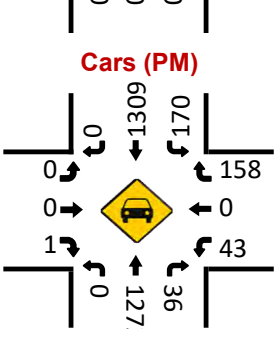
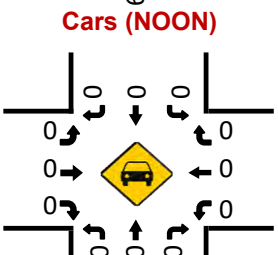
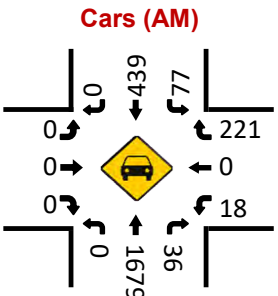
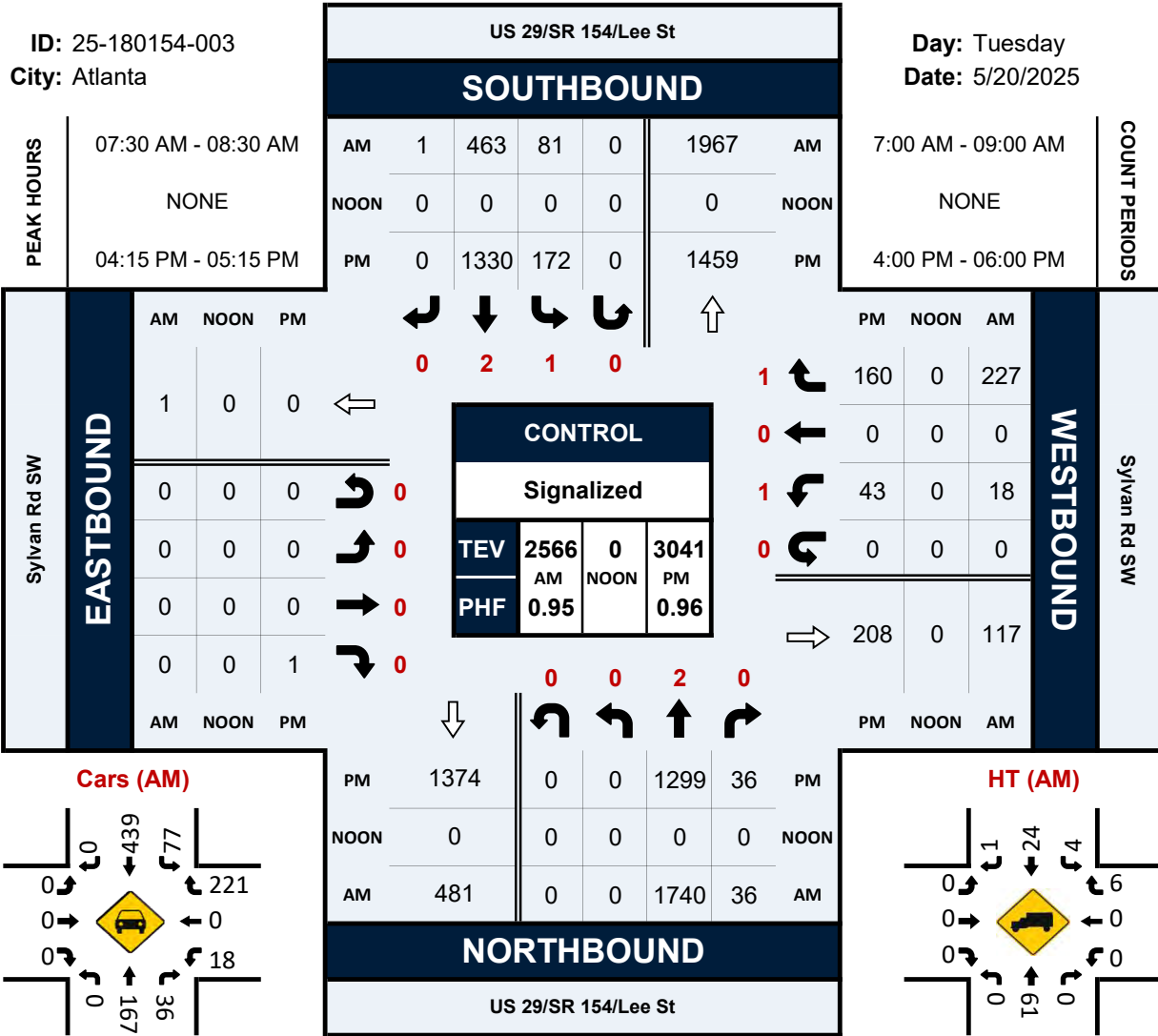
NS/EW Streets:	US 29/SR 154/Lee St				US 29/SR 154/Lee St				Sylvan Rd SW				Sylvan Rd SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	261	2	0	16	97	0	0	0	0	0	0	2	0	21	0	399
7:15 AM	0	409	7	0	15	95	0	0	0	0	0	0	5	0	35	0	566
7:30 AM	0	438	10	0	18	121	0	0	0	0	0	0	4	0	51	0	642
7:45 AM	0	470	13	0	22	93	0	0	0	0	0	0	5	0	62	0	665
8:00 AM	0	428	9	0	27	148	0	0	0	0	0	0	2	0	62	0	676
8:15 AM	0	404	4	0	14	101	1	0	0	0	0	0	7	0	52	0	583
8:30 AM	0	385	8	0	26	127	0	0	1	0	0	0	2	0	57	0	606
8:45 AM	0	417	7	0	21	102	0	0	0	0	0	0	5	0	52	0	604
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	3212	60	0	159	884	1	0	1	0	0	0	32	0	392	0	4741
	0.00%	98.17%	1.83%	0.00%	15.23%	84.67%	0.10%	0.00%	100.00%	0.00%	0.00%	0.00%	7.55%	0.00%	92.45%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	1740	36	0	81	463	1	0	0	0	0	0	18	0	227	0	2566
PEAK HR FACTOR :	0.000	0.926	0.692	0.000	0.750	0.782	0.250	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.915	0.000	0.949
	0.919				0.779								0.914				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	285	10	0	45	269	1	0	0	0	0	0	10	0	55	1	676
4:15 PM	0	338	9	0	53	287	0	0	0	0	1	0	12	0	46	0	746
4:30 PM	0	352	11	0	49	323	0	0	0	0	0	0	6	0	53	0	794
4:45 PM	0	330	12	0	50	350	0	0	0	0	0	0	12	0	40	0	794
5:00 PM	0	279	4	0	20	370	0	0	0	0	0	0	13	0	21	0	707
5:15 PM	0	293	0	0	0	358	0	0	0	0	0	0	0	0	0	0	651
5:30 PM	0	277	0	0	0	339	0	0	0	0	1	0	0	0	0	0	617
5:45 PM	0	292	0	0	0	314	0	0	0	0	0	0	0	0	0	0	606
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	2446	46	0	217	2610	1	0	0	0	2	0	53	0	215	1	5591
	0.00%	98.15%	1.85%	0.00%	7.67%	92.29%	0.04%	0.00%	0.00%	0.00%	100.00%	0.00%	19.70%	0.00%	79.93%	0.37%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	1299	36	0	172	1330	0	0	0	0	1	0	43	0	160	0	3041
PEAK HR FACTOR :	0.000	0.923	0.750	0.000	0.811	0.899	0.000	0.000	0.000	0.000	0.250	0.000	0.827	0.000	0.755	0.000	0.957
	0.919				0.939				0.250				0.860				

US 29/SR 154/Lee St & Sylvan Rd SW

Peak Hour Turning Movement Count

ID: 25-180154-003
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Murphy Ave SW & Dill Ave SW
City: Atlanta
Control: 2-Way Stop(NB/SB)

Project ID: 25-180154-004
Date: 5/20/2025

Data - Total

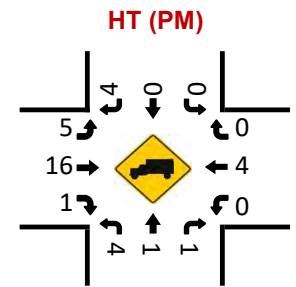
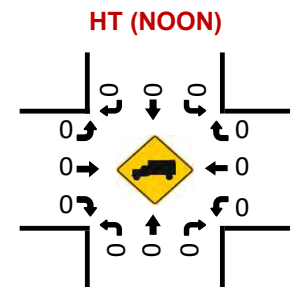
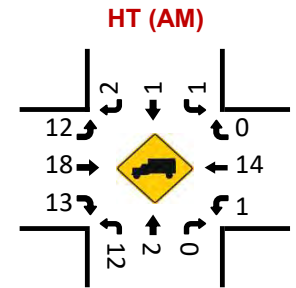
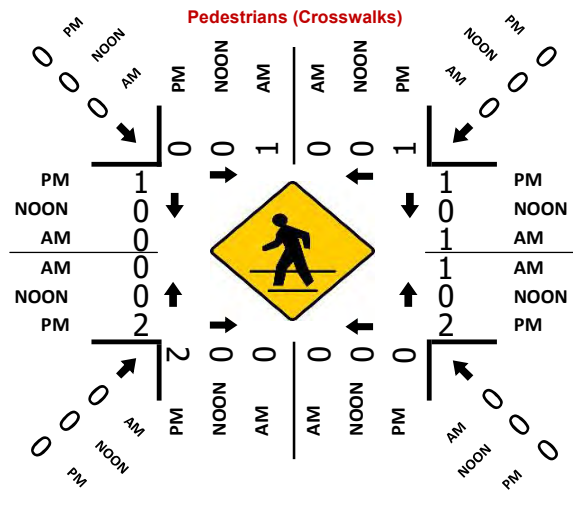
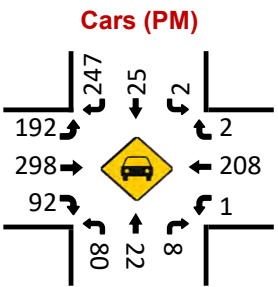
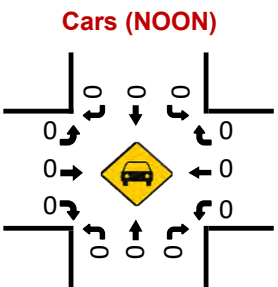
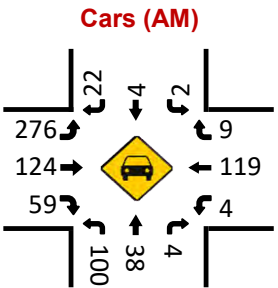
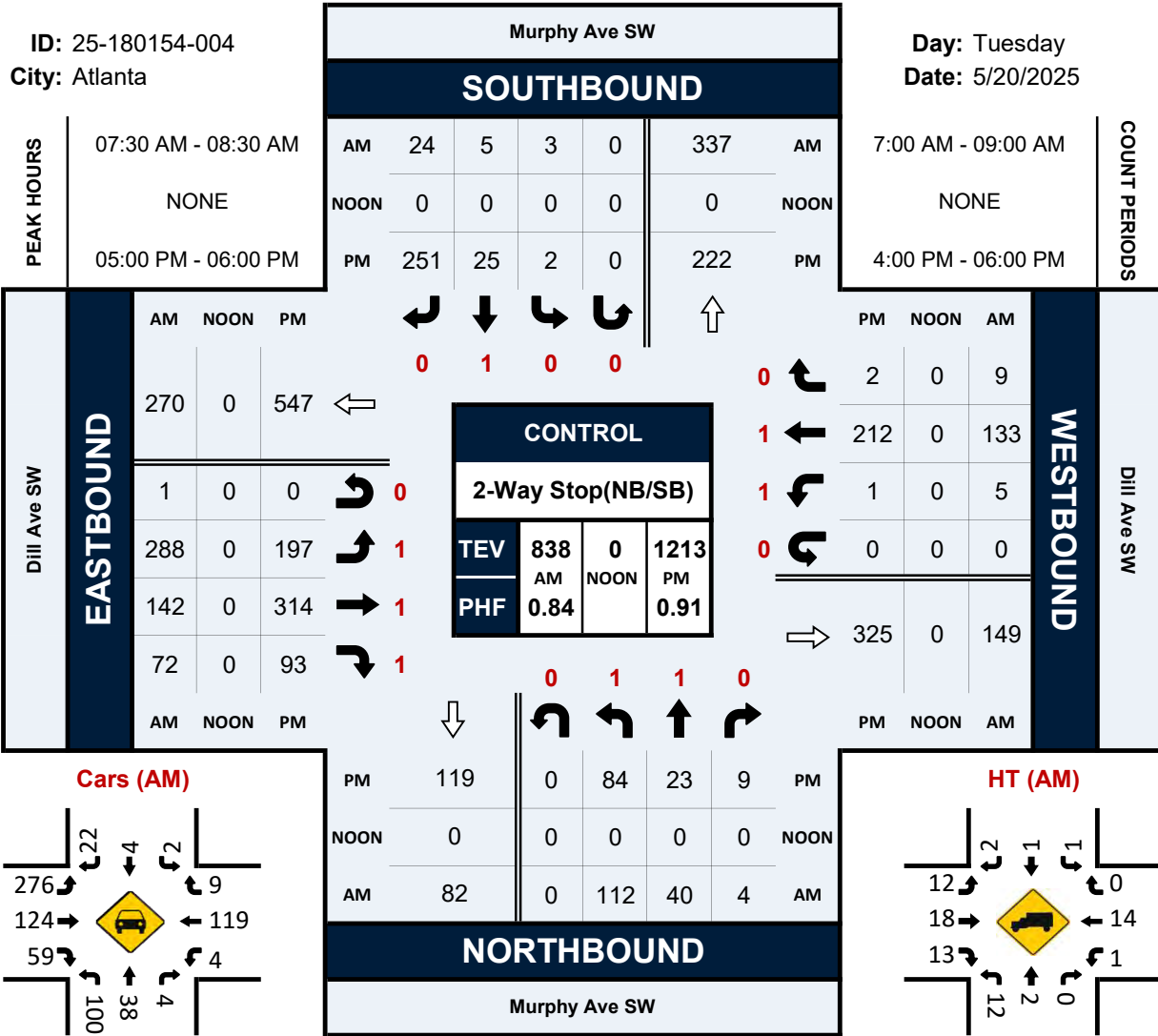
NS/EW Streets:	Murphy Ave SW				Murphy Ave SW				Dill Ave SW				Dill Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	1 ET	1 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
7:00 AM	15	3	0	0	0	1	11	0	25	23	15	0	1	26	3	0	123
7:15 AM	17	5	1	0	0	1	7	0	32	27	9	0	1	30	1	0	131
7:30 AM	20	9	0	0	0	2	8	0	130	31	14	0	0	32	3	0	249
7:45 AM	43	8	0	0	3	0	10	0	41	42	16	0	2	30	1	0	196
8:00 AM	26	10	3	0	0	2	3	0	37	27	20	0	2	39	2	0	171
8:15 AM	23	13	1	0	0	1	3	0	80	42	22	1	1	32	3	0	222
8:30 AM	35	7	1	0	0	1	7	0	36	42	21	1	1	29	0	0	181
8:45 AM	22	7	1	0	0	4	8	0	22	31	20	0	1	37	0	0	153
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	201	62	7	0	3	12	57	0	403	265	137	2	9	255	13	0	1426
	74.44%	22.96%	2.59%	0.00%	4.17%	16.67%	79.17%	0.00%	49.94%	32.84%	16.98%	0.25%	3.25%	92.06%	4.69%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	112	40	4	0	3	5	24	0	288	142	72	1	5	133	9	0	838
PEAK HR FACTOR :	0.651	0.769	0.333	0.000	0.250	0.625	0.600	0.000	0.554	0.845	0.818	0.250	0.625	0.853	0.750	0.000	0.841
	0.765				0.615				0.719				0.855				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	1 EL	1 ET	1 ER	0 EU	1 WL	1 WT	0 WR	0 WU	
4:00 PM	22	8	5	0	0	8	25	0	22	28	22	0	1	37	1	0	179
4:15 PM	36	11	0	0	0	5	19	0	41	44	29	0	0	65	1	0	251
4:30 PM	25	9	3	0	0	3	20	0	70	55	20	0	2	61	3	0	271
4:45 PM	26	4	3	0	2	3	32	0	28	57	18	0	1	57	0	0	231
5:00 PM	22	5	2	0	1	6	42	0	25	59	24	0	0	57	0	0	243
5:15 PM	20	6	1	0	0	7	71	0	30	85	21	0	1	62	0	0	304
5:30 PM	21	8	4	0	1	5	76	0	57	86	28	0	0	47	1	0	334
5:45 PM	21	4	2	0	0	7	62	0	85	84	20	0	0	46	1	0	332
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	193	55	20	0	4	44	347	0	358	498	182	0	5	432	7	0	2145
	72.01%	20.52%	7.46%	0.00%	1.01%	11.14%	87.85%	0.00%	34.49%	47.98%	17.53%	0.00%	1.13%	97.30%	1.58%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	84	23	9	0	2	25	251	0	197	314	93	0	1	212	2	0	1213
PEAK HR FACTOR :	0.955	0.719	0.563	0.000	0.500	0.893	0.826	0.000	0.579	0.913	0.830	0.000	0.250	0.855	0.500	0.000	0.908
	0.879				0.848				0.799				0.853				

Murphy Ave SW & Dill Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-004
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Murphy Ave SW & Avon Ave SW
City: Atlanta
Control: 1-Way Stop(WB)

Project ID: 25-180154-005
Date: 5/20/2025

Data - Total

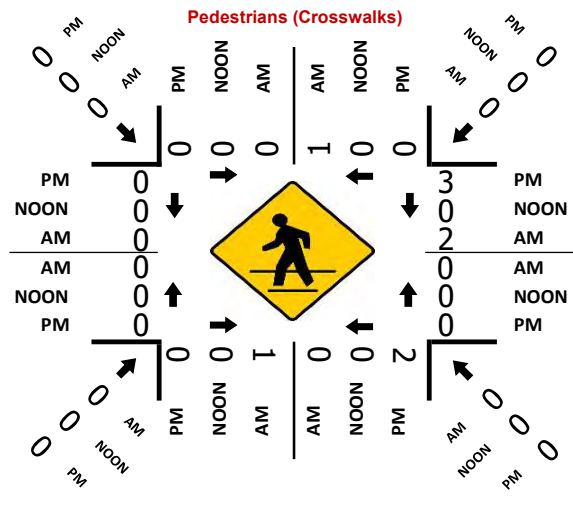
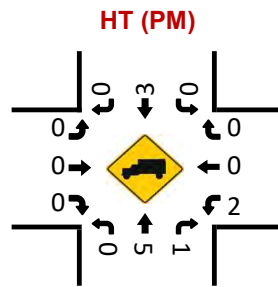
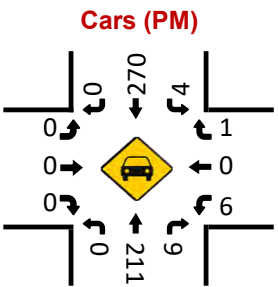
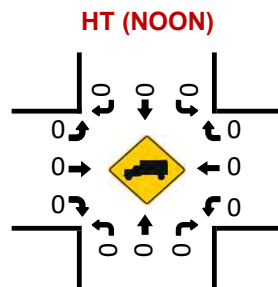
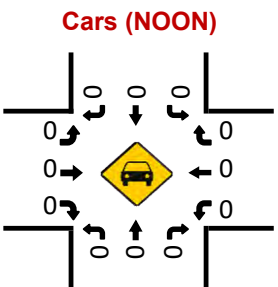
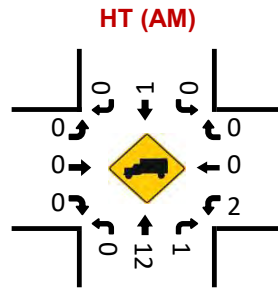
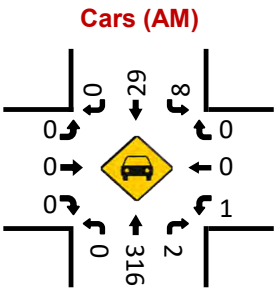
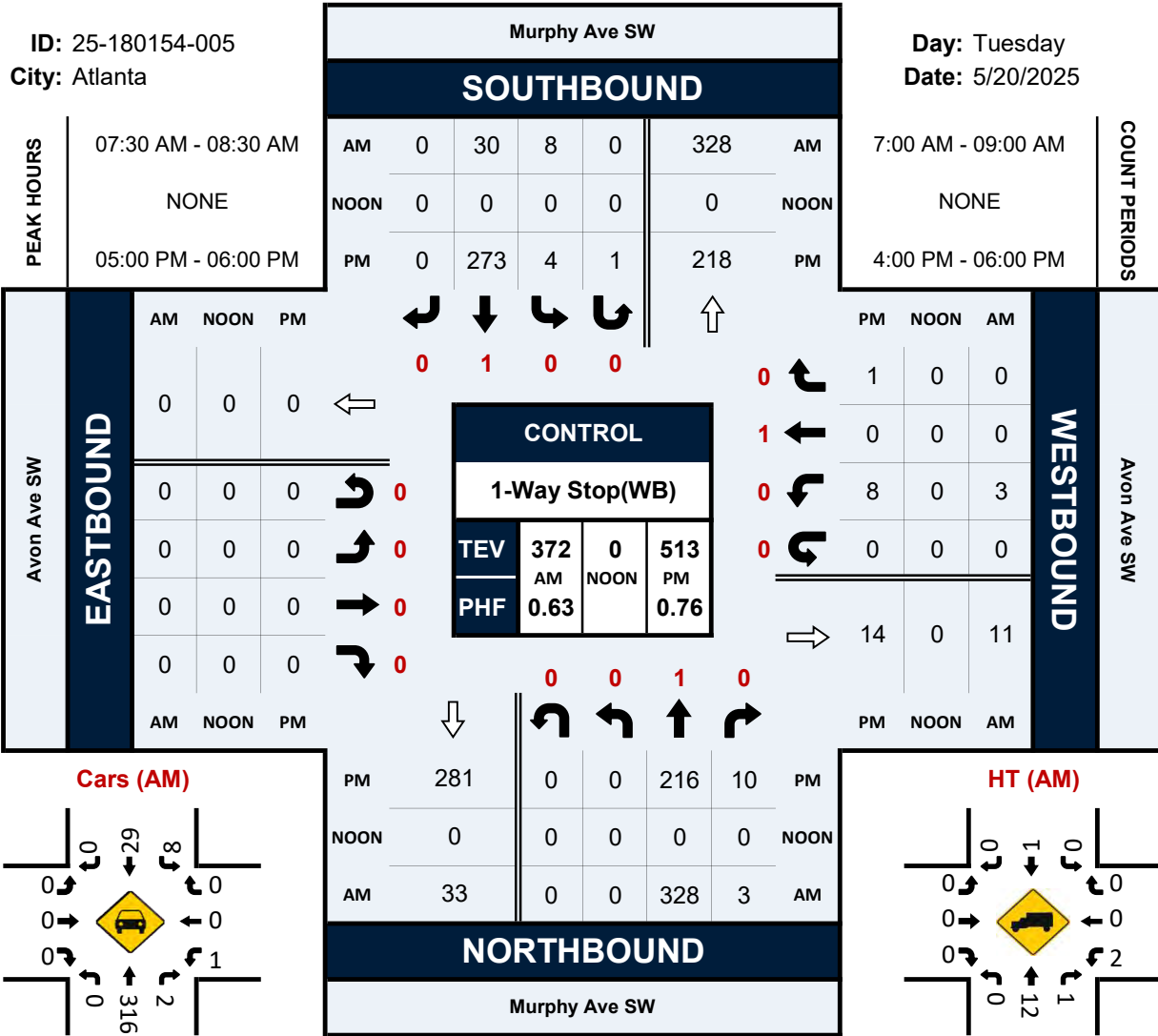
NS/EW Streets:	Murphy Ave SW				Murphy Ave SW				Avon Ave SW				Avon Ave SW					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	45
7:15 AM	0	27	0	0	0	15	0	0	0	0	0	0	2	0	1	0	0	45
7:30 AM	0	37	1	0	0	6	0	0	0	0	0	0	1	0	0	0	0	148
7:45 AM	0	135	0	0	2	11	0	0	0	0	0	0	0	0	0	0	0	70
8:00 AM	0	51	2	0	6	10	0	0	0	0	0	0	1	0	0	0	0	54
8:15 AM	0	47	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	100
8:30 AM	0	95	0	0	0	3	0	0	0	0	0	0	2	0	0	0	0	52
8:45 AM	0	43	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	41
8:45 AM	0	29	0	0	0	10	0	0	0	0	0	0	1	0	1	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL
APPROACH %'s :	0	464	5	0	8	69	0	0	0	0	0	0	7	0	2	0		555
	0.00%	98.93%	1.07%	0.00%	10.39%	89.61%	0.00%	0.00%	0	0	0	0	77.78%	0.00%	22.22%	0.00%		
PEAK HR :	07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :	0	328	3	0	8	30	0	0	0	0	0	0	3	0	0	0		372
PEAK HR FACTOR :	0.000	0.607	0.375	0.000	0.333	0.682	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000		0.628
		0.613				0.594							0.375					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	58
4:15 PM	0	30	0	0	0	27	0	0	0	0	0	0	1	0	0	0	0	78
4:30 PM	0	50	2	0	0	24	0	0	0	0	0	0	3	0	2	0	0	111
4:45 PM	0	83	2	0	1	20	0	0	0	0	0	0	1	0	0	0	0	69
5:00 PM	0	31	2	0	1	34	0	0	0	0	0	0	1	0	0	0	0	83
5:15 PM	0	32	0	0	2	45	0	1	0	0	0	0	3	0	0	0	0	122
5:30 PM	0	35	5	0	0	79	0	0	0	0	0	0	3	0	0	0	0	122
5:45 PM	0	62	2	0	0	73	0	0	0	0	0	0	2	0	0	0	0	139
5:45 PM	0	87	3	0	2	76	0	0	0	0	0	0	0	0	1	0	0	169
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL
APPROACH %'s :	0	410	16	0	6	378	0	1	0	0	0	0	14	0	4	0		829
	0.00%	96.24%	3.76%	0.00%	1.56%	98.18%	0.00%	0.26%	0	0	0	0	77.78%	0.00%	22.22%	0.00%		
PEAK HR :	05:00 PM - 06:00 PM																TOTAL	
PEAK HR VOL :	0	216	10	0	4	273	0	1	0	0	0	0	8	0	1	0		513
PEAK HR FACTOR :	0.000	0.621	0.500	0.000	0.500	0.864	0.000	0.250	0.000	0.000	0.000	0.000	0.667	0.000	0.250	0.000		0.759
		0.628				0.880							0.750					

Murphy Ave SW & Avon Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-005
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services Intersection Turning Movement Count

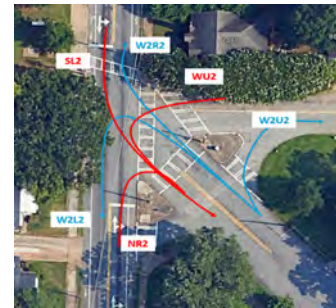
Location: Sylvan Rd SW & Decker Ave SW/Brewer Blvd SW
City: Atlanta
Context: Signalized

Project ID: 25-181124-006
Date: 5/20/2025

Data - Total

NS/EW Streets	Sylvan Rd SW										Decker Ave SW/Brewer Blvd SW				Decker Ave SW/Brewer Blvd SW				WESTBOUND			TOTAL					
	NORTHBOUND					SOUTHBOUND					EASTBOUND		WESTBOUND		WESTBOUND		WESTBOUND										
AM	0	0.5	0.5	0	0	0.5	0.5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	W2L2	W2R2	W2U2	
7:00 AM	0	56	2	0	0	0	21	0	0	2	0	0	0	0	0	1	0	0	0	0	2	0	0	0	2	0	87
7:15 AM	0	97	2	0	1	1	26	0	0	0	0	0	0	1	0	1	0	0	1	0	2	0	0	0	2	4	136
7:30 AM	0	162	5	0	0	1	31	0	0	2	0	1	0	0	0	9	0	0	0	1	4	0	0	1	4	4	221
7:45 AM	0	120	12	0	0	1	37	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	4	209
8:00 AM	0	188	7	0	1	1	37	0	0	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	2	4	243
8:15 AM	0	139	8	0	0	1	26	0	0	4	0	0	0	0	0	4	0	2	0	0	1	0	0	1	4	5	196
8:30 AM	0	110	7	0	0	1	68	0	0	2	1	0	0	0	0	4	0	2	0	0	1	0	0	1	4	7	187
8:45 AM	0	106	6	0	1	1	28	0	0	5	0	0	0	0	0	4	0	2	0	0	1	0	0	1	3	4	161
TOTAL VOLUMES	NL	NT	NR	NU	NB2	SL	ST	SR	SU	SB2	EL	ET	ER	EU	WL	WT	WR	WU	WB2	W2L2	W2R2	W2U2	TOTAL				
APPROACH %	0	88%	4%	0	5%	10	23%	0	1	1%	1	0	0	29	0	1%	0	1%	4	1	4	21	37	1390			
	0.00%	84.26%	4.70%	0.00%	0.53%	3.56%	89.32%	0.00%	0.36%	6.76%	50.00%	50.00%	0.00%	0.00%	59.18%	0.00%	38.78%	0.00%	2.04%	5.56%	43.06%	51.39%					
PEAK HRS	0	518	26	0	1	7	128	0	1	10	0	1	0	0	19	0	13	0	0	2	19	22	769				
PEAK HR VOL	0.000	0.799	0.342	0.000	0.375	0.438	0.865	0.000	0.250	0.625	0.000	0.250	0.000	0.000	0.328	0.000	0.650	0.000	0.000	0.300	0.328	0.611	0.870				
PEAK HR FACTOR		0.819					0.869					0.250					0.800										
PM	0	0.5	0.5	0	0	0.5	0.5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	W2L2	W2R2	W2U2	TOTAL
4:00 PM	0	88	12	0	0	9	54	0	0	1	0	0	0	0	5	1	4	0	0	0	5	0	0	0	5	184	
4:15 PM	0	102	13	0	1	4	70	0	0	9	0	0	0	0	5	0	10	0	1	1	2	1	1	2	1	219	
4:30 PM	0	123	15	0	0	11	84	0	1	4	0	0	0	0	16	0	2	0	0	0	2	1	0	0	2	255	
4:45 PM	0	56	7	0	0	4	68	0	0	6	0	0	0	0	6	1	7	0	0	0	0	0	0	0	4	165	
5:00 PM	0	105	9	0	0	1	60	1	0	6	0	0	0	0	5	1	7	0	0	0	0	0	0	0	4	204	
5:15 PM	0	73	9	0	2	2	45	0	0	3	0	0	0	0	6	0	1	0	0	0	0	0	0	0	7	150	
5:30 PM	0	102	15	0	2	3	53	0	0	6	1	0	0	0	7	0	6	0	1	0	5	1	0	5	1	202	
5:45 PM	0	131	8	0	1	4	48	0	0	5	0	0	0	0	6	0	4	0	1	0	1	2	1	2	211		
TOTAL VOLUMES	NL	NT	NR	NU	NB2	SL	ST	SR	SU	SB2	EL	ET	ER	EU	WL	WT	WR	WU	WB2	W2L2	W2R2	W2U2	TOTAL				
APPROACH %	0	79%	8%	0	3%	27	80%	1	1	4%	1	0	0	9	0	36%	2	37%	0	8	1	32	16	1	32	16	1599
	0.00%	89.08%	9.44%	0.00%	1.48%	6.60%	85.92%	0.18%	0.18%	7.13%	100.00%	0.00%	0.00%	0.00%	56.57%	2.02%	37.37%	0.00%	4.04%	2.04%	65.31%	32.65%					
PEAK HRS	0	380	39	0	5	22	282	1	1	25	0	0	0	0	32	1	22	0	2	1	14	6	6	14	6	842	
PEAK HR VOL	0.000	0.791	0.790	0.000	0.313	0.500	0.839	0.250	0.250	0.625	0.000	0.000	0.000	0.000	0.500	0.250	0.500	0.000	0.300	0.200	0.503	0.750	0.825				
PEAK HR FACTOR		0.814					0.828										0.700										

Explanation for extra leg movements
 W2L2 Movements coming from NB on Sylvan Rd SW entering into the Extra Leg (Brewer Blvd SW)
 W2R2 Movements coming from SB on Sylvan Rd SW entering into the Extra Leg (Brewer Blvd SW)
 W2U2 Movements coming from NB on Decker Ave SW entering into the Extra Leg (Brewer Blvd SW)
 W2L2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Sylvan Rd SW SB
 W2R2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Sylvan Rd SW NB
 W2U2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Decker Ave SW WB



National Data & Surveying Services

Intersection Turning Movement Count

Location: Sylvan Rd SW & Deckner Ave SW/Brewer Blvd SW
City: Atlanta
Control: Signalized

Project ID: 25-180154-006
Date: 5/20/2025

Data - Total

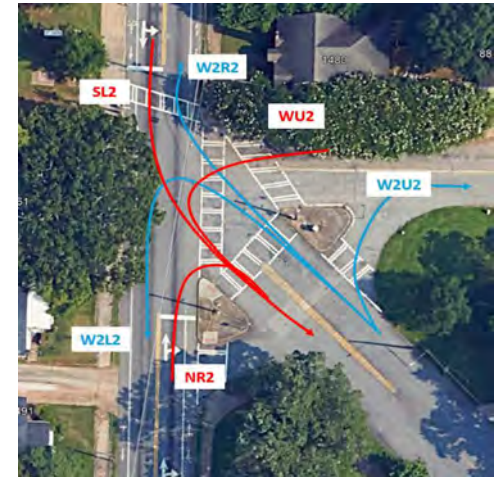
NS/EW Streets:	Sylvan Rd SW					Sylvan Rd SW					Deckner Ave SW/Brewer Blvd SW				Deckner Ave SW/Brewer Blvd SW					WESTBOUND2			TOTAL
	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND								
AM	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	WL	WT	WR	WU	WU2	W2L2	W2R2	W2U2	
7:00 AM	0	0.5	0	0	0	0.5	0.5	0	0	0	0	0	0	0	0	1	0	0	0	0	3	0	87
7:15 AM	0	56	3	0	0	1	26	0	0	2	0	0	0	0	1	0	1	0	1	0	2	4	136
7:30 AM	0	162	5	0	0	1	31	0	0	2	0	0	0	0	9	0	1	0	0	1	4	4	220
7:45 AM	0	130	12	0	0	5	34	0	0	3	0	0	0	0	2	0	5	0	0	0	9	9	209
8:00 AM	0	88	1	0	1	1	37	0	0	1	0	0	0	0	4	0	4	0	0	0	2	4	143
8:15 AM	0	138	8	0	2	1	26	0	0	4	0	0	0	0	4	0	3	0	0	1	4	5	196
8:30 AM	0	110	7	0	0	1	48	0	0	2	0	0	0	0	4	0	2	0	0	1	4	7	186
8:45 AM	0	106	6	0	1	1	28	0	0	5	0	0	0	0	4	0	2	0	0	1	3	4	161
TOTAL VOLUMES :	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	WL	WT	WR	WU	WU2	W2L2	W2R2	W2U2	TOTAL
APPROACH % :	0.00%	94.76%	4.70%	0.00%	0.53%	3.91%	89.32%	0.00%	0.00%	6.76%	0.00%	0.00%	0.00%	0.00%	59.18%	0.00%	38.78%	0.00%	2.04%	5.56%	43.06%	51.39%	1338
PEAK HR :	07:30 AM - 08:30 AM																		TOTAL				
PEAK HR VOL :	0	518	26	0	3	8	128	0	0	10	0	0	0	0	19	0	13	0	0	2	19	22	768
PEAK HR FACTOR :	0.000	0.799	0.542	0.000	0.375	0.400	0.865	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.528	0.000	0.650	0.000	0.000	0.500	0.528	0.611	0.873

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND				WESTBOUND					TOTAL			
	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	WL	WT	WR	WU	WU2		W2L2	W2R2	W2U2
4:00 PM	0	88	12	0	3	6	54	0	0	1	0	0	0	0	5	0	4	0	0	0	5	5	183
4:15 PM	0	102	13	0	1	4	70	0	0	9	0	0	0	0	5	0	10	0	1	1	2	1	219
4:30 PM	0	123	10	0	0	12	84	0	0	4	0	0	0	0	16	0	3	0	0	0	2	1	255
4:45 PM	0	56	7	0	4	4	68	0	0	6	0	0	0	0	6	0	3	0	1	0	6	2	163
5:00 PM	0	108	9	0	0	3	60	0	0	6	0	0	0	0	5	0	6	0	0	0	4	2	203
5:15 PM	0	73	9	0	2	2	45	0	0	3	0	0	0	0	6	0	1	0	0	0	7	2	150
5:30 PM	0	102	15	0	2	3	53	0	0	6	0	0	0	0	7	0	6	0	1	0	5	1	201
5:45 PM	0	131	8	0	1	4	48	0	0	5	0	0	0	0	6	0	4	0	1	0	1	2	211
TOTAL VOLUMES :	NL	NT	NR	NU	NR2	SL	ST	SR	SU	SL2	EL	ET	ER	EU	WL	WT	WR	WU	WU2	W2L2	W2R2	W2U2	TOTAL
APPROACH % :	0.00%	89.08%	9.44%	0.00%	1.48%	6.79%	86.07%	0.00%	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	57.73%	0.00%	38.14%	0.00%	4.12%	2.04%	65.31%	32.65%	1585
PEAK HR :	04:15 PM - 05:15 PM																		TOTAL				
PEAK HR VOL :	0	389	39	0	5	23	282	0	0	25	0	0	0	0	32	0	22	0	2	1	14	6	840
PEAK HR FACTOR :	0.000	0.791	0.750	0.000	0.313	0.479	0.839	0.000	0.000	0.694	0.000	0.000	0.000	0.000	0.500	0.000	0.550	0.000	0.500	0.250	0.583	0.750	0.824

Explanation for extra leg movements

Movements entering the extra leg
 NR2 Movements coming from NB on Sylvan Rd SW entering into the Extra Leg (Brewer Blvd SW)
 SL2 Movements coming from SB on Sylvan Rd SW entering into the Extra Leg (Brewer Blvd SW)
 WU2 Movements coming from WB on Deckner Ave SW entering into the Extra Leg (Brewer Blvd SW)

Movements exiting the extra leg
 W2R2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Sylvan Rd SW SB
 W2L2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Sylvan Rd SW NB
 W2U2 Movements exiting from Extra Leg (Brewer Blvd SW) entering into Deckner Ave SW WB



National Data & Surveying Services

Intersection Turning Movement Count

Location: Sylvan Rd SW & Dill Ave SW
City: Atlanta
Control: Signalized

Project ID: 25-180154-007
Date: 5/20/2025

Data - Total

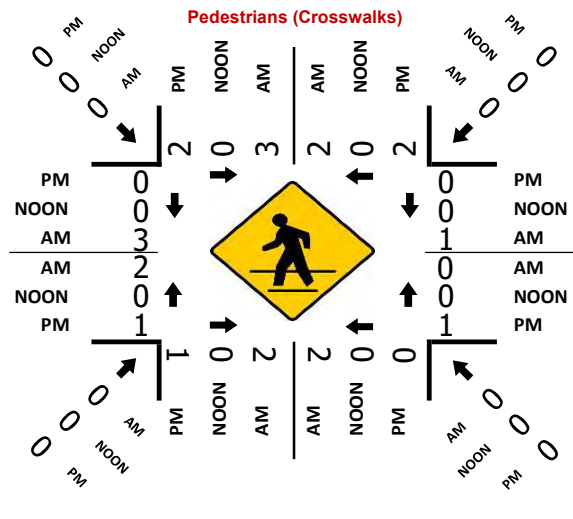
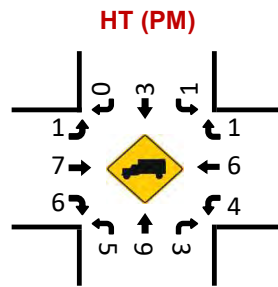
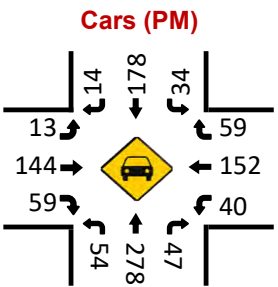
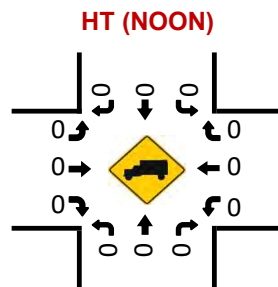
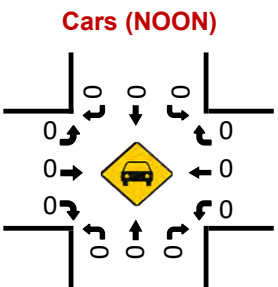
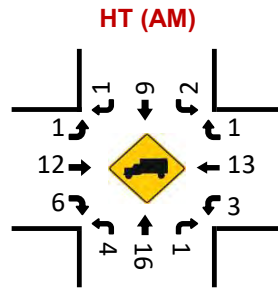
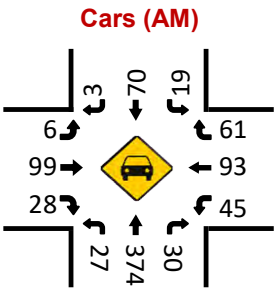
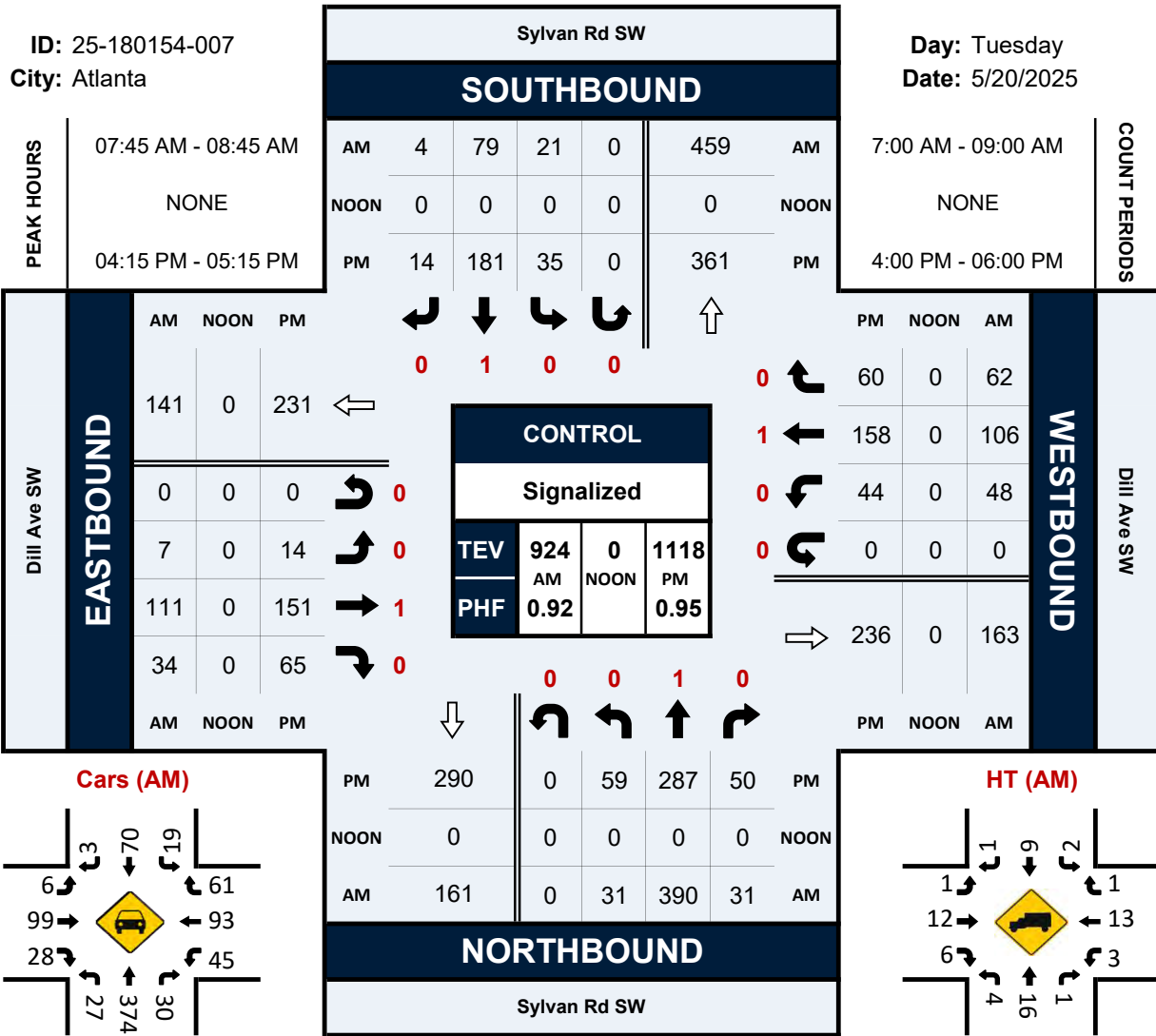
NS/EW Streets:	Sylvan Rd SW				Sylvan Rd SW				Dill Ave SW				Dill Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	8	41	8	0	1	4	1	0	3	16	10	0	8	27	11	0	138
7:15 AM	12	71	11	0	2	10	1	0	1	17	7	0	4	17	1	0	154
7:30 AM	4	120	5	0	3	16	1	0	2	22	10	0	6	25	11	0	225
7:45 AM	4	121	3	0	4	16	2	0	1	29	11	0	11	28	22	0	252
8:00 AM	10	68	11	0	4	25	0	0	3	25	7	0	11	31	23	0	218
8:15 AM	8	109	5	0	4	16	0	0	2	26	7	0	8	24	8	0	217
8:30 AM	9	92	12	0	9	22	2	0	1	31	9	0	18	23	9	0	237
8:45 AM	5	84	10	0	3	27	0	0	1	25	6	0	15	30	13	0	219
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	60	706	65	0	30	136	7	0	14	191	67	0	81	205	98	0	1660
	7.22%	84.96%	7.82%	0.00%	17.34%	78.61%	4.05%	0.00%	5.15%	70.22%	24.63%	0.00%	21.09%	53.39%	25.52%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	31	390	31	0	21	79	4	0	7	111	34	0	48	106	62	0	924
PEAK HR FACTOR :	0.775	0.806	0.646	0.000	0.583	0.790	0.500	0.000	0.583	0.895	0.773	0.000	0.667	0.855	0.674	0.000	0.917
	0.883				0.788				0.927				0.831				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	10	69	11	0	12	40	2	0	1	22	11	0	16	28	12	0	234
4:15 PM	16	83	12	0	13	43	4	0	5	29	11	0	12	36	11	0	275
4:30 PM	17	78	8	0	8	55	4	0	2	34	21	0	10	42	16	0	295
4:45 PM	6	65	10	0	7	53	4	0	4	43	18	0	8	43	18	0	279
5:00 PM	20	61	20	0	7	30	2	0	3	45	15	0	14	37	15	0	269
5:15 PM	9	77	9	0	3	19	2	0	7	58	16	0	7	48	10	0	265
5:30 PM	14	75	15	0	1	23	3	0	3	57	25	0	8	28	12	0	264
5:45 PM	11	90	24	0	2	11	4	0	3	54	29	0	13	29	14	0	284
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	103	598	109	0	53	274	25	0	28	342	146	0	88	291	108	0	2165
	12.72%	73.83%	13.46%	0.00%	15.06%	77.84%	7.10%	0.00%	5.43%	66.28%	28.29%	0.00%	18.07%	59.75%	22.18%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	59	287	50	0	35	181	14	0	14	151	65	0	44	158	60	0	1118
PEAK HR FACTOR :	0.738	0.864	0.625	0.000	0.673	0.823	0.875	0.000	0.700	0.839	0.774	0.000	0.786	0.919	0.833	0.000	0.947
	0.892				0.858				0.885				0.949				

Sylvan Rd SW & Dill Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-007
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Sylvan Rd SW & Avon Ave SW
City: Atlanta
Control: 2-Way Stop(EB/WB)

Project ID: 25-180154-008
Date: 5/20/2025

Data - Total

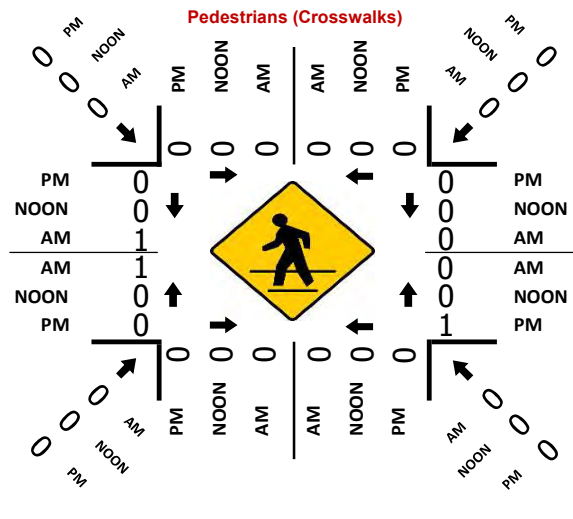
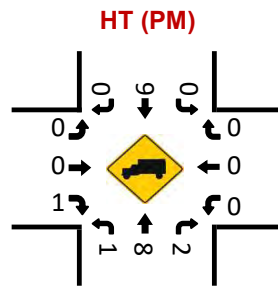
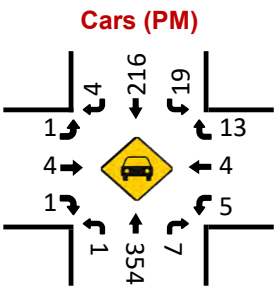
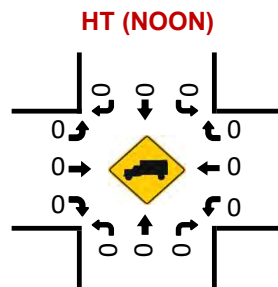
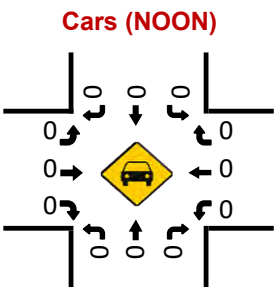
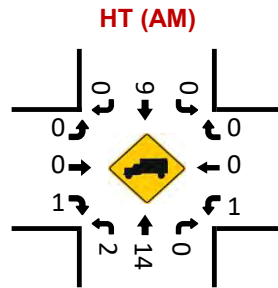
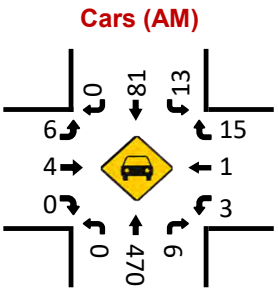
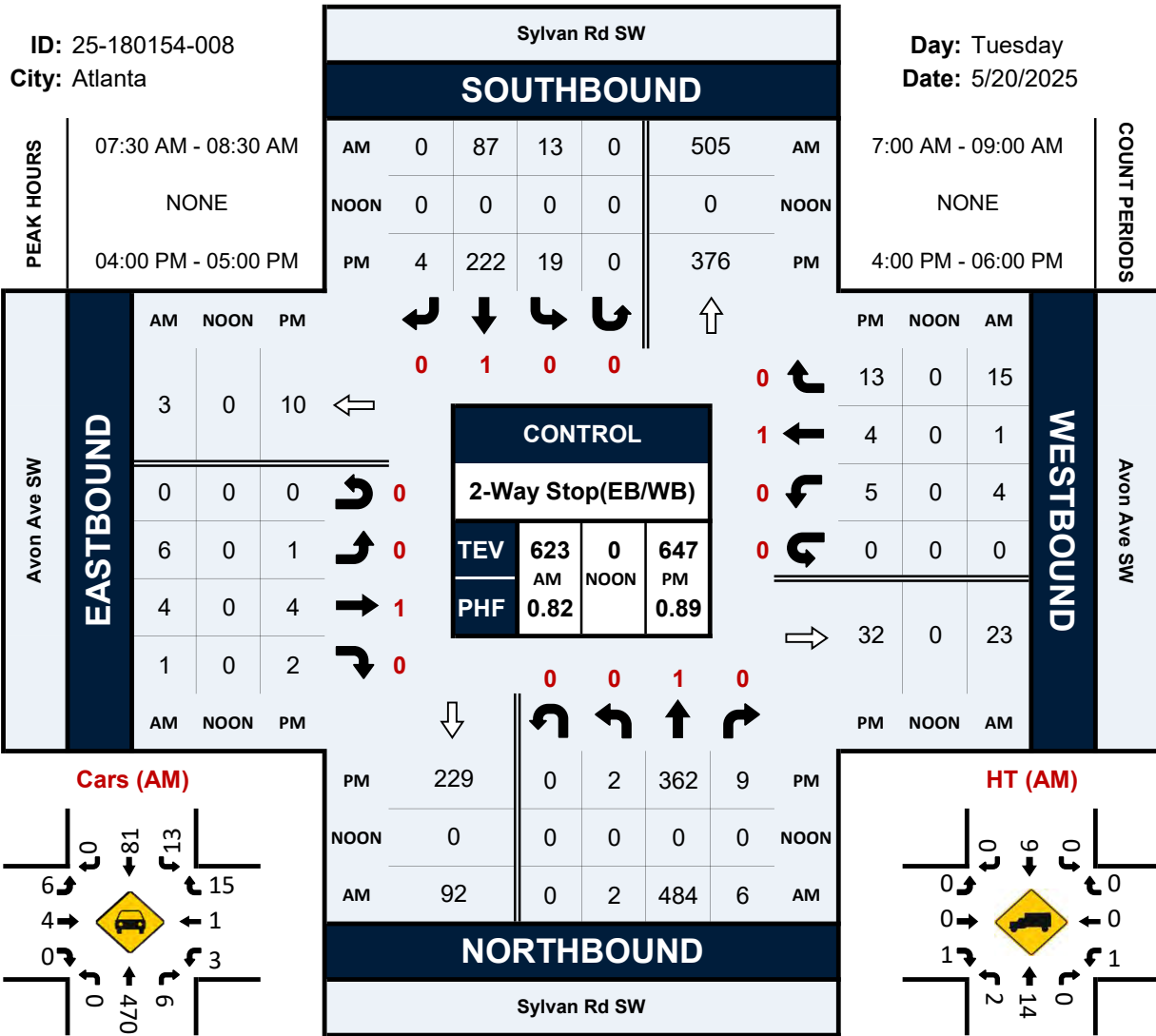
NS/EW Streets:	Sylvan Rd SW				Sylvan Rd SW				Avon Ave SW				Avon Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	66
7:15 AM	1	52	0	0	0	5	0	0	0	0	0	0	0	2	6	0	95
7:30 AM	0	74	1	0	4	12	0	0	0	0	1	0	0	1	2	0	156
7:45 AM	0	126	4	0	1	18	0	0	1	1	0	0	3	0	2	0	190
8:00 AM	1	146	0	0	7	22	0	0	5	3	0	0	0	0	6	0	131
8:15 AM	0	94	2	0	3	28	0	0	0	0	1	0	0	0	3	0	146
8:30 AM	1	118	0	0	2	19	0	0	0	0	0	0	1	1	4	0	147
8:45 AM	0	105	2	0	2	28	1	0	0	0	1	0	2	0	6	0	140
	0	101	0	0	3	27	1	1	0	0	0	0	1	1	5	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	3	816	9	0	22	159	2	1	6	4	3	0	7	5	34	0	1071
	0.36%	98.55%	1.09%	0.00%	11.96%	86.41%	1.09%	0.54%	46.15%	30.77%	23.08%	0.00%	15.22%	10.87%	73.91%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	2	484	6	0	13	87	0	0	6	4	1	0	4	1	15	0	623
PEAK HR FACTOR :	0.500	0.829	0.375	0.000	0.464	0.777	0.000	0.000	0.300	0.333	0.250	0.000	0.333	0.250	0.625	0.000	0.820
		0.837				0.806				0.344				0.833			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	85	1	0	3	49	0	0	0	0	0	0	1	1	1	0	141
4:15 PM	1	93	4	0	3	51	0	0	0	2	1	0	3	2	1	0	161
4:30 PM	1	95	2	0	6	65	3	0	1	1	1	0	1	1	4	0	181
4:45 PM	0	89	2	0	7	57	1	0	0	1	0	0	0	0	7	0	164
5:00 PM	1	79	0	0	2	37	1	0	1	0	0	0	1	1	5	0	128
5:15 PM	0	90	2	0	1	22	0	0	1	1	2	0	0	2	7	0	128
5:30 PM	1	91	1	0	0	30	1	0	2	0	0	0	1	0	3	0	130
5:45 PM	0	102	2	0	0	13	0	0	2	2	0	0	2	0	5	0	128
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4	724	14	0	22	324	6	0	7	7	4	0	9	7	33	0	1161
	0.54%	97.57%	1.89%	0.00%	6.25%	92.05%	1.70%	0.00%	38.89%	38.89%	22.22%	0.00%	18.37%	14.29%	67.35%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	2	362	9	0	19	222	4	0	1	4	2	0	5	4	13	0	647
PEAK HR FACTOR :	0.500	0.953	0.563	0.000	0.679	0.854	0.333	0.000	0.250	0.500	0.500	0.000	0.417	0.500	0.464	0.000	0.894
		0.952				0.828				0.583				0.786			

Sylvan Rd SW & Avon Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-008
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Murphy Ave SW & Sylvan Rd SW
City: Atlanta
Control: 3-Way Stop(NB/SB/WB)

Project ID: 25-180154-009
Date: 5/20/2025

Data - Total

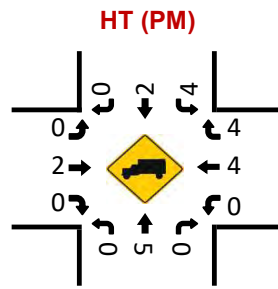
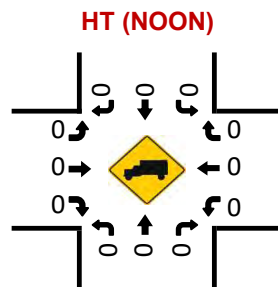
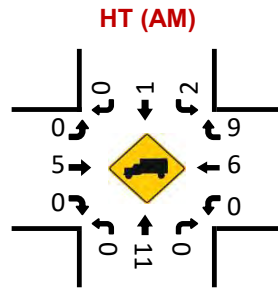
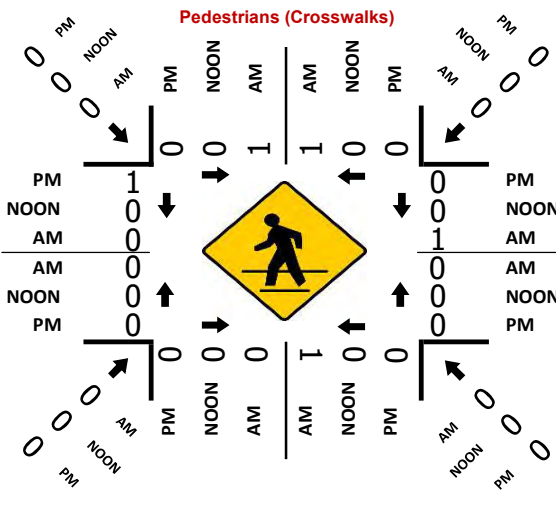
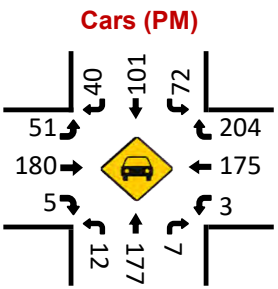
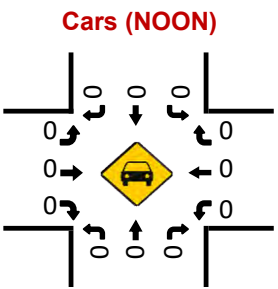
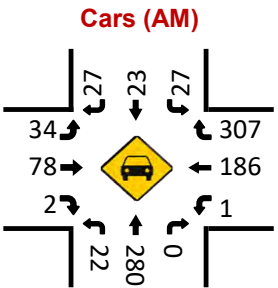
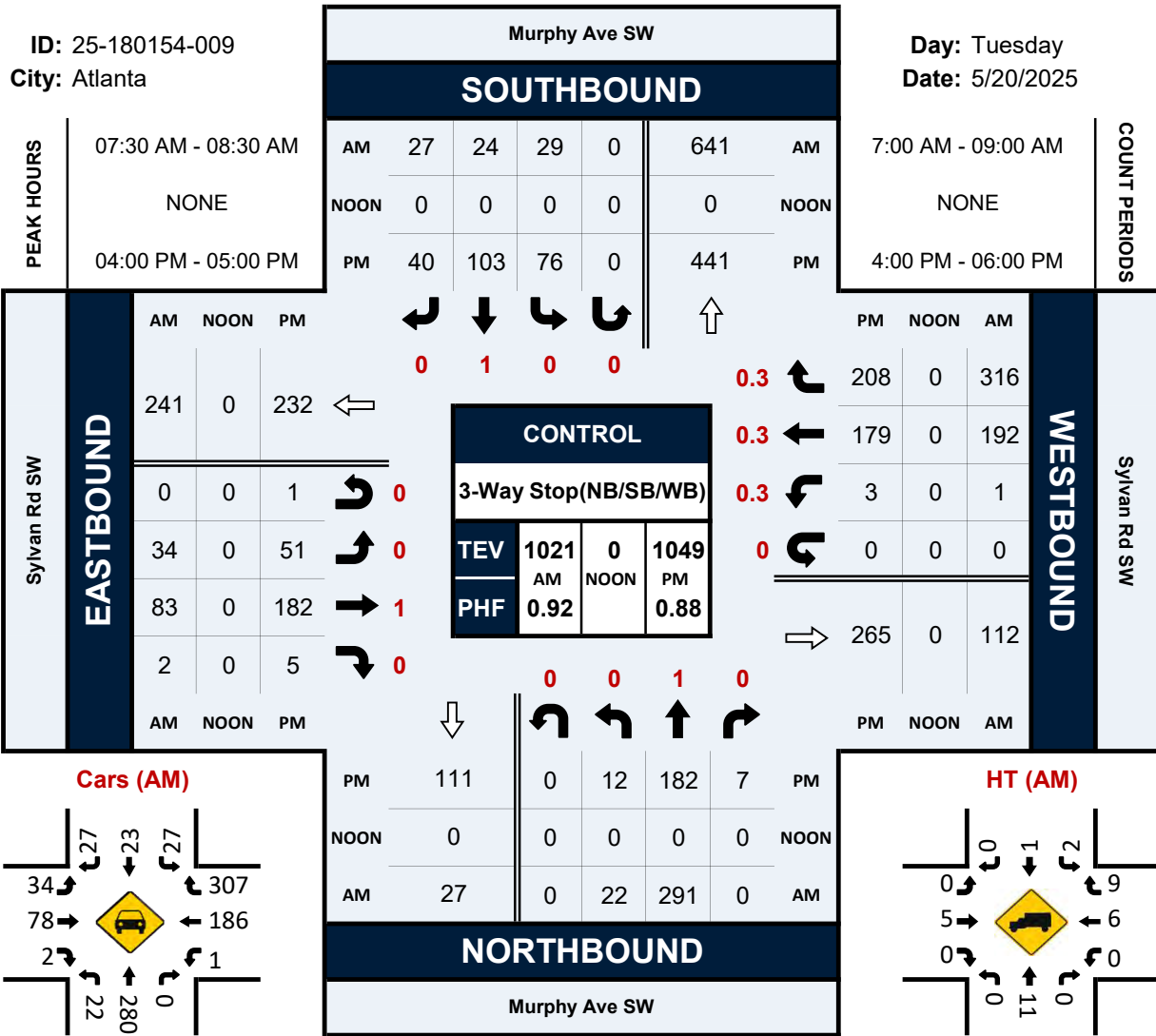
NS/EW Streets:	Murphy Ave SW				Murphy Ave SW				Sylvan Rd SW				Sylvan Rd SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0.3	0.3	0.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	1	23	0	0	3	12	5	0	3	10	3	0	2	16	36	0	114
7:15 AM	1	39	1	0	3	5	6	0	8	15	0	0	0	36	44	0	158
7:30 AM	3	89	0	0	7	9	7	0	8	18	2	0	0	42	86	0	271
7:45 AM	11	75	0	0	6	6	8	0	14	22	0	0	0	49	85	0	276
8:00 AM	2	44	0	0	8	6	7	0	8	29	0	0	0	55	62	0	221
8:15 AM	6	83	0	0	8	3	5	0	4	14	0	0	1	46	83	0	253
8:30 AM	7	46	0	0	11	6	0	0	10	24	0	0	1	54	56	0	215
8:45 AM	2	29	1	0	12	9	8	0	8	19	1	0	0	48	56	0	193
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	33	428	2	0	58	56	46	0	63	151	6	0	4	346	508	0	1701
	7.13%	92.44%	0.43%	0.00%	36.25%	35.00%	28.75%	0.00%	28.64%	68.64%	2.73%	0.00%	0.47%	40.33%	59.21%	0.00%	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	22	291	0	0	29	24	27	0	34	83	2	0	1	192	316	0	1021
PEAK HR FACTOR :	0.500	0.817	0.000	0.000	0.906	0.667	0.844	0.000	0.607	0.716	0.250	0.000	0.250	0.873	0.919	0.000	0.925
			0.851				0.870				0.804				0.950		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	0	0	0	1	0	0	0	1	0	0	0.3	0.3	0.3	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	30	1	0	14	27	11	0	8	46	1	1	0	53	37	0	229
4:15 PM	5	50	1	0	15	25	12	0	16	43	2	0	0	41	53	0	263
4:30 PM	3	71	4	0	28	19	8	0	12	49	0	0	1	46	56	0	297
4:45 PM	4	31	1	0	19	32	9	0	15	44	2	0	2	39	62	0	260
5:00 PM	0	30	1	0	21	43	16	0	9	16	0	0	5	20	57	0	218
5:15 PM	0	38	0	0	23	66	0	0	0	0	0	0	11	0	82	1	221
5:30 PM	0	54	2	0	23	69	0	0	0	0	0	0	7	0	82	0	237
5:45 PM	0	84	4	0	9	64	0	1	0	0	0	0	11	0	99	0	272
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	12	388	14	0	152	345	56	1	60	198	5	1	37	199	528	1	1997
	2.90%	93.72%	3.38%	0.00%	27.44%	62.27%	10.11%	0.18%	22.73%	75.00%	1.89%	0.38%	4.84%	26.01%	69.02%	0.13%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	12	182	7	0	76	103	40	0	51	182	5	1	3	179	208	0	1049
PEAK HR FACTOR :	0.600	0.641	0.438	0.000	0.679	0.805	0.833	0.000	0.797	0.929	0.625	0.250	0.375	0.844	0.839	0.000	0.883
			0.644				0.913				0.980				0.947		

Murphy Ave SW & Sylvan Rd SW

Peak Hour Turning Movement Count

ID: 25-180154-009
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: Allene Ave SW & Dill Ave SW
City: Atlanta
Control: 4-Way Stop

Project ID: 25-180154-010
Date: 5/20/2025

Data - Total

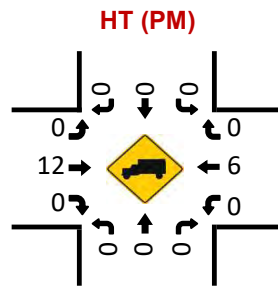
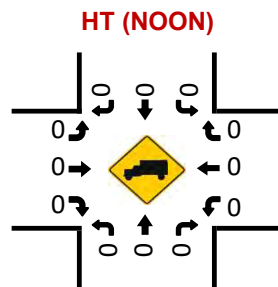
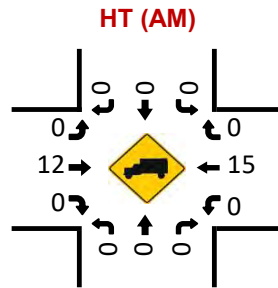
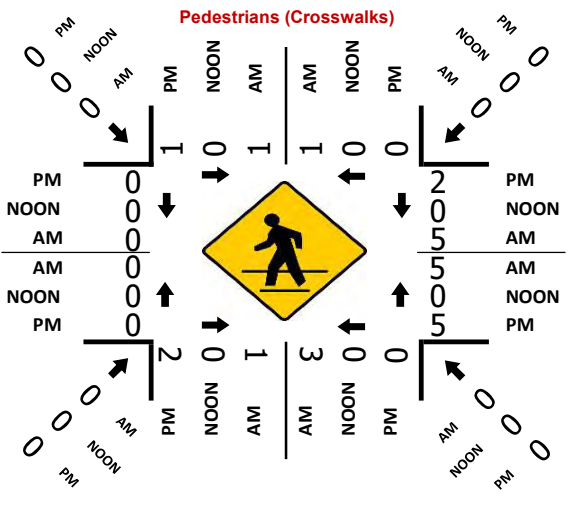
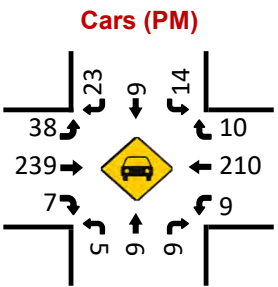
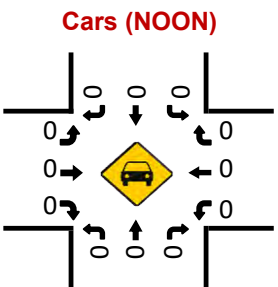
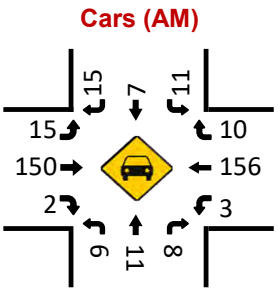
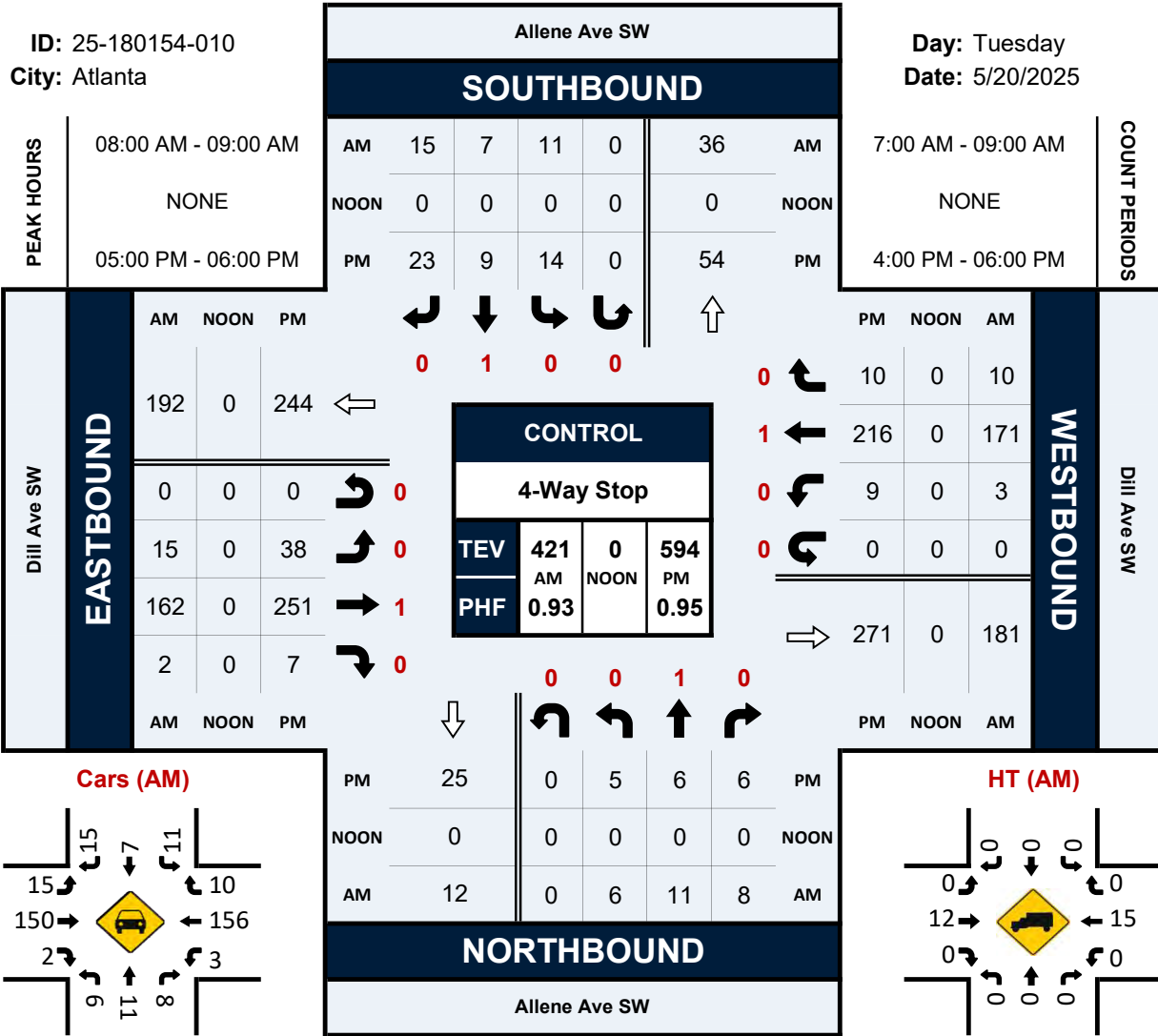
NS/EW Streets:	Allene Ave SW				Allene Ave SW				Dill Ave SW				Dill Ave SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	2	0	0	0	2	0	4	0	2	24	0	0	2	34	6	0	74
7:15 AM	0	2	0	0	1	0	2	0	4	34	0	0	1	14	0	0	58
7:30 AM	1	4	2	0	1	0	3	0	2	32	0	1	1	31	7	0	85
7:45 AM	0	3	1	0	5	0	5	0	6	35	0	0	0	38	8	0	101
8:00 AM	4	3	3	0	1	2	6	0	5	34	0	0	1	49	5	0	113
8:15 AM	0	3	2	0	3	1	2	0	1	40	1	0	2	34	0	0	89
8:30 AM	0	4	2	0	5	2	3	0	5	46	0	0	0	39	2	0	108
8:45 AM	2	1	1	0	2	2	4	0	4	42	1	0	0	49	3	0	111
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	9	20	11	0	20	7	29	0	29	287	2	1	5	288	31	0	739
	22.50%	50.00%	27.50%	0.00%	35.71%	12.50%	51.79%	0.00%	9.09%	89.97%	0.63%	0.31%	1.54%	88.89%	9.57%	0.00%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	6	11	8	0	11	7	15	0	15	162	2	0	3	171	10	0	421
PEAK HR FACTOR :	0.375	0.688	0.667	0.000	0.550	0.875	0.625	0.000	0.750	0.880	0.500	0.000	0.375	0.872	0.500	0.000	0.931
	0.625				0.825				0.877				0.836				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	4	0	0	2	2	6	0	3	41	1	0	2	48	1	0	110
4:15 PM	2	0	1	0	4	1	9	0	5	42	1	0	2	44	2	0	113
4:30 PM	3	1	0	0	4	3	3	0	8	48	0	0	0	66	3	0	139
4:45 PM	0	0	1	0	8	2	4	0	8	43	1	0	3	52	6	0	128
5:00 PM	1	2	5	0	3	2	2	0	4	65	1	0	1	61	1	0	148
5:15 PM	0	1	0	0	3	2	8	0	10	61	2	0	7	60	2	0	156
5:30 PM	1	1	1	0	1	2	8	0	15	52	2	0	1	45	4	0	133
5:45 PM	3	2	0	0	7	3	5	0	9	73	2	0	0	50	3	0	157
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	10	11	8	0	32	17	45	0	62	425	10	0	16	426	22	0	1084
	34.48%	37.93%	27.59%	0.00%	34.04%	18.09%	47.87%	0.00%	12.47%	85.51%	2.01%	0.00%	3.45%	91.81%	4.74%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	5	6	6	0	14	9	23	0	38	251	7	0	9	216	10	0	594
PEAK HR FACTOR :	0.417	0.750	0.300	0.000	0.500	0.750	0.719	0.000	0.633	0.860	0.875	0.000	0.321	0.885	0.625	0.000	0.946
	0.531				0.767				0.881				0.851				

Allene Ave SW & Dill Ave SW

Peak Hour Turning Movement Count

ID: 25-180154-010
City: Atlanta

Day: Tuesday
Date: 5/20/2025



National Data & Surveying Services

Intersection Turning Movement Count

Location: US 41/US 19/SR 3/Metropolitan Pkwy SW & Dill Ave SW/Manford Rd SW
City: Atlanta
Control: Signalized

Project ID: 25-180154-011
Date: 5/20/2025

Data - Total

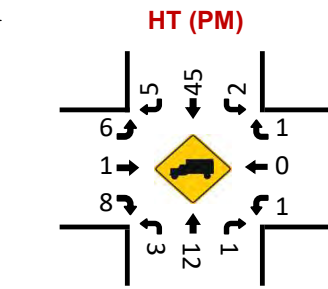
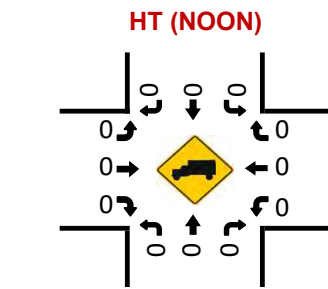
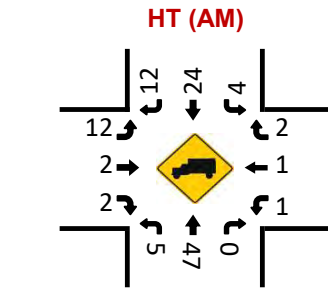
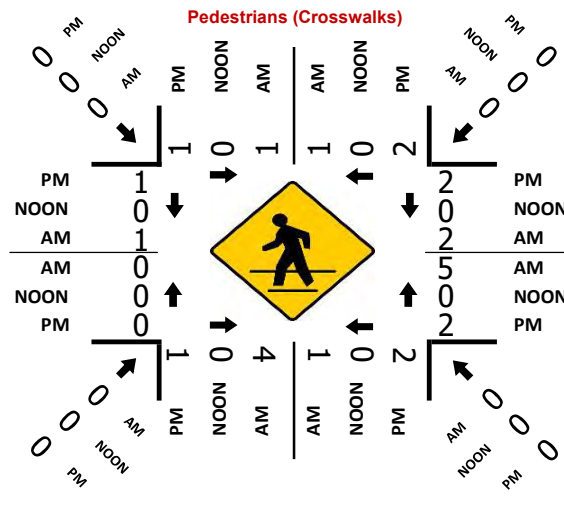
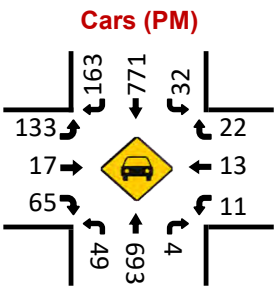
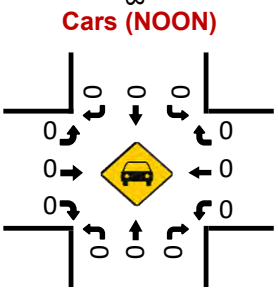
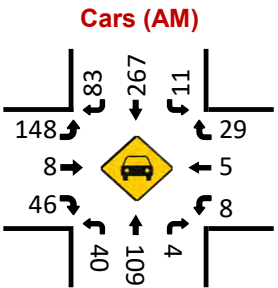
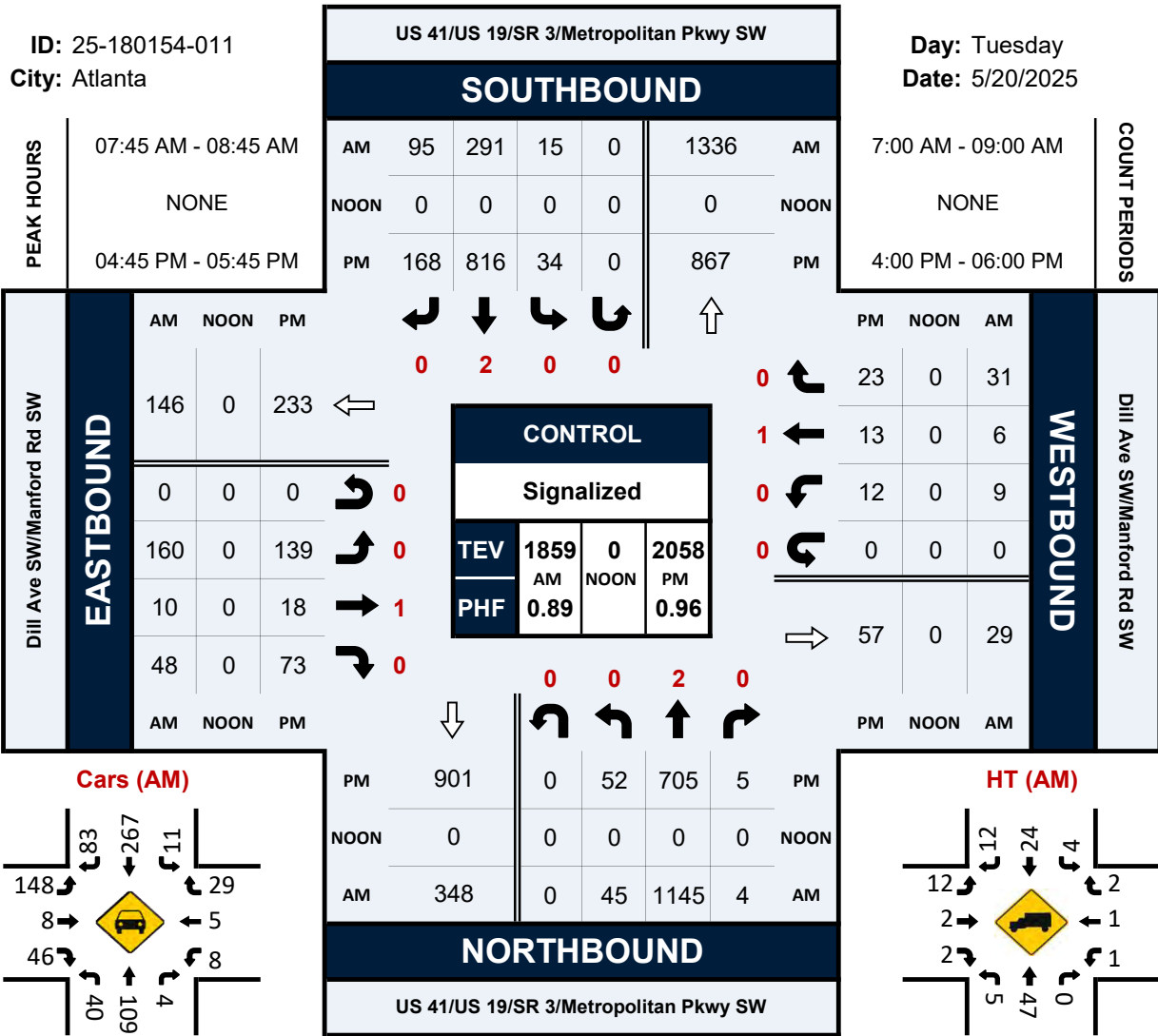
NS/EW Streets:	US 41/US 19/SR 3/Metropolitan Pkwy SW				US 41/US 19/SR 3/Metropolitan Pkwy SW				Dill Ave SW/Manford Rd SW				Dill Ave SW/Manford Rd SW				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
7:00 AM	10	209	0	0	0	47	18	0	25	1	7	0	0	3	7	0	327
7:15 AM	2	371	0	0	0	66	12	0	35	2	4	0	2	1	8	0	503
7:30 AM	3	313	1	0	4	65	16	0	36	2	14	0	1	6	5	0	466
7:45 AM	2	272	0	0	1	79	22	0	40	2	16	0	1	1	10	0	446
8:00 AM	14	244	2	0	6	73	25	0	42	3	8	0	1	3	11	0	432
8:15 AM	15	282	2	0	3	76	22	0	41	0	10	0	3	0	5	0	459
8:30 AM	14	347	0	0	5	63	26	0	37	5	14	0	4	2	5	0	522
8:45 AM	16	244	1	0	3	81	24	0	33	2	14	0	3	6	5	0	432
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	76	2282	6	0	22	550	165	0	289	17	87	0	15	22	56	0	3587
	3.21%	96.53%	0.25%	0.00%	2.99%	74.63%	22.39%	0.00%	73.54%	4.33%	22.14%	0.00%	16.13%	23.66%	60.22%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	45	1145	4	0	15	291	95	0	160	10	48	0	9	6	31	0	1859
PEAK HR FACTOR :	0.750	0.825	0.500	0.000	0.625	0.921	0.913	0.000	0.952	0.500	0.750	0.000	0.563	0.500	0.705	0.000	0.890
	0.827				0.964				0.940				0.767				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0 NL	2 NT	0 NR	0 NU	0 SL	2 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	TOTAL
4:00 PM	1	151	2	0	2	110	15	0	24	9	5	0	8	3	8	0	338
4:15 PM	5	170	1	0	1	126	19	0	18	6	9	0	4	4	8	0	371
4:30 PM	17	220	2	0	7	164	37	0	39	5	14	0	8	6	6	0	525
4:45 PM	13	180	1	0	8	202	41	0	21	4	22	0	2	7	4	0	505
5:00 PM	14	131	2	0	6	216	44	0	42	8	15	0	2	2	3	0	485
5:15 PM	12	187	1	0	11	199	44	0	36	4	22	0	5	1	10	0	532
5:30 PM	13	207	1	0	9	199	39	0	40	2	14	0	3	3	6	0	536
5:45 PM	13	175	3	0	6	141	42	0	56	2	15	0	2	2	6	0	463
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	88	1421	13	0	50	1357	281	0	276	40	116	0	34	28	51	0	3755
	5.78%	93.36%	0.85%	0.00%	2.96%	80.39%	16.65%	0.00%	63.89%	9.26%	26.85%	0.00%	30.09%	24.78%	45.13%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	52	705	5	0	34	816	168	0	139	18	73	0	12	13	23	0	2058
PEAK HR FACTOR :	0.929	0.851	0.625	0.000	0.773	0.944	0.955	0.000	0.827	0.563	0.830	0.000	0.600	0.464	0.575	0.000	0.960
	0.862				0.957				0.885				0.750				

US 41/US 19/SR 3/Metropolitan Pkwy SW & Dill Ave SW/Manford Rd SW

Peak Hour Turning Movement Count

ID: 25-180154-011
City: Atlanta

Day: Tuesday
Date: 5/20/2025



APPENDIX C
US CENSUS DATA & GROWTH RATE

0000121_5214 - 121-5214 - CSX 139403LCS1170R

County: Fulton

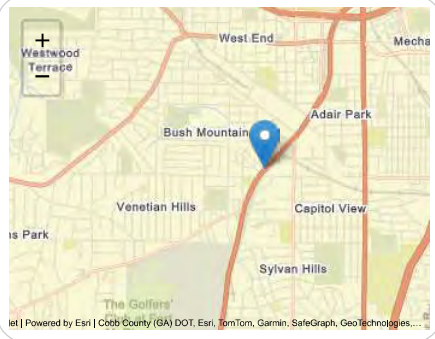
Route number: 00001400

LRS section: 1211001400

Functional class: 4U - Minor Arterial (Urban)

Coordinates: 33.72315847, -84.42214592

Site Data



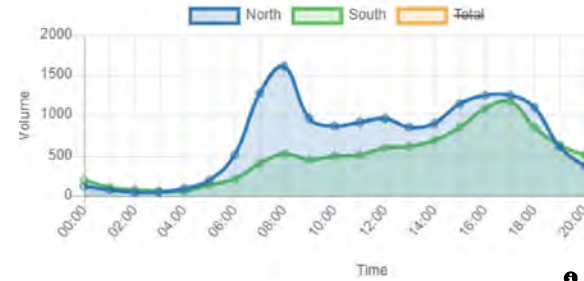
Count History

Year	Month	Count type	Duration	Count
2023	December	Volume	48 hours	27,132
2020	October	Volume	48 hours	22,032
2018	March	Class	48 hours	26,692
2017	April	Volume	48 hours	4,945
2016	April	Volume	48 hours	24,758
2014	April	Volume	48 hours	21,500
2012	February	Volume	48 hours	17,993

Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Statistics type	-	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Estimated	Estimated
AADT	19,600	21,100	22,100	23,400	24,100	24,300	19,500	21,100	22,000	22,200
K-Factor	0.099	0.099	0.096	-	0.096	0.096	0.092	0.092	0.092	0.092
D-Factor	0.800	0.800	0.800	-	0.640	0.640	0.590	0.590	0.590	0.590
Future AADT	-	-	23,100	30,000	32,900	41,700	41,700	51,600	36,700	28,000

Average Hourly Volume



Count History

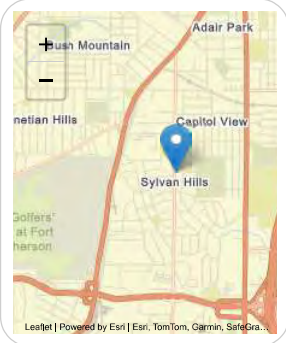


AADT Trend



0000121_5693 - 121-5693 - SR 001400 BEG AT
County: Fullon
Route number: 00235303
LRS section: 1213235303
Functional class: 4U - Minor Arterial (Urban)
Coordinates: 33.71238009, -84.41815321

Site Data

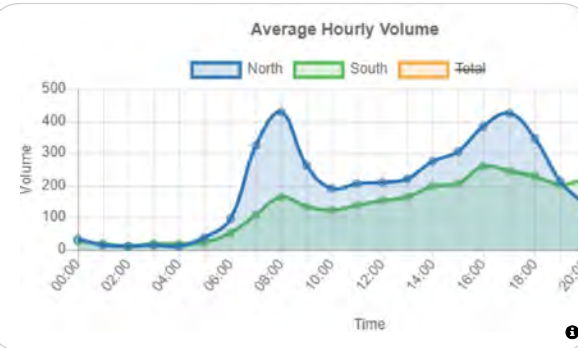


Count History

Year	Month	Count type	Duration	Count
2022	October	Class	48 hours	7,270
2020	October	Class	48 hours	5,898
2018	March	Class	48 hours	5,880
2016	March	Class	48 hours	5,835
2012	February	Volume	48 hours	5,028

Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Statistics type	-	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated	Actual	Estimated
AADT	4,720	5,080	5,250	5,560	5,320	5,350	5,360	5,790	6,490	6,560
K-Factor	-	-	0.100	-	0.107	0.107	0.103	0.103	0.109	0.109
D-Factor	-	-	0.700	-	0.770	0.770	0.560	0.560	0.630	0.630
Future AADT	-	-	5,630	7,010	6,700	6,750	6,750	8,200	9,830	10,400

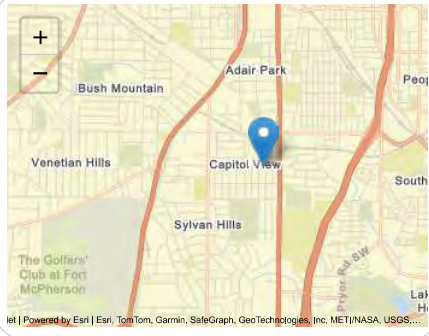


Vehicle Classification 2022

1. Motorcycles 2 axles, 2 or 3 wheels.		0.41%
2. Passenger cars 2 axles. Can have 1- or 2-axle trailers.		82.05%
3. Pickups, panels, vans 2-axle, 4-tire single units. Can have 1- or 2-axle trailers.		13.12%
4. Buses 2- or 3-axle, full length.		0.76%
5. Single-unit trucks 2-axle, 6-tire, (dual rear tires), single-unit trucks.		2.71%
6. Single-unit trucks 3-axle, single-unit trucks.		0.54%
7. Single-unit trucks 4 or more axle, single-unit trucks.		0.01%
8. Single-trailer trucks 3- or 4-axle, single-trailer trucks.		0.17%
9. Single-trailer trucks 5-axle, single-trailer trucks.		0.21%
10. Single-trailer trucks 6 or more axle, single-trailer trucks.		0.01%
11. Multi-trailer trucks 5 or less axle, multi-trailer trucks.		0%
12. Multi-trailer trucks 6-axle, multi-trailer trucks.		0%
13. Multi-trailer trucks 7 or more axle, multi-trailer trucks.		0%

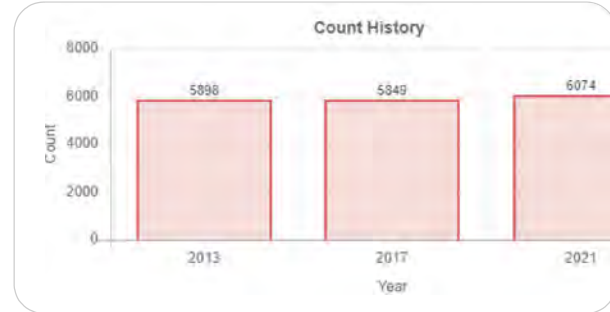
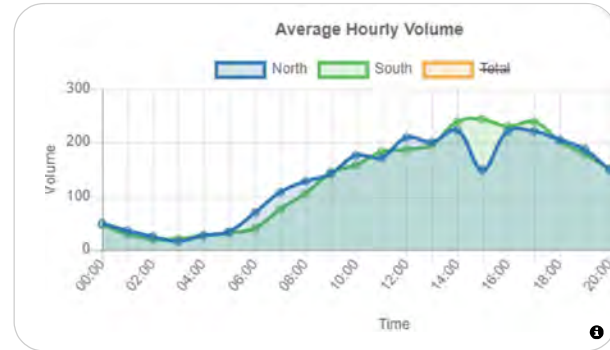
0000121_8395 - 121-8395 - Dill Ave SW
City: Atlanta **County:** Fulton
Route number: 00117003
LRS section: 1213117003
Functional class: 7U - Local (Urban)
Coordinates: 33.718281, -84.410273

Site Data



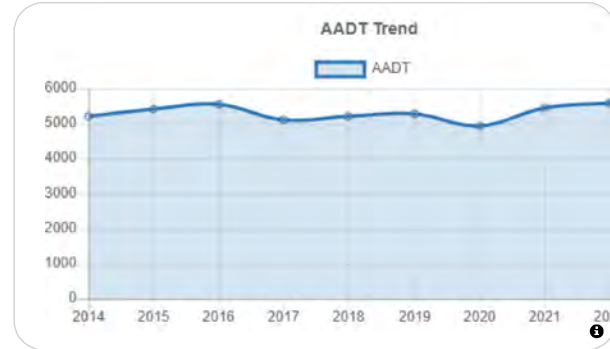
Count History

Year	Month	Count type	Duration	Count
2021	April	Volume	48 hours	6,074
2017	February	Volume	48 hours	5,849
2013	March	Volume	48 hours	5,898



Annual Statistics

Data Item	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Statistics type	-	Estimated	Estimated	Actual	Estimated	Estimated	Estimated	Actual	Estimated	Estimated
AADT	5,200	5,410	5,540	5,110	5,190	5,290	4,920	5,450	5,580	5,730
K-Factor	0.080	0.080	0.080	0.092	0.092	0.092	0.092	0.086	0.086	0.086
D-Factor	-	-	-	0.500	0.500	0.500	0.500	0.510	0.510	0.510
Future AADT	-	-	6,220	6,440	6,540	6,670	6,670	6,870	7,030	7,220



Avon Avenue - Growth Rate Calculation Worksheet

Percentage Growth										
Roadway	County	Traffic Count Station	2019 Traffic Volumes	2020 Traffic Volumes	2021 Traffic Volumes	2022 Traffic Volumes	2023 Traffic Volumes	2024 Traffic Volumes by Linear Regress.	2028 Traffic Volumes by Linear Regress.	Annual Growth 2024 to 2028
Lee St	Fulton	121-5214	24,300	19,500	21,100	22,000	22,200	21,310	20,630	-0.8%
Sylvan Rd	Fulton	121-5709	5,350	5,360	5,790	6,490	6,560	6,975	8,395	5.1%
Dill Ave	Fulton	121-8395	5,290	4,920	5,450	5,580	5,730	5,856	6,472	2.6%
Weighted Average			34,940	29,780	32,340	34,070	34,490	34,141	35,497	1.0%

APPENDIX D
EXISTING, NO-BUILD, & BUILD SYNCHRO REPORTS

2025 EXISTING SYNCHRO REPORTS

9: Murphy Avenue & Sylvan Road Performance by approach

Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.4	68.9	22.2	17.5	42.3

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1181	100	286	94
Average Queue (ft)	2	311	92	123	42
95th Queue (ft)	14	828	123	224	79
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		69	29		
Queuing Penalty (veh)		219	57		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM

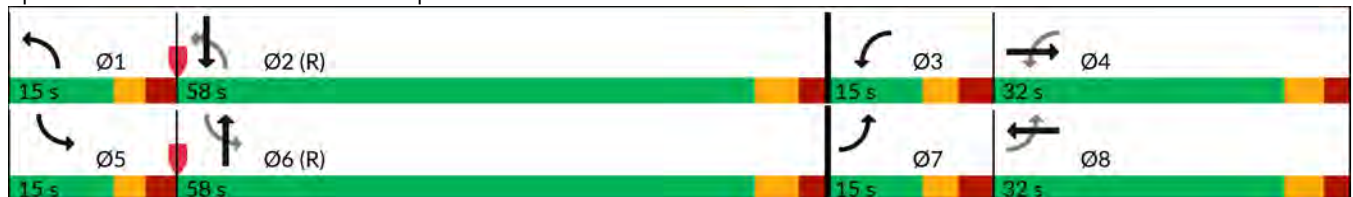


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	189	140	45	90	45	1463	89	359	78
Future Volume (vph)	189	140	45	90	45	1463	89	359	78
Turn Type	D.P+P	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases	8		4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	11.0	27.2	11.0	27.2	27.2
Total Split (s)	15.0	32.0	15.0	32.0	15.0	58.0	15.0	58.0	58.0
Total Split (%)	12.5%	26.7%	12.5%	26.7%	12.5%	48.3%	12.5%	48.3%	48.3%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	20.2	15.1	21.5	11.9	77.1	66.3	76.0	70.9	70.9
Actuated g/C Ratio	0.17	0.13	0.18	0.10	0.64	0.55	0.63	0.59	0.59
v/c Ratio	1.00	0.41	0.24	0.64	0.08	1.00	0.55	0.19	0.09
Control Delay (s/veh)	108.1	49.2	39.6	27.4	7.3	48.1	34.2	14.1	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	108.1	49.2	39.6	27.4	7.3	48.1	34.2	14.1	3.8
LOS	F	D	D	C	A	D	C	B	A
Approach Delay (s/veh)		81.0		29.5		47.0		16.0	
Approach LOS		F		C		D		B	

Intersection Summary

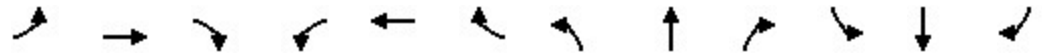
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 54 (45%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay (s/veh): 43.7
 Intersection LOS: D
 Intersection Capacity Utilization 90.1%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM

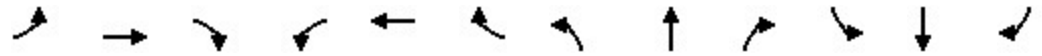


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	140	21	45	90	133	45	1463	197	89	359	78
Future Volume (vph)	189	140	21	45	90	133	45	1463	197	89	359	78
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9		6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.98		1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3193		1736	2977		1687	3439		1543	3438	1495
Flt Permitted	0.40	1.00		0.64	1.00		0.53	1.00		0.06	1.00	1.00
Satd. Flow (perm)	750	3193		1176	2977		934	3439		100	3438	1495
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Adj. Flow (vph)	201	149	22	58	117	173	52	1682	226	94	378	82
RTOR Reduction (vph)	0	10	0	0	154	0	0	7	0	0	0	35
Lane Group Flow (vph)	201	161	0	58	136	0	52	1901	0	94	378	47
Heavy Vehicles (%)	1%	11%	10%	4%	11%	10%	7%	3%	4%	17%	5%	8%
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8			4			2			6		2
Actuated Green, G (s)	21.8	15.1		21.8	13.1		74.2	65.1		74.2	68.6	68.6
Effective Green, g (s)	21.8	15.1		21.8	13.1		74.2	65.1		74.2	68.6	68.6
Actuated g/C Ratio	0.18	0.13		0.18	0.11		0.62	0.54		0.62	0.57	0.57
Clearance Time (s)	6.3	5.9		6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	211	401		244	324		612	1865		171	1965	854
v/s Ratio Prot	c0.07	0.05		0.01	0.05		0.00	c0.55		c0.04	c0.11	
v/s Ratio Perm	c0.10			0.03			0.05			0.30		0.03
v/c Ratio	0.95	0.40		0.24	0.42		0.08	1.02		0.55	0.19	0.05
Uniform Delay, d1	46.9	48.3		41.6	49.9		9.0	27.5		25.8	12.4	11.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.25	1.13	10.07
Incremental Delay, d2	48.3	0.7		0.5	0.9		0.1	25.8		3.5	0.2	0.1
Delay (s)	95.2	48.9		42.1	50.8		9.1	53.3		35.7	14.2	114.5
Level of Service	F	D		D	D		A	D		D	B	F
Approach Delay (s/veh)		74.0			49.3			52.1			32.7	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕		↖	↕	↖
Traffic Volume (veh/h)	189	140	21	45	90	133	45	1463	197	89	359	78
Future Volume (veh/h)	189	140	21	45	90	133	45	1463	197	89	359	78
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	201	149	0	58	117	0	52	1682	226	94	378	0
Peak Hour Factor	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	254	385		220	275		707	1893	249	148	2116	
Arrive On Green	0.07	0.12	0.00	0.04	0.08	0.00	0.03	0.60	0.60	0.08	1.00	0.00
Sat Flow, veh/h	1795	3387	0	1753	3387	0	1711	3132	412	1570	3469	1510
Grp Volume(v), veh/h	201	149	0	58	117	0	52	931	977	94	378	0
Grp Sat Flow(s),veh/h/ln	1795	1650	0	1753	1650	0	1711	1763	1781	1570	1735	1510
Q Serve(g_s), s	8.7	5.0	0.0	3.5	4.0	0.0	1.3	53.2	57.7	2.8	0.0	0.0
Cycle Q Clear(g_c), s	8.7	5.0	0.0	3.5	4.0	0.0	1.3	53.2	57.7	2.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	254	385		220	275		707	1065	1077	148	2116	
V/C Ratio(X)	0.79	0.39		0.26	0.43		0.07	0.87	0.91	0.63	0.18	
Avail Cap(c_a), veh/h	254	718		278	718		783	1065	1077	209	2116	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	49.8	49.0	0.0	44.3	52.3	0.0	7.8	19.9	20.8	26.7	0.0	0.0
Incr Delay (d2), s/veh	15.5	0.6	0.0	0.6	1.0	0.0	0.0	10.0	12.6	4.4	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.1	0.0	1.6	1.7	0.0	0.5	22.4	25.1	1.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.3	49.7	0.0	45.0	53.3	0.0	7.9	29.9	33.4	31.1	0.2	0.0
LnGrp LOS	E	D		D	D		A	C	C	C	A	
Approach Vol, veh/h		350			175			1960			472	
Approach Delay, s/veh		58.6			50.5			31.0			6.3	
Approach LOS		E			D			C			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	79.4	11.0	19.9	10.4	78.7	15.0	15.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	51.8	8.7	26.1	9.4	51.8	8.7	26.1				
Max Q Clear Time (g_c+I1), s	3.3	2.0	5.5	7.0	4.8	59.7	10.7	6.0				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.7	0.1	0.0	0.0	0.6				

Intersection Summary												
HCM 7th Control Delay, s/veh				31.5								
HCM 7th LOS				C								

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

Timings
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	116	39	1699	445
Future Volume (vph)	116	39	1699	445
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	26.0	94.0	94.0	94.0
Total Split (%)	21.7%	78.3%	78.3%	78.3%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	17.6		90.2	90.2
Actuated g/C Ratio	0.15		0.75	0.75
v/c Ratio	0.78		0.75	0.16
Control Delay (s/veh)	64.8		8.1	4.2
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	64.8		8.1	4.2
LOS	E		A	A
Approach Delay (s/veh)	64.8		8.1	4.2
Approach LOS	E		A	A

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 90 (75%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 11.7 Intersection LOS: B
 Intersection Capacity Utilization 83.0% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Lee Street & Avon Avenue



HCM Signalized Intersection Capacity Analysis
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑↑	↑↑↑	
Traffic Volume (vph)	116	50	39	1699	445	44
Future Volume (vph)	116	50	39	1699	445	44
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.96			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1737			3499	4791	
Flt Permitted	0.97			0.92	1.00	
Satd. Flow (perm)	1737			3227	4791	
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.84	0.84
Adj. Flow (vph)	145	62	41	1770	530	52
RTOR Reduction (vph)	14	0	0	0	9	0
Lane Group Flow (vph)	194	0	0	1811	573	0
Heavy Vehicles (%)	2%	0%	5%	3%	7%	5%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	17.6			90.2	90.2	
Effective Green, g (s)	17.6			90.2	90.2	
Actuated g/C Ratio	0.15			0.75	0.75	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	254			2425	3601	
v/s Ratio Prot	c0.11				0.12	
v/s Ratio Perm				c0.56		
v/c Ratio	0.77			0.75	0.16	
Uniform Delay, d1	49.2			8.4	4.2	
Progression Factor	1.00			0.79	0.97	
Incremental Delay, d2	12.8			0.7	0.1	
Delay (s)	62.1			7.4	4.2	
Level of Service	E			A	A	
Approach Delay (s/veh)	62.1			7.4	4.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	116	50	39	1699	445	44
Future Volume (veh/h)	116	50	39	1699	445	44
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	145	62	41	1770	530	52
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	164	70	70	2545	3459	335
Arrive On Green	0.14	0.14	1.00	1.00	0.76	0.76
Sat Flow, veh/h	1198	512	52	3428	4707	441
Grp Volume(v), veh/h	208	0	968	843	379	203
Grp Sat Flow(s),veh/h/ln	1718	0	1791	1604	1635	1717
Q Serve(g_s), s	14.3	0.0	0.0	0.0	3.8	3.8
Cycle Q Clear(g_c), s	14.3	0.0	0.0	0.0	3.8	3.8
Prop In Lane	0.70	0.30	0.04			0.26
Lane Grp Cap(c), veh/h	236	0	1394	1221	2488	1307
V/C Ratio(X)	0.88	0.00	0.69	0.69	0.15	0.16
Avail Cap(c_a), veh/h	295	0	1394	1221	2488	1307
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.98	0.98
Uniform Delay (d), s/veh	50.8	0.0	0.0	0.0	3.9	3.9
Incr Delay (d2), s/veh	21.7	0.0	0.3	0.3	0.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.1	0.1	1.0	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	72.5	0.0	0.3	0.3	4.0	4.1
LnGrp LOS	E		A	A	A	A
Approach Vol, veh/h	208			1811	582	
Approach Delay, s/veh	72.5			0.3	4.0	
Approach LOS	E			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		98.1			98.1	21.9
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		87.2			87.2	20.6
Max Q Clear Time (g_c+I1), s		5.8			2.0	16.3
Green Ext Time (p_c), s		3.9			25.5	0.2
Intersection Summary						
HCM 7th Control Delay, s/veh			6.9			
HCM 7th LOS			A			

Timings
3: Lee Street & Sylvan Road

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↖	↑↓	↘	↑↑
Traffic Volume (vph)	18	227	1740	81	463
Future Volume (vph)	18	227	1740	81	463
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	4		6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	8.0	12.0	6.0	12.0
Minimum Split (s)	23.7	23.7	31.9	11.6	17.9
Total Split (s)	25.0	25.0	82.0	13.0	95.0
Total Split (%)	20.8%	20.8%	68.3%	10.8%	79.2%
Yellow Time (s)	4.1	4.1	4.0	3.0	4.0
All-Red Time (s)	1.6	1.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.9	5.6	5.9
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	15.2	15.2	80.4	93.5	93.2
Actuated g/C Ratio	0.13	0.13	0.67	0.78	0.78
v/c Ratio	0.09	0.84	0.83	0.65	0.22
Control Delay (s/veh)	44.6	50.4	10.5	38.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.6	50.4	10.5	38.3	4.2
LOS	D	D	B	D	A
Approach Delay (s/veh)	49.9		10.5		9.3
Approach LOS	D		B		A

Intersection Summary














Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 103 (86%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay (s/veh): 13.9
 Intersection LOS: B
 Intersection Capacity Utilization 75.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



HCM Signalized Intersection Capacity Analysis
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	18	227	1740	36	81	463
Future Volume (vph)	18	227	1740	36	81	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1568	3463		1719	3438
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1805	1568	3463		84	3438
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.78	0.78
Adj. Flow (vph)	20	249	1891	39	104	594
RTOR Reduction (vph)	0	100	1	0	0	0
Lane Group Flow (vph)	20	149	1929	0	104	594
Heavy Vehicles (%)	0%	3%	4%	0%	5%	5%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4			2	
Actuated Green, G (s)	15.2	15.2	80.5		93.2	93.2
Effective Green, g (s)	15.2	15.2	80.5		93.2	93.2
Actuated g/C Ratio	0.13	0.13	0.67		0.78	0.78
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	228	198	2323		161	2670
v/s Ratio Prot	0.01		c0.56		c0.04	0.17
v/s Ratio Perm		c0.10			0.46	
v/c Ratio	0.09	0.75	0.83		0.65	0.22
Uniform Delay, d1	46.3	50.6	14.7		27.9	3.6
Progression Factor	1.00	1.00	0.49		1.00	1.00
Incremental Delay, d2	0.2	15.0	2.4		8.6	0.2
Delay (s)	46.4	65.6	9.6		36.4	3.8
Level of Service	D	E	A		D	A
Approach Delay (s/veh)	64.2		9.6			8.7
Approach LOS	E		A			A
Intersection Summary						
HCM 2000 Control Delay (s/veh)			14.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.81			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.2
Intersection Capacity Utilization			75.2%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	227	1740	36	81	463
Future Volume (veh/h)	18	227	1740	36	81	463
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	20	249	1891	39	104	594
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	291	253	2269	47	290	2576
Arrive On Green	0.16	0.16	1.00	1.00	0.05	0.74
Sat Flow, veh/h	1810	1572	3596	72	1739	3561
Grp Volume(v), veh/h	20	249	940	990	104	594
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1828	1739	1735
Q Serve(g_s), s	1.1	18.9	0.0	0.0	2.2	6.4
Cycle Q Clear(g_c), s	1.1	18.9	0.0	0.0	2.2	6.4
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	291	253	1132	1183	290	2576
V/C Ratio(X)	0.07	0.98	0.83	0.84	0.36	0.23
Avail Cap(c_a), veh/h	291	253	1132	1183	313	2576
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.58	0.58	1.00	1.00
Uniform Delay (d), s/veh	42.7	50.2	0.0	0.0	5.3	4.8
Incr Delay (d2), s/veh	0.1	52.1	4.3	4.3	0.7	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	18.9	1.3	1.4	0.7	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	42.8	102.3	4.3	4.3	6.1	5.0
LnGrp LOS	D	F	A	A	A	A
Approach Vol, veh/h	269		1930			698
Approach Delay, s/veh	97.9		4.3			5.2
Approach LOS	F		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		95.0		25.0	11.4	83.6
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		89.1		19.3	7.4	76.1
Max Q Clear Time (g_c+I1), s		8.4		20.9	4.2	2.0
Green Ext Time (p_c), s		4.3		0.0	0.1	28.5
Intersection Summary						
HCM 7th Control Delay, s/veh			13.2			
HCM 7th LOS			B			

Intersection												
Int Delay, s/veh	45											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗		↕	
Traffic Vol, veh/h	289	142	72	5	133	9	112	40	4	3	5	24
Future Vol, veh/h	289	142	72	5	133	9	112	40	4	3	5	24
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	50	-	0	250	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	72	72	72	86	86	86	77	77	77	62	62	62
Heavy Vehicles, %	4	13	18	20	11	0	11	5	0	33	20	8
Mvmt Flow	401	197	100	6	155	10	145	52	5	5	8	39

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	165	0	0	297	0	0	1170	1177	197	1197	1272	160
Stage 1	-	-	-	-	-	-	1000	1000	-	172	172	-
Stage 2	-	-	-	-	-	-	170	177	-	1026	1100	-
Critical Hdwy	4.14	-	-	4.3	-	-	7.21	6.55	6.2	7.43	6.7	6.28
Critical Hdwy Stg 1	-	-	-	-	-	-	6.21	5.55	-	6.43	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.21	5.55	-	6.43	5.7	-
Follow-up Hdwy	2.236	-	-	2.38	-	-	3.599	4.045	3.3	3.797	4.18	3.372
Pot Cap-1 Maneuver	1401	-	-	1168	-	-	163	189	849	141	155	870
Stage 1	-	-	-	-	-	-	282	317	-	763	724	-
Stage 2	-	-	-	-	-	-	811	747	-	248	267	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1401	-	-	1168	-	-	~ 105	134	849	69	110	870
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 105	134	-	69	110	-
Stage 1	-	-	-	-	-	-	201	226	-	759	720	-
Stage 2	-	-	-	-	-	-	762	744	-	136	191	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	4.94			0.28			227.04			21.18		
HCM LOS							F			C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	105	145	1401	-	-	1168	-	-	274
HCM Lane V/C Ratio	1.391	0.394	0.286	-	-	0.005	-	-	0.188
HCM Ctrl Dly (s/v)	298.5	45.1	8.6	-	-	8.1	-	-	21.2
HCM Lane LOS	F	E	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	10.4	1.7	1.2	-	-	0	-	-	0.7

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

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	3	0	328	3	8	30
Future Vol, veh/h	3	0	328	3	8	30
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	-	0	-	-	0
Peak Hour Factor	38	38	61	61	59	59
Heavy Vehicles, %	67	0	4	33	0	3
Mvmt Flow	8	0	538	5	14	51











Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	618	540	0	0	543	0
Stage 1	540	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	7.07	6.2	-	-	4.1	-
Critical Hdwy Stg 1	6.07	-	-	-	-	-
Critical Hdwy Stg 2	6.07	-	-	-	-	-
Follow-up Hdwy	4.103	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	363	546	-	-	1036	-
Stage 1	473	-	-	-	-	-
Stage 2	804	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	358	546	-	-	1036	-
Mov Cap-2 Maneuver	358	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.28	0	1.79
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	358	379
HCM Lane V/C Ratio	-	-	0.022	0.013
HCM Ctrl Dly (s/v)	-	-	15.3	8.5
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

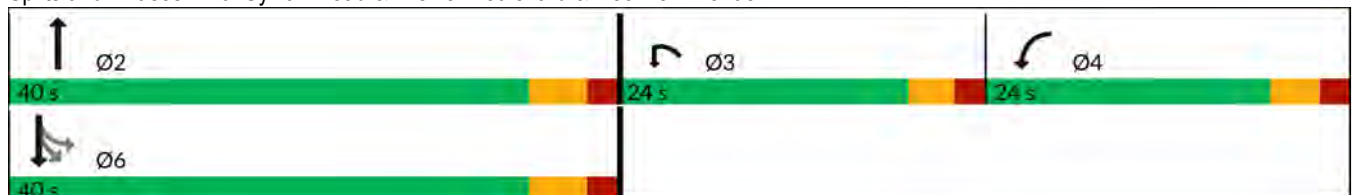
DRI #4430 Sylvan Mixed-Use
2025 Existing AM

						
Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations						
Traffic Volume (vph)	19	518	8	10	128	2
Future Volume (vph)	19	518	8	10	128	2
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	21.2	23.8	23.8	23.8	23.8	22.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	13.0	38.7			38.7	13.0
Actuated g/C Ratio	0.20	0.60			0.60	0.20
v/c Ratio	0.10	0.61			0.16	0.18
Control Delay (s/veh)	0.7	17.6			11.4	4.9
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	0.7	17.6			11.4	4.9
LOS	A	B			B	A
Approach Delay (s/veh)	0.7	17.6			11.4	4.9
Approach LOS	A	B			B	A

Intersection Summary

















Cycle Length: 88
 Actuated Cycle Length: 64
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay (s/veh): 14.9
 Intersection LOS: B
 Intersection Capacity Utilization 62.3%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM

												
Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2	
Lane Configurations												
Traffic Volume (vph)	19	13	518	26	3	8	10	128	2	19	22	
Future Volume (vph)	19	13	518	26	3	8	10	128	2	19	22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.2		5.8					5.8	4.9			
Lane Util. Factor	1.00		1.00					1.00	1.00			
Frt	0.95		0.99					1.00	0.87			
Flt Protected	0.97		1.00					0.99	1.00			
Satd. Flow (prot)	1643		1817					1880	1574			
Flt Permitted	0.97		1.00					0.91	1.00			
Satd. Flow (perm)	1643		1817					1721	1574			
Peak-hour factor, PHF	0.80	0.80	0.82	0.82	0.82	0.87	0.87	0.87	0.60	0.60	0.60	
Adj. Flow (vph)	24	16	632	32	4	9	11	147	3	32	37	
RTOR Reduction (vph)	36	0	0	0	0	0	0	0	63	0	0	
Lane Group Flow (vph)	4	0	668	0	0	0	0	167	9	0	0	
Heavy Vehicles (%)	5%	8%	4%	0%	0%	0%	7%	0%	0%	11%	0%	
Turn Type	Prot		NA			Perm	Perm	NA	Prot			
Protected Phases	4		2					6	3			
Permitted Phases						6	6					
Actuated Green, G (s)	6.2		36.6					36.6	8.7			
Effective Green, g (s)	6.2		36.6					36.6	8.7			
Actuated g/C Ratio	0.09		0.54					0.54	0.13			
Clearance Time (s)	5.2		5.8					5.8	4.9			
Vehicle Extension (s)	3.0		3.0					3.0	3.0			
Lane Grp Cap (vph)	151		986					934	203			
v/s Ratio Prot	c0.00		c0.37						c0.01			
v/s Ratio Perm								0.10				
v/c Ratio	0.02		0.68					0.18	0.05			
Uniform Delay, d1	27.8		11.1					7.8	25.7			
Progression Factor	1.00		1.00					1.00	1.00			
Incremental Delay, d2	0.1		1.9					0.1	0.1			
Delay (s)	27.9		13.0					7.9	25.8			
Level of Service	C		B					A	C			
Approach Delay (s/veh)	27.9		13.0					7.9	25.8			
Approach LOS	C		B					A	C			
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.7								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			67.4								Sum of lost time (s)	15.9
Intersection Capacity Utilization			62.3%								ICU Level of Service	B
Analysis Period (min)			15									
c	Critical Lane Group											

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection												
Intersection Delay, s/veh	20.6											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	111	34	48	106	62	31	390	31	21	79	4
Future Vol, veh/h	7	111	34	48	106	62	31	390	31	21	79	4
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88	0.79	0.79	0.79
Heavy Vehicles, %	14	11	18	6	12	2	13	4	3	10	11	25
Mvmt Flow	8	119	37	58	128	75	35	443	35	27	100	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	2.4		14.3	28.8
HCM LOS	B		D	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	5%	22%	20%
Vol Thru, %	86%	73%	49%	76%
Vol Right, %	7%	22%	29%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	452	152	216	104
LT Vol	31	7	48	21
Through Vol	390	111	106	79
RT Vol	31	34	62	4
Lane Flow Rate	514	163	260	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.81	0.299	0.451	0.237
Departure Headway (Hd)	5.779	6.58	6.234	6.482
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	632	548	580	554
Service Time	3.779	4.6	4.234	4.513
HCM Lane V/C Ratio	0.813	0.297	0.448	0.238
HCM Control Delay, s/veh	28.8	12.4	14.3	11.5
HCM Lane LOS	D	B	B	B
HCM 95th-tile Q	8.2	1.2	2.3	0.9

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	4	1	4	1	15	2	484	6	13	87	0
Future Vol, veh/h	6	4	1	4	1	15	2	484	6	13	87	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	34	34	34	83	83	83	84	84	84	81	81	81
Heavy Vehicles, %	0	0	100	25	0	0	100	3	0	0	7	0
Mvmt Flow	18	12	3	5	1	18	2	576	7	16	107	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	721	728	107	730	724	580	107	0	0	583	0	0
Stage 1	140	140	-	585	585	-	-	-	-	-	-	-
Stage 2	582	588	-	145	140	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	7.2	7.35	6.5	6.2	5.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	4.2	3.725	4	3.3	3.1	-	-	2.2	-	-
Pot Cap-1 Maneuver	345	353	736	310	354	518	1044	-	-	1001	-	-
Stage 1	868	785	-	459	501	-	-	-	-	-	-	-
Stage 2	503	499	-	805	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	325	346	736	293	347	518	1044	-	-	1001	-	-
Mov Cap-2 Maneuver	325	346	-	293	347	-	-	-	-	-	-	-
Stage 1	854	772	-	458	499	-	-	-	-	-	-	-
Stage 2	482	497	-	777	772	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	16.31		13.66		0.03		1.13	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	7	-	-	351	440	234	-	-
HCM Lane V/C Ratio	0.002	-	-	0.092	0.055	0.016	-	-
HCM Ctrl Dly (s/v)	8.5	0	-	16.3	13.7	8.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											

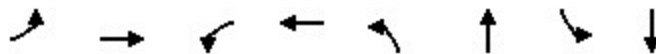
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	162	2	3	171	10	6	11	8	11	7	15
Future Vol, veh/h	15	162	2	3	171	10	6	11	8	11	7	15
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.63	0.63	0.63	0.83	0.83	0.83
Heavy Vehicles, %	0	7	0	0	9	0	0	0	0	0	0	0
Mvmt Flow	17	184	2	4	204	12	10	17	13	13	8	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7		8.8	8
HCM LOS	A		A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	8%	2%	33%
Vol Thru, %	44%	91%	93%	21%
Vol Right, %	32%	1%	5%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	179	184	33
LT Vol	6	15	3	11
Through Vol	11	162	171	7
RT Vol	8	2	10	15
Lane Flow Rate	40	203	219	40
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.244	0.26	0.052
Departure Headway (Hd)	4.73	4.325	4.272	4.668
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	758	832	843	767
Service Time	2.757	2.341	2.287	2.694
HCM Lane V/C Ratio	0.053	0.244	0.26	0.052
HCM Control Delay, s/veh	8	8.7	8.8	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1	1	0.2

Timings
11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
2025 Existing AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	160	10	9	6	45	1145	15	291
Future Volume (vph)	160	10	9	6	45	1145	15	291
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	40.0	40.0	40.0	40.0	45.0	45.0	15.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)		22.5		22.5		66.9		66.9
Actuated g/C Ratio		0.23		0.23		0.67		0.67
v/c Ratio		0.75		0.17		0.68		0.22
Control Delay (s/veh)		47.6		13.7		13.5		6.6
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		47.6		13.7		13.5		6.6
LOS		D		B		B		A
Approach Delay (s/veh)		47.6		13.7		13.5		6.6
Approach LOS		D		B		B		A

Intersection Summary

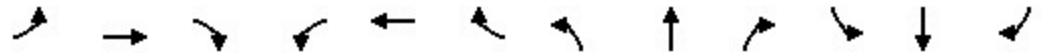
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 97 (97%), Referenced to phase 2:SBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay (s/veh): 15.8 Intersection LOS: B
 Intersection Capacity Utilization 76.9% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	160	10	48	9	6	31	45	1145	4	15	291	95
Future Volume (vph)	160	10	48	9	6	31	45	1145	4	15	291	95
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2			5.2			5.4			5.4	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.97			0.91			1.00			0.96	
Flt Protected		0.96			0.99			1.00			1.00	
Satd. Flow (prot)		1651			1569			3455			3162	
Flt Permitted		0.77			0.93			0.92			0.88	
Satd. Flow (perm)		1323			1478			3171			2782	
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.83	0.83	0.83	0.96	0.96	0.96
Adj. Flow (vph)	170	11	51	12	8	40	54	1380	5	16	303	99
RTOR Reduction (vph)	0	12	0	0	31	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	220	0	0	29	0	0	1439	0	0	396	0
Heavy Vehicles (%)	8%	20%	4%	11%	17%	7%	11%	4%	0%	27%	8%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)		22.5			22.5			66.9			66.9	
Effective Green, g (s)		22.5			22.5			66.9			66.9	
Actuated g/C Ratio		0.23			0.23			0.67			0.67	
Clearance Time (s)		5.2			5.2			5.4			5.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		297			332			2121			1861	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.02			c0.45			0.14	
v/c Ratio		0.74			0.09			0.68			0.21	
Uniform Delay, d1		36.0			30.6			10.0			6.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.3			0.1			0.9			0.1	
Delay (s)		45.3			30.7			10.9			6.4	
Level of Service		D			C			B			A	
Approach Delay (s/veh)		45.3			30.7			10.9			6.4	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.3									B
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			100.0						15.9			
Intersection Capacity Utilization			76.9%									D
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	468	106	0
Future Vol, veh/h	0	0	0	468	106	0
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	0	0	0	585	128	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	713	128	128	0	0
Stage 1	128	-	-	-	-
Stage 2	585	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	402	928	1471	-	-
Stage 1	903	-	-	-	-
Stage 2	561	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	402	928	1471	-	-
Mov Cap-2 Maneuver	402	-	-	-	-
Stage 1	903	-	-	-	-
Stage 2	561	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	468	106	0
Future Vol, veh/h	0	0	0	468	106	0
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	0	0	0	509	115	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	624	115	115	0	0
Stage 1	115	-	-	-	-
Stage 2	509	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	452	943	1486	-	-
Stage 1	915	-	-	-	-
Stage 2	608	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	452	943	1486	-	-
Mov Cap-2 Maneuver	452	-	-	-	-
Stage 1	915	-	-	-	-
Stage 2	608	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1486	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

9: Murphy Avenue & Sylvan Road Performance by approach

Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.4	30.1	22.9	31.7	22.6

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	53	528	100	283	434
Average Queue (ft)	12	140	73	117	110
95th Queue (ft)	38	367	113	219	267
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		40	13		
Queuing Penalty (veh)		88	26		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↗	↕	↖	↕	↖	↕	↖	↕	↗
Traffic Volume (vph)	165	172	147	200	95	929	211	944	239
Future Volume (vph)	165	172	147	200	95	929	211	944	239
Turn Type	D.P+P	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases	8		4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	10.6	27.2	10.6	27.2	27.2
Total Split (s)	20.0	38.0	15.0	33.0	15.0	52.0	15.0	52.0	52.0
Total Split (%)	16.7%	31.7%	12.5%	27.5%	12.5%	43.3%	12.5%	43.3%	43.3%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	28.6	19.3	28.6	16.0	67.6	46.9	67.6	58.5	58.5
Actuated g/C Ratio	0.24	0.16	0.24	0.13	0.56	0.39	0.56	0.49	0.49
v/c Ratio	0.73	0.44	0.56	0.74	0.35	0.84	0.64	0.59	0.30
Control Delay (s/veh)	50.7	42.1	41.0	37.4	14.4	39.7	39.8	20.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.7	42.1	41.0	37.4	14.4	39.7	39.8	20.2	5.4
LOS	D	D	D	D	B	D	D	C	A
Approach Delay (s/veh)		45.9		38.4		37.6		20.6	
Approach LOS		D		D		D		C	

Intersection Summary

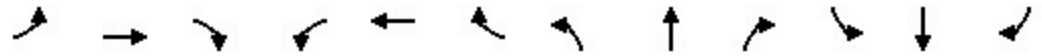
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 117 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay (s/veh): 31.9 Intersection LOS: C
 Intersection Capacity Utilization 81.8% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM

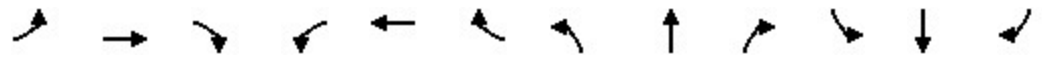


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	172	40	147	200	179	95	929	137	211	944	239
Future Volume (vph)	165	172	40	147	200	179	95	929	137	211	944	239
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9		6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.97		1.00	0.93		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	3276		1752	3270		1787	3471		1752	3539	1615
Flt Permitted	0.25	1.00		0.55	1.00		0.18	1.00		0.09	1.00	1.00
Satd. Flow (perm)	466	3276		1019	3270		344	3471		158	3539	1615
Peak-hour factor, PHF	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	185	193	45	169	230	206	102	999	147	229	1026	260
RTOR Reduction (vph)	0	19	0	0	151	0	0	10	0	0	0	84
Lane Group Flow (vph)	185	219	0	169	285	0	102	1136	0	229	1026	176
Heavy Vehicles (%)	2%	8%	3%	3%	4%	1%	1%	2%	2%	3%	2%	0%
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8			4			2			6		2
Actuated Green, G (s)	29.0	19.3		29.0	16.0		67.0	46.9		67.0	58.5	58.5
Effective Green, g (s)	29.0	19.3		29.0	16.0		67.0	46.9		67.0	58.5	58.5
Actuated g/C Ratio	0.24	0.16		0.24	0.13		0.56	0.39		0.56	0.49	0.49
Clearance Time (s)	6.3	5.9		6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	253	526		305	436		294	1356		355	1725	787
v/s Ratio Prot	c0.08	0.07		0.04	0.09		0.02	c0.33		c0.11	0.29	
v/s Ratio Perm	c0.10			c0.09			0.17			0.25		0.11
v/c Ratio	0.73	0.42		0.55	0.65		0.35	0.84		0.65	0.59	0.22
Uniform Delay, d1	39.0	45.3		38.2	49.4		14.5	33.1		27.9	22.2	17.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.17	0.79	0.58
Incremental Delay, d2	10.4	0.5		2.2	3.5		0.7	6.3		3.8	1.4	0.6
Delay (s)	49.3	45.8		40.4	52.9		15.2	39.4		36.5	18.9	10.8
Level of Service	D	D		D	D		B	D		D	B	B
Approach Delay (s/veh)		47.4			49.4			37.4			20.2	
Approach LOS		D			D			D			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	33.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.77	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 24.0
Intersection Capacity Utilization	81.8%	ICU Level of Service D
Analysis Period (min)	15	
c Critical Lane Group		

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	172	40	147	200	179	95	929	137	211	944	239
Future Volume (veh/h)	165	172	40	147	200	179	95	929	137	211	944	239
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	185	193	0	169	230	0	102	999	147	229	1026	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	287	435		278	321		375	1620	238	341	1986	
Arrive On Green	0.11	0.13	0.00	0.07	0.09	0.00	0.04	0.52	0.52	0.10	0.74	0.00
Sat Flow, veh/h	1781	3474	0	1767	3589	0	1795	3108	457	1767	3554	1610
Grp Volume(v), veh/h	185	193	0	169	230	0	102	571	575	229	1026	0
Grp Sat Flow(s),veh/h/ln	1781	1692	0	1767	1749	0	1795	1777	1788	1767	1777	1610
Q Serve(g_s), s	11.1	6.3	0.0	8.7	7.7	0.0	2.9	27.2	27.2	7.3	14.4	0.0
Cycle Q Clear(g_c), s	11.1	6.3	0.0	8.7	7.7	0.0	2.9	27.2	27.2	7.3	14.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	287	435		278	321		375	926	932	341	1986	
V/C Ratio(X)	0.65	0.44		0.61	0.72		0.27	0.62	0.62	0.67	0.52	
Avail Cap(c_a), veh/h	295	905		278	790		444	926	932	342	1986	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	43.0	48.3	0.0	43.4	53.0	0.0	11.3	20.3	20.3	16.3	8.7	0.0
Incr Delay (d2), s/veh	4.6	0.7	0.0	3.8	3.0	0.0	0.4	3.1	3.1	4.7	0.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	2.7	0.0	0.9	3.5	0.0	1.1	11.4	11.5	3.0	4.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.7	49.0	0.0	47.3	56.0	0.0	11.7	23.3	23.3	21.1	9.6	0.0
LnGrp LOS	D	D		D	E		B	C	C	C	A	
Approach Vol, veh/h		378			399			1248			1255	
Approach Delay, s/veh		48.4			52.3			22.4			11.7	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	73.3	15.0	21.3	14.9	68.8	19.4	16.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	45.8	8.7	32.1	9.4	45.8	13.7	27.1				
Max Q Clear Time (g_c+I1), s	4.9	16.4	10.7	8.3	9.3	29.2	13.1	9.7				
Green Ext Time (p_c), s	0.1	8.0	0.0	1.1	0.0	6.7	0.0	1.3				

Intersection Summary												
HCM 7th Control Delay, s/veh				24.9								
HCM 7th LOS				C								

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

Timings
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing PM



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	↘↙		↕↕	↕↕↕
Traffic Volume (vph)	79	52	1216	1353
Future Volume (vph)	79	52	1216	1353
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	35.0	85.0	85.0	85.0
Total Split (%)	29.2%	70.8%	70.8%	70.8%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	13.2		94.6	94.6
Actuated g/C Ratio	0.11		0.79	0.79
v/c Ratio	0.64		0.66	0.39
Control Delay (s/veh)	54.3		14.9	3.0
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	54.3		14.9	3.0
LOS	D		B	A
Approach Delay (s/veh)	54.3		14.9	3.0
Approach LOS	D		B	A

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 10.6
 Intersection LOS: B
 Intersection Capacity Utilization 86.8%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Lee Street & Avon Avenue



HCM Signalized Intersection Capacity Analysis
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	79	50	52	1216	1353	102
Future Volume (vph)	79	50	52	1216	1353	102
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.95			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1747			3535	5039	
Flt Permitted	0.97			0.75	1.00	
Satd. Flow (perm)	1747			2641	5039	
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.94	0.94
Adj. Flow (vph)	83	53	57	1322	1439	109
RTOR Reduction (vph)	22	0	0	0	4	0
Lane Group Flow (vph)	114	0	0	1379	1544	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	13.2			94.6	94.6	
Effective Green, g (s)	13.2			94.6	94.6	
Actuated g/C Ratio	0.11			0.79	0.79	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	192			2081	3972	
v/s Ratio Prot	c0.07				0.31	
v/s Ratio Perm				c0.52		
v/c Ratio	0.59			0.66	0.39	
Uniform Delay, d1	50.8			5.6	3.9	
Progression Factor	1.00			2.15	0.67	
Incremental Delay, d2	4.8			1.0	0.3	
Delay (s)	55.7			13.1	2.9	
Level of Service	E			B	A	
Approach Delay (s/veh)	55.7			13.1	2.9	
Approach LOS	E			B	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	79	50	52	1216	1353	102
Future Volume (veh/h)	79	50	52	1216	1353	102
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	83	53	57	1322	1439	109
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	101	64	104	2395	3883	294
Arrive On Green	0.10	0.10	1.00	1.00	0.80	0.80
Sat Flow, veh/h	1047	668	90	3071	5010	367
Grp Volume(v), veh/h	137	0	667	712	1012	536
Grp Sat Flow(s),veh/h/ln	1727	0	1459	1617	1702	1804
Q Serve(g_s), s	9.3	0.0	0.0	0.0	10.0	10.0
Cycle Q Clear(g_c), s	9.3	0.0	0.0	0.0	10.0	10.0
Prop In Lane	0.61	0.39	0.09			0.20
Lane Grp Cap(c), veh/h	166	0	1202	1297	2730	1447
V/C Ratio(X)	0.82	0.00	0.55	0.55	0.37	0.37
Avail Cap(c_a), veh/h	426	0	1202	1297	2730	1447
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.46	0.46	0.87	0.87
Uniform Delay (d), s/veh	53.2	0.0	0.0	0.0	3.3	3.3
Incr Delay (d2), s/veh	9.7	0.0	0.9	0.8	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.3	0.3	2.5	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	62.9	0.0	0.9	0.8	3.7	4.0
LnGrp LOS	E		A	A	A	A
Approach Vol, veh/h	137			1379	1548	
Approach Delay, s/veh	62.9			0.8	3.8	
Approach LOS	E			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		103.0			103.0	17.0
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.2			78.2	29.6
Max Q Clear Time (g_c+I1), s		12.0			2.0	11.3
Green Ext Time (p_c), s		15.6			15.7	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			5.1			
HCM 7th LOS			A			

Timings
3: Lee Street & Sylvan Road

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↖	↑↑	↘	↓↓
Traffic Volume (vph)	43	160	1299	172	1330
Future Volume (vph)	43	160	1299	172	1330
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	4		6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	8.0	12.0	6.0	12.0
Minimum Split (s)	23.7	23.7	31.9	11.6	17.9
Total Split (s)	32.0	32.0	60.0	28.0	88.0
Total Split (%)	26.7%	26.7%	50.0%	23.3%	73.3%
Yellow Time (s)	4.1	4.1	4.0	3.0	4.0
All-Red Time (s)	1.6	1.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.9	5.6	5.9
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effect Green (s)	9.6	9.6	81.6	99.1	98.8
Actuated g/C Ratio	0.08	0.08	0.68	0.83	0.82
v/c Ratio	0.34	0.62	0.60	0.54	0.49
Control Delay (s/veh)	58.1	16.8	13.1	10.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.1	16.8	13.1	10.4	3.9
LOS	E	B	B	B	A
Approach Delay (s/veh)	25.5		13.1		4.7
Approach LOS	C		B		A

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay (s/veh): 9.9
 Intersection LOS: A
 Intersection Capacity Utilization 67.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



HCM Signalized Intersection Capacity Analysis
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	43	160	1299	36	172	1330
Future Volume (vph)	43	160	1299	36	172	1330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1599	3527		1787	3539
Flt Permitted	0.95	1.00	1.00		0.12	1.00
Satd. Flow (perm)	1805	1599	3527		233	3539
Peak-hour factor, PHF	0.86	0.86	0.92	0.92	0.94	0.94
Adj. Flow (vph)	50	186	1412	39	183	1415
RTOR Reduction (vph)	0	171	1	0	0	0
Lane Group Flow (vph)	50	15	1450	0	183	1415
Heavy Vehicles (%)	0%	1%	2%	0%	1%	2%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4			2	
Actuated Green, G (s)	9.6	9.6	81.7		98.8	98.8
Effective Green, g (s)	9.6	9.6	81.7		98.8	98.8
Actuated g/C Ratio	0.08	0.08	0.68		0.82	0.82
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	144	127	2401		340	2913
v/s Ratio Prot	c0.03		c0.41		0.05	c0.40
v/s Ratio Perm		0.01			0.39	
v/c Ratio	0.35	0.12	0.60		0.54	0.49
Uniform Delay, d1	52.2	51.3	10.4		9.1	3.1
Progression Factor	1.00	1.00	1.05		1.00	1.00
Incremental Delay, d2	1.5	0.4	0.9		1.6	0.6
Delay (s)	53.7	51.7	11.8		10.7	3.7
Level of Service	D	D	B		B	A
Approach Delay (s/veh)	52.1		11.8			4.5
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.2
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	160	1299	36	172	1330
Future Volume (veh/h)	43	160	1299	36	172	1330
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	50	186	1412	39	183	1415
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	244	216	2373	65	265	2731
Arrive On Green	0.13	0.13	0.22	0.22	0.05	0.77
Sat Flow, veh/h	1810	1598	3626	97	1795	3647
Grp Volume(v), veh/h	50	186	709	742	183	1415
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1853	1795	1777
Q Serve(g_s), s	2.9	13.7	43.0	43.1	3.6	18.4
Cycle Q Clear(g_c), s	2.9	13.7	43.0	43.1	3.6	18.4
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	244	216	1194	1245	265	2731
V/C Ratio(X)	0.20	0.86	0.59	0.60	0.69	0.52
Avail Cap(c_a), veh/h	397	350	1194	1245	511	2731
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh	46.2	50.8	32.0	32.1	21.1	5.3
Incr Delay (d2), s/veh	0.4	11.7	1.5	1.5	3.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	12.3	20.8	21.7	3.6	5.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.6	62.5	33.6	33.6	24.3	6.1
LnGrp LOS	D	E	C	C	C	A
Approach Vol, veh/h	236		1451			1598
Approach Delay, s/veh	59.1		33.6			8.1
Approach LOS	E		C			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.1		21.9	11.6	86.5
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		20.4		15.7	5.6	45.1
Green Ext Time (p_c), s		15.2		0.5	0.4	5.8
Intersection Summary						
HCM 7th Control Delay, s/veh			23.0			
HCM 7th LOS			C			

Intersection												
Int Delay, s/veh	27.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↖	↗			↕	
Traffic Vol, veh/h	197	314	93	1	212	2	84	23	9	2	25	251
Future Vol, veh/h	197	314	93	1	212	2	84	23	9	2	25	251
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	50	-	0	250	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	85	85	85	88	88	88	85	85	85
Heavy Vehicles, %	3	5	1	0	2	0	5	4	11	0	0	2
Mvmt Flow	246	393	116	1	249	2	95	26	10	2	29	295

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	252	0	0	509	0	0	1151	1139	393	1151	1254	251
Stage 1	-	-	-	-	-	-	885	885	-	253	253	-
Stage 2	-	-	-	-	-	-	266	254	-	898	1001	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.15	6.54	6.31	7.1	6.5	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.15	5.54	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.15	5.54	-	6.1	5.5	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.545	4.036	3.399	3.5	4	3.318
Pot Cap-1 Maneuver	1308	-	-	1067	-	-	172	199	637	177	173	788
Stage 1	-	-	-	-	-	-	335	360	-	756	701	-
Stage 2	-	-	-	-	-	-	732	693	-	337	323	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1308	-	-	1067	-	-	~ 72	162	637	122	141	788
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 72	162	-	122	141	-
Stage 1	-	-	-	-	-	-	272	292	-	755	701	-
Stage 2	-	-	-	-	-	-	438	693	-	245	262	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	2.74	0.04	236.14	21.23
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	72	205	1308	-	-	1067	-	-	542
HCM Lane V/C Ratio	1.326	0.178	0.188	-	-	0.001	-	-	0.603
HCM Ctrl Dly (s/v)	\$ 316.1	26.4	8.4	-	-	8.4	-	-	21.2
HCM Lane LOS	F	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	7.6	0.6	0.7	-	-	0	-	-	4

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

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	1	216	10	5	273
Future Vol, veh/h	8	1	216	10	5	273
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	-	0	-	-	0
Peak Hour Factor	75	75	63	63	88	88
Heavy Vehicles, %	25	0	2	10	0	1
Mvmt Flow	11	1	343	16	6	310











Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	672	351	0	0	359	0
Stage 1	351	-	-	-	-	-
Stage 2	322	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	387	697	-	-	1211	-
Stage 1	665	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	385	697	-	-	1211	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	665	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	14.15	0	0.14
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	405	32
HCM Lane V/C Ratio	-	-	0.03	0.005
HCM Ctrl Dly (s/v)	-	-	14.2	8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

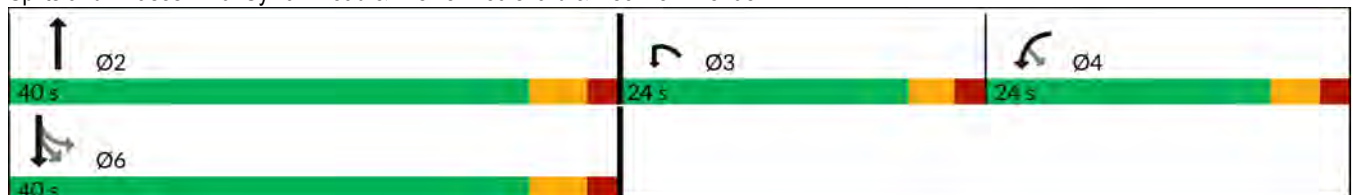
DRI #4430 Sylvan Mixed-Use
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Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations						
Traffic Volume (vph)	32	389	23	25	282	1
Future Volume (vph)	32	389	23	25	282	1
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	17.2	12.8	12.8	12.8	12.8	16.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.8	39.3			39.3	12.8
Actuated g/C Ratio	0.21	0.63			0.63	0.21
v/c Ratio	0.18	0.46			0.40	0.08
Control Delay (s/veh)	6.1	12.5			12.1	0.3
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	6.1	12.5			12.1	0.3
LOS	A	B			B	A
Approach Delay (s/veh)	6.1	12.5			12.1	0.3
Approach LOS	A	B			B	A

Intersection Summary

Cycle Length: 88
 Actuated Cycle Length: 61.9
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay (s/veh): 11.5 Intersection LOS: B
 Intersection Capacity Utilization 78.7% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM

Movement	WBL2	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2	
Lane Configurations													
Traffic Volume (vph)	2	32	22	389	39	5	23	25	282	1	14	6	
Future Volume (vph)	2	32	22	389	39	5	23	25	282	1	14	6	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.2		5.8					5.8	4.9			
Lane Util. Factor		1.00		1.00					1.00	1.00			
Frt		0.95		0.99					1.00	0.87			
Flt Protected		0.97		1.00					0.99	1.00			
Satd. Flow (prot)		1653		1833					1798	1654			
Flt Permitted		0.97		1.00					0.88	1.00			
Satd. Flow (perm)		1653		1833					1585	1654			
Peak-hour factor, PHF	0.74	0.74	0.74	0.81	0.81	0.81	0.83	0.83	0.83	0.66	0.66	0.66	
Adj. Flow (vph)	3	43	30	480	48	6	28	30	340	2	21	9	
RTOR Reduction (vph)	0	66	0	0	0	0	0	0	0	30	0	0	
Lane Group Flow (vph)	0	10	0	534	0	0	0	0	398	2	0	0	
Heavy Vehicles (%)	50%	3%	5%	2%	5%	0%	0%	20%	4%	0%	0%	0%	
Turn Type	Perm	Prot		NA			Perm	Perm	NA	Prot			
Protected Phases		4		2					6	3			
Permitted Phases	4						6	6					
Actuated Green, G (s)		8.8		37.4					37.4	4.0			
Effective Green, g (s)		8.8		37.4					37.4	4.0			
Actuated g/C Ratio		0.13		0.57					0.57	0.06			
Clearance Time (s)		5.2		5.8					5.8	4.9			
Vehicle Extension (s)		3.0		3.0					3.0	3.0			
Lane Grp Cap (vph)		220		1037					896	100			
v/s Ratio Prot				c0.29						c0.00			
v/s Ratio Perm		0.01							0.25				
v/c Ratio		0.05		0.51					0.44	0.02			
Uniform Delay, d1		25.0		8.8					8.3	29.2			
Progression Factor		1.00		1.00					1.00	1.00			
Incremental Delay, d2		0.1		0.4					0.4	0.1			
Delay (s)		25.1		9.2					8.7	29.3			
Level of Service		C		A					A	C			
Approach Delay (s/veh)		25.1		9.2					8.7	29.3			
Approach LOS		C		A					A	C			
Intersection Summary													
HCM 2000 Control Delay (s/veh)			10.8		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.39										
Actuated Cycle Length (s)			66.1		Sum of lost time (s)					15.9			
Intersection Capacity Utilization			78.7%		ICU Level of Service					D			
Analysis Period (min)			15										
c	Critical Lane Group												

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection												
Intersection Delay, s/veh	24											
Intersection LOS	C											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	151	65	44	158	60	59	287	50	35	181	14
Future Vol, veh/h	14	151	65	44	158	60	59	287	50	35	181	14
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.86	0.86	0.86
Heavy Vehicles, %	7	5	9	9	4	2	9	3	6	3	2	0
Mvmt Flow	16	170	73	46	166	63	66	322	56	41	210	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.6	18.8	34.6	17.8
HCM LOS	C	C	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	6%	17%	15%
Vol Thru, %	72%	66%	60%	79%
Vol Right, %	13%	28%	23%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	396	230	262	230
LT Vol	59	14	44	35
Through Vol	287	151	158	181
RT Vol	50	65	60	14
Lane Flow Rate	445	258	276	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.831	0.514	0.551	0.525
Departure Headway (Hd)	6.725	7.161	7.186	7.073
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	543	501	499	508
Service Time	4.725	5.232	5.254	5.142
HCM Lane V/C Ratio	0.82	0.515	0.553	0.526
HCM Control Delay, s/veh	34.6	17.6	18.8	17.8
HCM Lane LOS	D	C	C	C
HCM 95th-tile Q	8.4	2.9	3.3	3

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	2	5	4	13	2	362	9	19	222	4
Future Vol, veh/h	1	4	2	5	4	13	2	362	9	19	222	4
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	79	79	79	95	95	95	83	83	83
Heavy Vehicles, %	0	0	50	0	0	0	50	2	22	0	3	0
Mvmt Flow	2	7	3	6	5	16	2	381	9	23	267	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	703	710	270	707	708	386	272	0	0	391	0	0
Stage 1	316	316	-	390	390	-	-	-	-	-	-	-
Stage 2	388	395	-	317	318	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	6.2	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	355	361	666	353	362	666	1059	-	-	1179	-	-
Stage 1	700	659	-	638	611	-	-	-	-	-	-	-
Stage 2	640	608	-	699	657	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	332	352	666	336	353	666	1059	-	-	1179	-	-
Mov Cap-2 Maneuver	332	352	-	336	353	-	-	-	-	-	-	-
Stage 1	684	644	-	637	610	-	-	-	-	-	-	-
Stage 2	617	607	-	672	642	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	14.22		12.94		0.05		0.63	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	10	-	-	403	481	139	-	-
HCM Lane V/C Ratio	0.002	-	-	0.03	0.058	0.019	-	-
HCM Ctrl Dly (s/v)	8.4	0	-	14.2	12.9	8.1	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

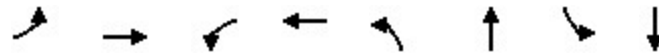
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	38	251	7	9	216	10	5	6	6	14	9	23
Future Vol, veh/h	38	251	7	9	216	10	5	6	6	14	9	23
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.53	0.53	0.53	0.77	0.77	0.77
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	43	285	8	11	254	12	9	11	11	18	12	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	0.6	9.8	8.5	8.6
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	13%	4%	30%
Vol Thru, %	35%	85%	92%	20%
Vol Right, %	35%	2%	4%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	296	235	46
LT Vol	5	38	9	14
Through Vol	6	251	216	9
RT Vol	6	7	10	23
Lane Flow Rate	32	336	276	60
Geometry Grp	1	1	1	1
Degree of Util (X)	0.046	0.415	0.343	0.084
Departure Headway (Hd)	5.184	4.44	4.472	5.052
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	811	805	706
Service Time	3.242	2.47	2.505	3.105
HCM Lane V/C Ratio	0.047	0.414	0.343	0.085
HCM Control Delay, s/veh	8.5	10.6	9.8	8.6
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	2.1	1.5	0.3

Timings
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM

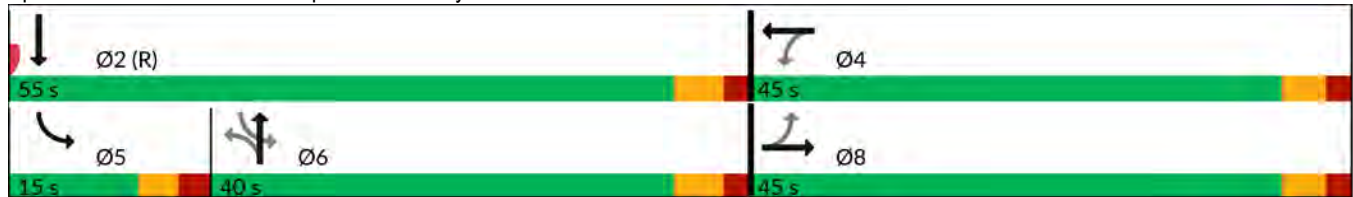


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	139	18	12	13	52	705	34	816
Future Volume (vph)	139	18	12	13	52	705	34	816
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	45.0	45.0	45.0	45.0	40.0	40.0	15.0	55.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	40.0%	40.0%	15.0%	55.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effect Green (s)		23.3		23.3		66.1		66.1
Actuated g/C Ratio		0.23		0.23		0.66		0.66
v/c Ratio		0.76		0.17		0.48		0.53
Control Delay (s/veh)		45.1		16.9		10.7		11.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		45.1		16.9		10.7		11.0
LOS		D		B		B		B
Approach Delay (s/veh)		45.1		16.9		10.7		11.0
Approach LOS		D		B		B		B

Intersection Summary

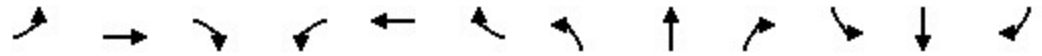
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 61 (61%), Referenced to phase 2:SBT, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 14.9 Intersection LOS: B
 Intersection Capacity Utilization 83.2% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↔			↔			↔			↔			
Traffic Volume (vph)	139	18	73	12	13	23	52	705	5	34	816	168		
Future Volume (vph)	139	18	73	12	13	23	52	705	5	34	816	168		
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		5.2			5.2			5.4			5.4			
Lane Util. Factor		1.00			1.00			0.95			0.95			
Frt		0.96			0.93			1.00			0.98			
Flt Protected		0.97			0.99			1.00			1.00			
Satd. Flow (prot)		1659			1687			3510			3331			
Flt Permitted		0.80			0.91			0.79			0.90			
Satd. Flow (perm)		1369			1554			2789			2987			
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.86	0.86	0.86	0.96	0.96	0.96		
Adj. Flow (vph)	156	20	82	16	17	31	60	820	6	35	850	175		
RTOR Reduction (vph)	0	21	0	0	24	0	0	0	0	0	11	0		
Lane Group Flow (vph)	0	237	0	0	40	0	0	886	0	0	1049	0		
Heavy Vehicles (%)	4%	6%	11%	8%	0%	4%	6%	2%	20%	6%	6%	3%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA			
Protected Phases		8			4			6		5	2			
Permitted Phases	8			4			6			6				
Actuated Green, G (s)		23.3			23.3			66.1			66.1			
Effective Green, g (s)		23.3			23.3			66.1			66.1			
Actuated g/C Ratio		0.23			0.23			0.66			0.66			
Clearance Time (s)		5.2			5.2			5.4			5.4			
Vehicle Extension (s)		3.0			3.0			3.0			3.0			
Lane Grp Cap (vph)		318			362			1843			1974			
v/s Ratio Prot														
v/s Ratio Perm		c0.17			0.03			0.32			c0.35			
v/c Ratio		0.74			0.11			0.48			0.53			
Uniform Delay, d1		35.6			30.2			8.4			8.9			
Progression Factor		1.00			1.00			1.00			1.00			
Incremental Delay, d2		9.1			0.1			0.2			0.3			
Delay (s)		44.7			30.3			8.6			9.1			
Level of Service		D			C			A			A			
Approach Delay (s/veh)		44.7			30.3			8.6			9.1			
Approach LOS		D			C			A			A			
Intersection Summary														
HCM 2000 Control Delay (s/veh)			13.6									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.62											
Actuated Cycle Length (s)			100.0								15.9			
Intersection Capacity Utilization			83.2%										ICU Level of Service	E
Analysis Period (min)			15											
c Critical Lane Group														

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	370	234	0
Future Vol, veh/h	0	0	0	370	234	0
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	0	0	0	402	269	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	671	269	269	0	0
Stage 1	269	-	-	-	-
Stage 2	402	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	425	775	1306	-	-
Stage 1	781	-	-	-	-
Stage 2	680	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	425	775	1306	-	-
Mov Cap-2 Maneuver	425	-	-	-	-
Stage 1	781	-	-	-	-
Stage 2	680	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1306	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	370	234	0
Future Vol, veh/h	0	0	0	370	234	0
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	0	0	0	463	282	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	744	282	282	0	0
Stage 1	282	-	-	-	-
Stage 2	463	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	385	762	1292	-	-
Stage 1	770	-	-	-	-
Stage 2	638	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	385	762	1292	-	-
Mov Cap-2 Maneuver	385	-	-	-	-
Stage 1	770	-	-	-	-
Stage 2	638	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1292	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

2035 NO-BUILD SYNCHRO REPORTS

9: Murphy Avenue & Sylvan Road Performance by approach

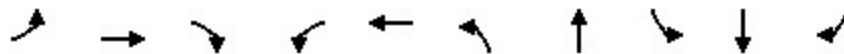
Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.5	182.3	18.3	29.2	99.4

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	77	1436	100	198	154
Average Queue (ft)	5	808	100	115	54
95th Queue (ft)	31	1631	100	179	122
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	3			
Queuing Penalty (veh)	0	18			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		76	50		
Queuing Penalty (veh)		267	106		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM

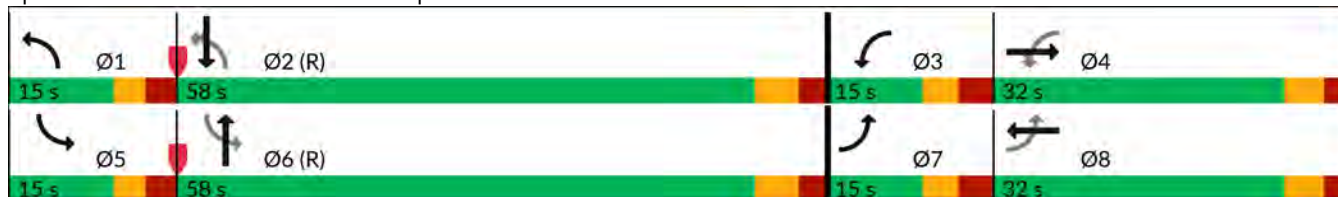


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	209	155	23	50	99	50	1616	98	397	86
Future Volume (vph)	209	155	23	50	99	50	1616	98	397	86
Turn Type	D.P+P	NA	Perm	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4		3	8	1	6	5	2	
Permitted Phases	8		4	4		2		6		2
Detector Phase	7	4	4	3	8	1	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	30.9	11.3	30.9	11.0	27.2	11.0	27.2	27.2
Total Split (s)	15.0	32.0	32.0	15.0	32.0	15.0	58.0	15.0	58.0	58.0
Total Split (%)	12.5%	26.7%	26.7%	12.5%	26.7%	12.5%	48.3%	12.5%	48.3%	48.3%
Yellow Time (s)	3.3	3.6	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	24.8	19.7	19.7	26.1	16.5	72.5	61.5	71.4	65.9	65.9
Actuated g/C Ratio	0.21	0.16	0.16	0.22	0.14	0.60	0.51	0.60	0.55	0.55
v/c Ratio	0.95	0.59	0.07	0.25	0.57	0.10	1.19	0.59	0.22	0.10
Control Delay (s/veh)	88.7	55.9	0.3	35.1	25.3	9.8	120.6	30.0	17.6	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	88.7	55.9	0.3	35.1	25.3	9.8	120.6	30.0	17.6	5.4
LOS	F	E	A	D	C	A	F	C	B	A
Approach Delay (s/veh)		70.4			27.0		117.7		17.9	
Approach LOS		E			C		F		B	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 54 (45%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.19
 Intersection Signal Delay (s/veh): 85.4 Intersection LOS: F
 Intersection Capacity Utilization 96.6% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM

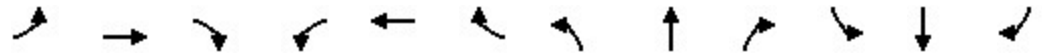


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	209	155	23	50	99	147	50	1616	218	98	397	86
Future Volume (vph)	209	155	23	50	99	147	50	1616	218	98	397	86
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	1712	1468	1736	2977		1687	3438		1543	3438	1495
Flt Permitted	0.41	1.00	1.00	0.51	1.00		0.49	1.00		0.07	1.00	1.00
Satd. Flow (perm)	775	1712	1468	937	2977		877	3438		108	3438	1495
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Adj. Flow (vph)	222	165	24	65	129	191	57	1857	251	103	418	91
RTOR Reduction (vph)	0	0	20	0	146	0	0	7	0	0	0	43
Lane Group Flow (vph)	222	165	4	65	174	0	57	2101	0	103	418	48
Heavy Vehicles (%)	1%	11%	10%	4%	11%	10%	7%	3%	4%	17%	5%	8%
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8		4	4			2			6		2
Actuated Green, G (s)	26.5	19.7	19.7	26.5	17.8		69.5	60.2		69.5	63.5	63.5
Effective Green, g (s)	26.5	19.7	19.7	26.5	17.8		69.5	60.2		69.5	63.5	63.5
Actuated g/C Ratio	0.22	0.16	0.16	0.22	0.15		0.58	0.50		0.58	0.53	0.53
Clearance Time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	244	281	240	252	441		548	1724		173	1819	791
v/s Ratio Prot	c0.07	0.10		0.01	0.06		0.01	c0.61		c0.05	c0.12	
v/s Ratio Perm	c0.13		0.00	0.04			0.05			0.30		0.03
v/c Ratio	0.91	0.59	0.02	0.26	0.39		0.10	1.22		0.60	0.23	0.06
Uniform Delay, d1	43.8	46.4	42.0	37.9	46.2		11.0	29.9		25.4	15.1	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.82	1.12	5.80
Incremental Delay, d2	34.0	3.1	0.0	0.5	0.6		0.1	103.8		5.3	0.3	0.1
Delay (s)	77.8	49.5	42.1	38.5	46.8		11.1	133.7		26.3	17.2	79.8
Level of Service	E	D	D	D	D		B	F		C	B	E
Approach Delay (s/veh)		64.4			45.4			130.5			28.0	
Approach LOS		E			D			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	96.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	155	23	50	99	147	50	1616	218	98	397	86
Future Volume (veh/h)	209	155	23	50	99	147	50	1616	218	98	397	86
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	222	165	0	65	129	0	57	1857	251	103	418	0
Peak Hour Factor	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	252	199		163	284		684	1877	248	126	2103	
Arrive On Green	0.07	0.11	0.00	0.04	0.09	0.00	0.04	0.60	0.60	0.08	1.00	0.00
Sat Flow, veh/h	1795	1737	1485	1753	3387	0	1711	3130	414	1570	3469	1510
Grp Volume(v), veh/h	222	165	0	65	129	0	57	1027	1081	103	418	0
Grp Sat Flow(s),veh/h/ln	1795	1737	1485	1753	1650	0	1711	1763	1781	1570	1735	1510
Q Serve(g_s), s	8.7	11.1	0.0	3.9	4.5	0.0	1.5	67.0	72.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	8.7	11.1	0.0	3.9	4.5	0.0	1.5	67.0	72.0	3.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	252	199		163	284		684	1057	1068	126	2103	
V/C Ratio(X)	0.88	0.83		0.40	0.45		0.08	0.97	1.01	0.82	0.20	
Avail Cap(c_a), veh/h	252	378		213	718		758	1057	1068	183	2103	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	50.6	52.0	0.0	44.7	52.2	0.0	8.0	23.0	24.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	28.1	8.4	0.0	1.6	1.1	0.0	0.1	21.6	30.5	16.8	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	5.3	0.0	1.8	1.9	0.0	0.5	31.0	35.8	2.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	78.7	60.4	0.0	46.3	53.3	0.0	8.0	44.6	54.5	45.4	0.2	0.0
LnGrp LOS	E	E		D	D		A	D	F	D	A	
Approach Vol, veh/h		387			194			2165			521	
Approach Delay, s/veh		70.9			50.9			48.6			9.1	
Approach LOS		E			D			D			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	78.9	11.5	19.7	10.6	78.2	15.0	16.2				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	51.8	8.7	26.1	9.4	51.8	8.7	26.1				
Max Q Clear Time (g_c+I1), s	3.5	2.0	5.9	13.1	5.1	74.0	10.7	6.5				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.6	0.1	0.0	0.0	0.7				

Intersection Summary		
HCM 7th Control Delay, s/veh		45.1
HCM 7th LOS		D

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

Timings
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	128	43	1877	492
Future Volume (vph)	128	43	1877	492
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	26.0	94.0	94.0	94.0
Total Split (%)	21.7%	78.3%	78.3%	78.3%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	18.4		89.4	89.4
Actuated g/C Ratio	0.15		0.75	0.75
v/c Ratio	0.82		0.84	0.18
Control Delay (s/veh)	68.2		11.8	4.4
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	68.2		11.8	4.4
LOS	E		B	A
Approach Delay (s/veh)	68.2		11.8	4.4
Approach LOS	E		B	A

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 90 (75%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay (s/veh): 14.7
 Intersection LOS: B
 Intersection Capacity Utilization 90.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Lee Street & Avon Avenue



HCM Signalized Intersection Capacity Analysis
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑↑	↑↑↑	
Traffic Volume (vph)	128	55	43	1877	492	49
Future Volume (vph)	128	55	43	1877	492	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.96			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1737			3499	4790	
Flt Permitted	0.97			0.92	1.00	
Satd. Flow (perm)	1737			3207	4790	
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.84	0.84
Adj. Flow (vph)	160	69	45	1955	586	58
RTOR Reduction (vph)	14	0	0	0	9	0
Lane Group Flow (vph)	215	0	0	2000	635	0
Heavy Vehicles (%)	2%	0%	5%	3%	7%	5%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	18.4			89.4	89.4	
Effective Green, g (s)	18.4			89.4	89.4	
Actuated g/C Ratio	0.15			0.75	0.75	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	266			2389	3568	
v/s Ratio Prot	c0.12				0.13	
v/s Ratio Perm				c0.62		
v/c Ratio	0.81			0.84	0.18	
Uniform Delay, d1	49.1			10.4	4.5	
Progression Factor	1.00			1.00	0.97	
Incremental Delay, d2	16.4			0.3	0.1	
Delay (s)	65.6			10.7	4.5	
Level of Service	E			B	A	
Approach Delay (s/veh)	65.6			10.7	4.5	
Approach LOS	E			B	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑↑	↑↑↓	
Traffic Volume (veh/h)	128	55	43	1877	492	49
Future Volume (veh/h)	128	55	43	1877	492	49
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	160	69	45	1955	586	58
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	179	77	71	2497	3399	333
Arrive On Green	0.15	0.15	1.00	1.00	0.75	0.75
Sat Flow, veh/h	1195	515	53	3419	4702	445
Grp Volume(v), veh/h	230	0	1073	927	420	224
Grp Sat Flow(s),veh/h/ln	1718	0	1783	1604	1635	1716
Q Serve(g_s), s	15.8	0.0	0.0	0.0	4.4	4.5
Cycle Q Clear(g_c), s	15.8	0.0	0.0	0.0	4.4	4.5
Prop In Lane	0.70	0.30	0.04			0.26
Lane Grp Cap(c), veh/h	257	0	1366	1201	2448	1285
V/C Ratio(X)	0.89	0.00	0.79	0.77	0.17	0.17
Avail Cap(c_a), veh/h	295	0	1366	1201	2448	1285
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.98	0.98
Uniform Delay (d), s/veh	50.1	0.0	0.0	0.0	4.3	4.4
Incr Delay (d2), s/veh	25.4	0.0	0.4	0.5	0.1	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	0.2	0.2	1.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	75.5	0.0	0.4	0.5	4.5	4.6
LnGrp LOS	E		A	A	A	A
Approach Vol, veh/h	230			2000	644	
Approach Delay, s/veh	75.5			0.4	4.5	
Approach LOS	E			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		96.6			96.6	23.4
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		87.2			87.2	20.6
Max Q Clear Time (g_c+I1), s		6.5			2.0	17.8
Green Ext Time (p_c), s		4.4			33.6	0.2
Intersection Summary						
HCM 7th Control Delay, s/veh			7.4			
HCM 7th LOS			A			

Timings
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↶	↷	↕	↶	↕
Traffic Volume (vph)	20	251	1922	89	511
Future Volume (vph)	20	251	1922	89	511
Turn Type	Prot	Perm	NA	D,P+P	NA
Protected Phases	4		6	5	2
Permitted Phases		4		6	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	8.0	12.0	6.0	12.0
Minimum Split (s)	23.7	23.7	31.9	11.6	17.9
Total Split (s)	25.0	25.0	82.0	13.0	95.0
Total Split (%)	20.8%	20.8%	68.3%	10.8%	79.2%
Yellow Time (s)	4.1	4.1	4.0	3.0	4.0
All-Red Time (s)	1.6	1.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.9	5.6	5.9
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	16.9	16.9	78.7	86.2	91.5
Actuated g/C Ratio	0.14	0.14	0.66	0.72	0.76
v/c Ratio	0.09	0.88	0.94	0.70	0.25
Control Delay (s/veh)	44.1	58.6	18.7	44.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.1	58.6	18.7	44.9	4.7
LOS	D	E	B	D	A
Approach Delay (s/veh)	57.5		18.7		10.7
Approach LOS	E		B		B

Intersection Summary














Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 103 (86%), Referenced to phase 2:SBT and 6:NBSB, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay (s/veh): 20.4 Intersection LOS: C
 Intersection Capacity Utilization 80.4% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



HCM Signalized Intersection Capacity Analysis
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	20	251	1922	40	89	511
Future Volume (vph)	20	251	1922	40	89	511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1568	3463		1719	3438
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1805	1568	3463		92	3438
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.78	0.78
Adj. Flow (vph)	22	276	2089	43	114	655
RTOR Reduction (vph)	0	93	1	0	0	0
Lane Group Flow (vph)	22	183	2131	0	114	655
Heavy Vehicles (%)	0%	3%	4%	0%	5%	5%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		6		5	2
Permitted Phases		4			6	
Actuated Green, G (s)	16.9	16.9	78.7		85.9	91.5
Effective Green, g (s)	16.9	16.9	78.7		85.9	91.5
Actuated g/C Ratio	0.14	0.14	0.66		0.72	0.76
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	254	220	2271		163	2621
v/s Ratio Prot	0.01		c0.62		c0.04	0.19
v/s Ratio Perm		c0.12			0.46	
v/c Ratio	0.09	0.83	0.94		0.70	0.25
Uniform Delay, d1	44.8	50.2	18.5		31.4	4.2
Progression Factor	1.00	1.00	0.64		1.00	1.00
Incremental Delay, d2	0.1	22.8	5.4		12.3	0.2
Delay (s)	45.0	72.9	17.2		43.7	4.4
Level of Service	D	E	B		D	A
Approach Delay (s/veh)	70.9		17.2			10.2
Approach LOS	E		B			B
Intersection Summary						
HCM 2000 Control Delay (s/veh)			20.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.90			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.2
Intersection Capacity Utilization			80.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	251	1922	40	89	511
Future Volume (veh/h)	20	251	1922	40	89	511
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	22	276	2089	43	114	655
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	291	253	2267	47	264	2576
Arrive On Green	0.16	0.16	1.00	1.00	0.05	0.74
Sat Flow, veh/h	1810	1572	3597	72	1739	3561
Grp Volume(v), veh/h	22	276	1039	1093	114	655
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1828	1739	1735
Q Serve(g_s), s	1.2	19.3	0.0	0.0	2.6	7.2
Cycle Q Clear(g_c), s	1.2	19.3	0.0	0.0	2.6	7.2
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	291	253	1131	1182	264	2576
V/C Ratio(X)	0.08	1.09	0.92	0.92	0.43	0.25
Avail Cap(c_a), veh/h	291	253	1131	1182	287	2576
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.44	0.44	1.00	1.00
Uniform Delay (d), s/veh	42.8	50.3	0.0	0.0	5.9	4.9
Incr Delay (d2), s/veh	0.1	83.1	6.6	6.8	1.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	21.3	2.1	2.2	0.9	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	42.9	133.5	6.6	6.8	7.1	5.1
LnGrp LOS	D	F	A	A	A	A
Approach Vol, veh/h	298		2132			769
Approach Delay, s/veh	126.8		6.7			5.4
Approach LOS	F		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		95.0		25.0	11.5	83.5
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		89.1		19.3	7.4	76.1
Max Q Clear Time (g_c+I1), s		9.2		21.3	4.6	2.0
Green Ext Time (p_c), s		4.9		0.0	0.1	36.7
Intersection Summary						
HCM 7th Control Delay, s/veh			17.6			
HCM 7th LOS			B			

Intersection												
Intersection Delay, s/veh	69.9											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	319	157	80	6	147	10	124	44	4	3	6	27
Future Vol, veh/h	319	157	80	6	147	10	124	44	4	3	6	27
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.77	0.77	0.77	0.62	0.62	0.62
Heavy Vehicles, %	4	13	18	20	11	0	11	5	0	33	20	8
Mvmt Flow	443	218	111	7	171	12	161	57	5	5	10	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	10.3	12.6	15	11.4
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	72%	57%	4%	8%
Vol Thru, %	26%	28%	90%	17%
Vol Right, %	2%	14%	6%	75%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	556	163	36
LT Vol	124	319	6	3
Through Vol	44	157	147	6
RT Vol	4	80	10	27
Lane Flow Rate	223	772	190	58
Geometry Grp	1	1	1	1
Degree of Util (X)	0.415	1.149	0.324	0.112
Departure Headway (Hd)	7.061	5.357	6.491	7.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	514	687	557	486
Service Time	5.061	3.357	4.491	5.422
HCM Lane V/C Ratio	0.434	1.124	0.341	0.119
HCM Control Delay, s/veh	15	104.3	12.6	11.4
HCM Lane LOS	B	F	B	B
HCM 95th-tile Q	2	24.4	1.4	0.4

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	3	0	362	3	9	33
Future Vol, veh/h	3	0	362	3	9	33
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	-	0	-	-	0
Peak Hour Factor	38	38	61	61	59	59
Heavy Vehicles, %	67	0	4	33	0	3
Mvmt Flow	8	0	593	5	15	56











Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	682	596	0	0	598	0
Stage 1	596	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	7.07	6.2	-	-	4.1	-
Critical Hdwy Stg 1	6.07	-	-	-	-	-
Critical Hdwy Stg 2	6.07	-	-	-	-	-
Follow-up Hdwy	4.103	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	331	507	-	-	988	-
Stage 1	443	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	325	507	-	-	988	-
Mov Cap-2 Maneuver	325	-	-	-	-	-
Stage 1	443	-	-	-	-	-
Stage 2	784	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	16.34	0	1.86
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	325	386
HCM Lane V/C Ratio	-	-	0.024	0.015
HCM Ctrl Dly (s/v)	-	-	16.3	8.7
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

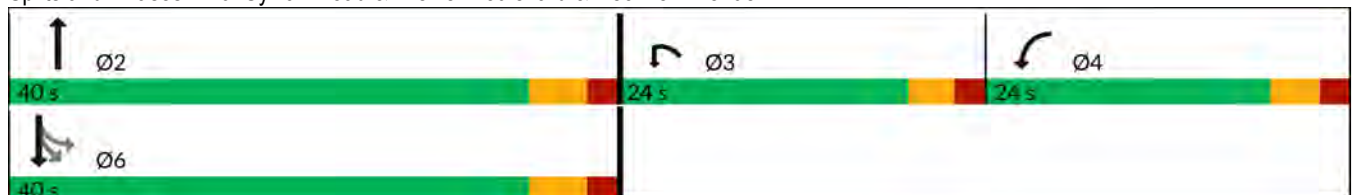
DRI #4430 Sylvan Mixed-Use
2035 No-Build AM

						
Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations						
Traffic Volume (vph)	21	572	9	11	141	2
Future Volume (vph)	21	572	9	11	141	2
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	21.2	23.8	23.8	23.8	23.8	22.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.2	42.8			42.8	12.2
Actuated g/C Ratio	0.18	0.61			0.61	0.18
v/c Ratio	0.12	0.66			0.18	0.22
Control Delay (s/veh)	1.6	19.2			11.1	6.2
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	1.6	19.2			11.1	6.2
LOS	A	B			B	A
Approach Delay (s/veh)	1.6	19.2			11.1	6.2
Approach LOS	A	B			B	A

Intersection Summary
















Cycle Length: 88
 Actuated Cycle Length: 69.7
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 16.0 Intersection LOS: B
 Intersection Capacity Utilization 65.3% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM

												
Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2	
Lane Configurations												
Traffic Volume (vph)	21	14	572	29	3	9	11	141	2	21	24	
Future Volume (vph)	21	14	572	29	3	9	11	141	2	21	24	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.2		5.8					5.8	4.9			
Lane Util. Factor	1.00		1.00					1.00	1.00			
Frt	0.94		0.99					1.00	0.87			
Flt Protected	0.97		1.00					0.99	1.00			
Satd. Flow (prot)	1641		1818					1879	1573			
Flt Permitted	0.97		1.00					0.89	1.00			
Satd. Flow (perm)	1641		1818					1691	1573			
Peak-hour factor, PHF	0.80	0.80	0.82	0.82	0.82	0.87	0.87	0.87	0.60	0.60	0.60	
Adj. Flow (vph)	26	18	698	35	4	10	13	162	3	35	40	
RTOR Reduction (vph)	40	0	0	0	0	0	0	0	68	0	0	
Lane Group Flow (vph)	4	0	737	0	0	0	0	185	10	0	0	
Heavy Vehicles (%)	5%	8%	4%	0%	0%	0%	7%	0%	0%	11%	0%	
Turn Type	Prot		NA			Perm	Perm	NA	Prot			
Protected Phases	4		2					6	3			
Permitted Phases						6	6					
Actuated Green, G (s)	6.8		41.3					41.3	9.1			
Effective Green, g (s)	6.8		41.3					41.3	9.1			
Actuated g/C Ratio	0.09		0.56					0.56	0.12			
Clearance Time (s)	5.2		5.8					5.8	4.9			
Vehicle Extension (s)	3.0		3.0					3.0	3.0			
Lane Grp Cap (vph)	152		1027					955	195			
v/s Ratio Prot	c0.00		c0.41						c0.01			
v/s Ratio Perm								0.11				
v/c Ratio	0.03		0.72					0.19	0.05			
Uniform Delay, d1	30.1		11.6					7.8	28.2			
Progression Factor	1.00		1.00					1.00	1.00			
Incremental Delay, d2	0.1		2.4					0.1	0.1			
Delay (s)	30.2		14.1					7.9	28.3			
Level of Service	C		B					A	C			
Approach Delay (s/veh)	30.2		14.1					7.9	28.3			
Approach LOS	C		B					A	C			
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.7								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			73.1								Sum of lost time (s)	15.9
Intersection Capacity Utilization			65.3%								ICU Level of Service	C
Analysis Period (min)			15									
c	Critical Lane Group											

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection	
Intersection Delay, s/veh	32
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	123	38	53	117	68	34	431	34	23	87	4
Future Vol, veh/h	8	123	38	53	117	68	34	431	34	23	87	4
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88	0.79	0.79	0.79
Heavy Vehicles, %	14	11	18	6	12	2	13	4	3	10	11	25
Mvmt Flow	9	132	41	64	141	82	39	490	39	29	110	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	14	16.9	50.3	12.7
HCM LOS	B	C	F	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	5%	22%	20%
Vol Thru, %	86%	73%	49%	76%
Vol Right, %	7%	22%	29%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	499	169	238	114
LT Vol	34	8	53	23
Through Vol	431	123	117	87
RT Vol	34	38	68	4
Lane Flow Rate	567	182	287	144
Geometry Grp	1	1	1	1
Degree of Util (X)	0.951	0.355	0.527	0.278
Departure Headway (Hd)	6.037	7.027	6.615	6.946
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	601	511	545	515
Service Time	4.085	5.097	4.677	5.023
HCM Lane V/C Ratio	0.943	0.356	0.527	0.28
HCM Control Delay, s/veh	50.3	14	16.9	12.7
HCM Lane LOS	F	B	C	B
HCM 95th-tile Q	12.8	1.6	3.1	1.1

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	4	1	4	1	17	2	535	7	14	96	0
Future Vol, veh/h	7	4	1	4	1	17	2	535	7	14	96	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	34	34	34	83	83	83	84	84	84	81	81	81
Heavy Vehicles, %	0	0	100	25	0	0	100	3	0	0	7	0
Mvmt Flow	21	12	3	5	1	20	2	637	8	17	119	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	795	803	119	805	799	641	119	0	0	645	0	0
Stage 1	153	153	-	646	646	-	-	-	-	-	-	-
Stage 2	642	650	-	159	153	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	7.2	7.35	6.5	6.2	5.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	4.2	3.725	4	3.3	3.1	-	-	2.2	-	-
Pot Cap-1 Maneuver	308	319	724	275	321	478	1033	-	-	950	-	-
Stage 1	854	775	-	424	470	-	-	-	-	-	-	-
Stage 2	466	468	-	792	775	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	287	312	724	258	314	478	1033	-	-	950	-	-
Mov Cap-2 Maneuver	287	312	-	258	314	-	-	-	-	-	-	-
Stage 1	837	760	-	423	468	-	-	-	-	-	-	-
Stage 2	443	466	-	761	760	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	18.07		14.49		0.03		1.13	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	7	-	-	311	406	229	-	-
HCM Lane V/C Ratio	0.002	-	-	0.114	0.065	0.018	-	-
HCM Ctrl Dly (s/v)	8.5	0	-	18.1	14.5	8.9	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.2	0.1	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

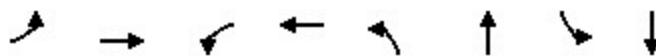
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	179	2	3	189	11	7	12	9	12	8	17
Future Vol, veh/h	17	179	2	3	189	11	7	12	9	12	8	17
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.63	0.63	0.63	0.83	0.83	0.83
Heavy Vehicles, %	0	7	0	0	9	0	0	0	0	0	0	0
Mvmt Flow	19	203	2	4	225	13	11	19	14	14	10	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.1	9.1	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	9%	1%	32%
Vol Thru, %	43%	90%	93%	22%
Vol Right, %	32%	1%	5%	46%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	198	203	37
LT Vol	7	17	3	12
Through Vol	12	179	189	8
RT Vol	9	2	11	17
Lane Flow Rate	44	225	242	45
Geometry Grp	1	1	1	1
Degree of Util (X)	0.06	0.274	0.29	0.059
Departure Headway (Hd)	4.842	4.38	4.325	4.775
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	739	821	831	749
Service Time	2.874	2.399	2.344	2.807
HCM Lane V/C Ratio	0.06	0.274	0.291	0.06
HCM Control Delay, s/veh	8.2	9.1	9.1	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1.1	1.2	0.2

Timings
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	177	11	10	7	50	1265	17	321
Future Volume (vph)	177	11	10	7	50	1265	17	321
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	40.0	40.0	40.0	40.0	45.0	45.0	15.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)		24.5		24.5		64.9		64.9
Actuated g/C Ratio		0.25		0.25		0.65		0.65
v/c Ratio		0.76		0.17		0.78		0.26
Control Delay (s/veh)		47.1		12.6		17.7		7.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		47.1		12.6		17.7		7.7
LOS		D		B		B		A
Approach Delay (s/veh)		47.1		12.6		17.7		7.7
Approach LOS		D		B		B		A

Intersection Summary	
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	97 (97%), Referenced to phase 2:SBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	18.8
Intersection LOS:	B
Intersection Capacity Utilization:	82.9%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	177	11	53	10	7	34	50	1265	4	17	321	105
Future Volume (vph)	177	11	53	10	7	34	50	1265	4	17	321	105
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2			5.2			5.4			5.4	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.97			0.91			1.00			0.96	
Flt Protected		0.96			0.99			1.00			1.00	
Satd. Flow (prot)		1652			1569			3455			3161	
Flt Permitted		0.77			0.93			0.91			0.86	
Satd. Flow (perm)		1322			1472			3151			2727	
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.83	0.83	0.83	0.96	0.96	0.96
Adj. Flow (vph)	188	12	56	13	9	44	60	1524	5	18	334	109
RTOR Reduction (vph)	0	11	0	0	33	0	0	0	0	0	23	0
Lane Group Flow (vph)	0	245	0	0	33	0	0	1589	0	0	438	0
Heavy Vehicles (%)	8%	20%	4%	11%	17%	7%	11%	4%	0%	27%	8%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)		24.5			24.5			64.9			64.9	
Effective Green, g (s)		24.5			24.5			64.9			64.9	
Actuated g/C Ratio		0.25			0.25			0.65			0.65	
Clearance Time (s)		5.2			5.2			5.4			5.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		323			360			2044			1769	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.02			c0.50			0.16	
v/c Ratio		0.76			0.09			0.78			0.25	
Uniform Delay, d1		35.0			29.2			12.4			7.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.7			0.1			1.9			0.1	
Delay (s)		44.7			29.3			14.4			7.4	
Level of Service		D			C			B			A	
Approach Delay (s/veh)		44.7			29.3			14.4			7.4	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			16.7									B
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			100.0						15.9			
Intersection Capacity Utilization			82.9%									E
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	517	117	0
Future Vol, veh/h	0	0	0	517	117	0
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	0	0	0	646	141	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	787	141	141	0	0
Stage 1	141	-	-	-	-
Stage 2	646	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	363	912	1455	-	-
Stage 1	891	-	-	-	-
Stage 2	525	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	363	912	1455	-	-
Mov Cap-2 Maneuver	363	-	-	-	-
Stage 1	891	-	-	-	-
Stage 2	525	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1455	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			L		R
Traffic Vol, veh/h	0	0	0	517	117	0
Future Vol, veh/h	0	0	0	517	117	0
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	0	0	0	562	127	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	689	127	127	0	0
Stage 1	127	-	-	-	-
Stage 2	562	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	415	928	1471	-	-
Stage 1	904	-	-	-	-
Stage 2	575	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	415	928	1471	-	-
Mov Cap-2 Maneuver	415	-	-	-	-
Stage 1	904	-	-	-	-
Stage 2	575	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1471	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

9: Murphy Avenue & Sylvan Road Performance by approach

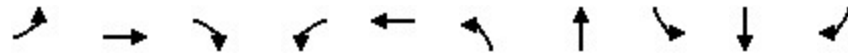
Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.4	60.1	32.0	58.8	40.2

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	30	607	100	350	352
Average Queue (ft)	12	272	93	154	168
95th Queue (ft)	35	552	118	276	321
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		73	27		
Queuing Penalty (veh)		177	57		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↕	↖	↕	↖	↕	↗
Traffic Volume (vph)	182	190	44	162	221	105	1026	233	1043	264
Future Volume (vph)	182	190	44	162	221	105	1026	233	1043	264
Turn Type	D.P+P	NA	Perm	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4		3	8	1	6	5	2	
Permitted Phases	8		4	4		2		6		2
Detector Phase	7	4	4	3	8	1	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	30.9	11.3	30.9	10.6	27.2	10.6	27.2	27.2
Total Split (s)	20.0	38.0	38.0	15.0	33.0	15.0	52.0	15.0	52.0	52.0
Total Split (%)	16.7%	31.7%	31.7%	12.5%	27.5%	12.5%	43.3%	12.5%	43.3%	43.3%
Yellow Time (s)	3.3	3.6	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	30.7	22.1	22.1	30.7	17.9	65.5	45.5	65.5	55.8	55.8
Actuated g/C Ratio	0.26	0.18	0.18	0.26	0.15	0.55	0.38	0.55	0.47	0.47
v/c Ratio	0.80	0.66	0.12	0.69	0.76	0.44	0.95	0.73	0.69	0.34
Control Delay (s/veh)	55.2	54.4	0.6	46.5	38.1	17.9	52.1	53.1	22.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	54.4	0.6	46.5	38.1	17.9	52.1	53.1	22.8	8.6
LOS	E	D	A	D	D	B	D	D	C	A
Approach Delay (s/veh)		49.1			40.4		49.3		25.0	
Approach LOS		D			D		D		C	

Intersection Summary

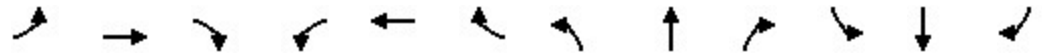
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 117 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay (s/veh): 38.1
 Intersection LOS: D
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM

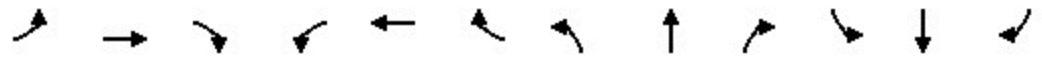


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	190	44	162	221	198	105	1026	151	233	1043	264
Future Volume (vph)	182	190	44	162	221	198	105	1026	151	233	1043	264
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1759	1568	1752	3269		1787	3471		1752	3539	1615
Flt Permitted	0.22	1.00	1.00	0.42	1.00		0.14	1.00		0.09	1.00	1.00
Satd. Flow (perm)	416	1759	1568	775	3269		255	3471		162	3539	1615
Peak-hour factor, PHF	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	204	213	49	186	254	228	113	1103	162	253	1134	287
RTOR Reduction (vph)	0	0	40	0	151	0	0	10	0	0	0	87
Lane Group Flow (vph)	204	213	9	186	331	0	113	1255	0	253	1134	200
Heavy Vehicles (%)	2%	8%	3%	3%	4%	1%	1%	2%	2%	3%	2%	0%
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8		4	4			2			6		2
Actuated Green, G (s)	31.1	22.1	22.1	31.1	17.9		64.9	45.5		64.9	55.8	55.8
Effective Green, g (s)	31.1	22.1	22.1	31.1	17.9		64.9	45.5		64.9	55.8	55.8
Actuated g/C Ratio	0.26	0.18	0.18	0.26	0.15		0.54	0.38		0.54	0.47	0.47
Clearance Time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	256	323	288	274	487		254	1316		344	1645	750
v/s Ratio Prot	c0.09	0.12		0.05	0.10		0.03	c0.36		c0.12	c0.32	
v/s Ratio Perm	c0.12		0.01	c0.12			0.21			0.28		0.12
v/c Ratio	0.80	0.66	0.03	0.68	0.68		0.44	0.95		0.74	0.69	0.27
Uniform Delay, d1	37.8	45.5	40.2	38.1	48.3		17.1	36.2		31.4	25.3	19.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.45	0.76	0.77
Incremental Delay, d2	15.7	4.8	0.0	6.5	3.9		1.2	16.0		7.4	2.2	0.8
Delay (s)	53.5	50.3	40.2	44.6	52.2		18.4	52.2		52.8	21.4	15.9
Level of Service	D	D	D	D	D		B	D		D	C	B
Approach Delay (s/veh)		50.6			50.1			49.4			25.2	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	88.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	190	44	162	221	198	105	1026	151	233	1043	264
Future Volume (veh/h)	182	190	44	162	221	198	105	1026	151	233	1043	264
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	204	213	0	186	254	0	113	1103	162	253	1134	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	296	252		217	349		303	1579	231	301	1926	
Arrive On Green	0.11	0.14	0.00	0.07	0.10	0.00	0.04	0.51	0.51	0.08	0.54	0.00
Sat Flow, veh/h	1781	1781	1572	1767	3589	0	1795	3110	456	1767	3554	1610
Grp Volume(v), veh/h	204	213	0	186	254	0	113	629	636	253	1134	0
Grp Sat Flow(s),veh/h/ln	1781	1781	1572	1767	1749	0	1795	1777	1788	1767	1777	1610
Q Serve(g_s), s	12.2	14.0	0.0	8.7	8.5	0.0	3.3	32.4	32.6	8.3	25.8	0.0
Cycle Q Clear(g_c), s	12.2	14.0	0.0	8.7	8.5	0.0	3.3	32.4	32.6	8.3	25.8	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	296	252		217	349		303	902	908	301	1926	
V/C Ratio(X)	0.69	0.85		0.86	0.73		0.37	0.70	0.70	0.84	0.59	
Avail Cap(c_a), veh/h	296	477		217	790		364	902	908	301	1926	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.90	0.90	0.00
Uniform Delay (d), s/veh	42.2	50.2	0.0	45.1	52.4	0.0	14.5	22.5	22.6	21.7	18.5	0.0
Incr Delay (d2), s/veh	6.6	7.6	0.0	27.3	2.9	0.0	0.8	4.5	4.5	17.1	1.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	6.7	0.0	3.1	3.9	0.0	1.3	13.9	14.0	4.9	10.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.8	57.9	0.0	72.4	55.4	0.0	15.3	27.0	27.0	38.8	19.7	0.0
LnGrp LOS	D	E		E	E		B	C	C	D	B	
Approach Vol, veh/h		417			440			1378			1387	
Approach Delay, s/veh		53.4			62.6			26.0			23.2	
Approach LOS		D			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	71.2	15.0	22.9	15.0	67.1	20.0	17.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	45.8	8.7	32.1	9.4	45.8	13.7	27.1				
Max Q Clear Time (g_c+I1), s	5.3	27.8	10.7	16.0	10.3	34.6	14.2	10.5				
Green Ext Time (p_c), s	0.1	7.5	0.0	1.0	0.0	6.0	0.0	1.5				

Intersection Summary												
HCM 7th Control Delay, s/veh			32.5									
HCM 7th LOS			C									

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

HCM Signalized Intersection Capacity Analysis
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	55	57	1343	1495	113
Future Volume (vph)	87	55	57	1343	1495	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.95			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1747			3535	5039	
Flt Permitted	0.97			0.71	1.00	
Satd. Flow (perm)	1747			2523	5039	
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.94	0.94
Adj. Flow (vph)	92	58	62	1460	1590	120
RTOR Reduction (vph)	22	0	0	0	4	0
Lane Group Flow (vph)	128	0	0	1522	1706	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	14.0			93.8	93.8	
Effective Green, g (s)	14.0			93.8	93.8	
Actuated g/C Ratio	0.12			0.78	0.78	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	203			1972	3938	
v/s Ratio Prot	c0.07				0.34	
v/s Ratio Perm				c0.60		
v/c Ratio	0.63			0.77	0.43	
Uniform Delay, d1	50.5			7.2	4.3	
Progression Factor	1.00			1.60	1.28	
Incremental Delay, d2	6.2			1.4	0.3	
Delay (s)	56.8			12.9	5.9	
Level of Service	E			B	A	
Approach Delay (s/veh)	56.8			12.9	5.9	
Approach LOS	E			B	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			11.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.2
Intersection Capacity Utilization			94.2%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue














DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	55	57	1343	1495	113
Future Volume (veh/h)	87	55	57	1343	1495	113
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	92	58	62	1460	1590	120
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	110	70	100	2324	3843	290
Arrive On Green	0.10	0.10	1.00	1.00	0.79	0.79
Sat Flow, veh/h	1053	664	85	3014	5012	365
Grp Volume(v), veh/h	151	0	736	786	1117	593
Grp Sat Flow(s),veh/h/ln	1728	0	1397	1617	1702	1805
Q Serve(g_s), s	10.3	0.0	0.0	0.0	12.1	12.1
Cycle Q Clear(g_c), s	10.3	0.0	0.0	0.0	12.1	12.1
Prop In Lane	0.61	0.38	0.08			0.20
Lane Grp Cap(c), veh/h	181	0	1141	1283	2701	1432
V/C Ratio(X)	0.83	0.00	0.65	0.61	0.41	0.41
Avail Cap(c_a), veh/h	426	0	1141	1283	2701	1432
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.25	0.25	0.83	0.83
Uniform Delay (d), s/veh	52.7	0.0	0.0	0.0	3.8	3.8
Incr Delay (d2), s/veh	9.5	0.0	0.7	0.6	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.2	0.2	3.1	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	62.2	0.0	0.7	0.6	4.2	4.5
LnGrp LOS	E		A	A	A	A
Approach Vol, veh/h	151			1522	1710	
Approach Delay, s/veh	62.2			0.6	4.3	
Approach LOS	E			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		102.0			102.0	18.0
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.2			78.2	29.6
Max Q Clear Time (g_c+I1), s		14.1			2.0	12.3
Green Ext Time (p_c), s		18.7			20.1	0.4
Intersection Summary						
HCM 7th Control Delay, s/veh			5.2			
HCM 7th LOS			A			

HCM Signalized Intersection Capacity Analysis
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	47	177	1435	40	190	1469
Future Volume (vph)	47	177	1435	40	190	1469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1599	3527		1787	3539
Flt Permitted	0.95	1.00	1.00		0.09	1.00
Satd. Flow (perm)	1805	1599	3527		175	3539
Peak-hour factor, PHF	0.86	0.86	0.92	0.92	0.94	0.94
Adj. Flow (vph)	55	206	1560	43	202	1563
RTOR Reduction (vph)	0	189	1	0	0	0
Lane Group Flow (vph)	55	17	1602	0	202	1563
Heavy Vehicles (%)	0%	1%	2%	0%	1%	2%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4			2	
Actuated Green, G (s)	9.9	9.9	80.2		98.5	98.5
Effective Green, g (s)	9.9	9.9	80.2		98.5	98.5
Actuated g/C Ratio	0.08	0.08	0.67		0.82	0.82
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	148	131	2357		314	2904
v/s Ratio Prot	c0.03		c0.45		0.07	c0.44
v/s Ratio Perm		0.01			0.46	
v/c Ratio	0.37	0.13	0.68		0.64	0.54
Uniform Delay, d1	52.1	51.1	12.1		19.5	3.5
Progression Factor	1.00	1.00	1.09		1.00	1.00
Incremental Delay, d2	1.6	0.5	1.1		4.5	0.7
Delay (s)	53.7	51.5	14.3		24.0	4.2
Level of Service	D	D	B		C	A
Approach Delay (s/veh)	52.0		14.3			6.4
Approach LOS	D		B			A
Intersection Summary						
HCM 2000 Control Delay (s/veh)			13.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.2
Intersection Capacity Utilization			72.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	47	177	1435	40	190	1469
Future Volume (veh/h)	47	177	1435	40	190	1469
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	55	206	1560	43	202	1563
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	267	235	2310	64	238	2686
Arrive On Green	0.15	0.15	0.22	0.22	0.06	0.76
Sat Flow, veh/h	1810	1598	3626	97	1795	3647
Grp Volume(v), veh/h	55	206	783	820	202	1563
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1853	1795	1777
Q Serve(g_s), s	3.2	15.1	48.5	48.8	4.2	23.0
Cycle Q Clear(g_c), s	3.2	15.1	48.5	48.8	4.2	23.0
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	267	235	1162	1212	238	2686
V/C Ratio(X)	0.21	0.87	0.67	0.68	0.85	0.58
Avail Cap(c_a), veh/h	397	350	1162	1212	474	2686
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.56	0.56	1.00	1.00
Uniform Delay (d), s/veh	45.0	50.1	35.3	35.4	26.2	6.4
Incr Delay (d2), s/veh	0.4	15.0	1.8	1.7	8.1	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	13.7	23.6	24.7	4.4	7.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	45.4	65.0	37.1	37.1	34.4	7.3
LnGrp LOS	D	E	D	D	C	A
Approach Vol, veh/h	261		1603			1765
Approach Delay, s/veh	60.9		37.1			10.4
Approach LOS	E		D			B
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		96.6		23.4	12.2	84.4
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		25.0		17.1	6.2	50.8
Green Ext Time (p_c), s		18.1		0.5	0.5	2.7
Intersection Summary						
HCM 7th Control Delay, s/veh			25.8			
HCM 7th LOS			C			

Intersection												
Intersection Delay, s/veh	138.7											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	218	347	103	1	234	2	93	25	10	2	28	277
Future Vol, veh/h	218	347	103	1	234	2	93	25	10	2	28	277
Peak Hour Factor	0.80	0.80	0.80	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Heavy Vehicles, %	3	5	1	0	2	0	5	4	11	0	0	2
Mvmt Flow	273	434	129	1	275	2	106	28	11	2	33	326
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	19.8		19.4	16.3
HCM LOS	F	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	73%	33%	0%	1%
Vol Thru, %	20%	52%	99%	9%
Vol Right, %	8%	15%	1%	90%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	668	237	307
LT Vol	93	218	1	2
Through Vol	25	347	234	28
RT Vol	10	103	2	277
Lane Flow Rate	145	835	279	361
Geometry Grp	1	1	1	1
Degree of Util (X)	0.315	1.494	0.534	0.647
Departure Headway (Hd)	9.121	6.442	7.804	7.545
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	397	568	466	484
Service Time	7.121	4.442	5.804	5.545
HCM Lane V/C Ratio	0.365	1.47	0.599	0.746
HCM Control Delay, s/veh	16.3	249.8	19.4	23.3
HCM Lane LOS	C	F	C	C
HCM 95th-tile Q	1.3	42	3.1	4.5

Intersection						
Int Delay, s/veh	0.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	1	239	11	6	302
Future Vol, veh/h	9	1	239	11	6	302
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	-	0	-	-	0
Peak Hour Factor	75	75	63	63	88	88
Heavy Vehicles, %	25	0	2	10	0	1
Mvmt Flow	12	1	379	17	7	343

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	745	388	0	0	397	0
Stage 1	388	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	350	664	-	-	1173	-
Stage 1	638	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	348	664	-	-	1173	-
Mov Cap-2 Maneuver	348	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.24	0	0.16
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	365	35
HCM Lane V/C Ratio	-	-	0.037	0.006
HCM Ctrl Dly (s/v)	-	-	15.2	8.1
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

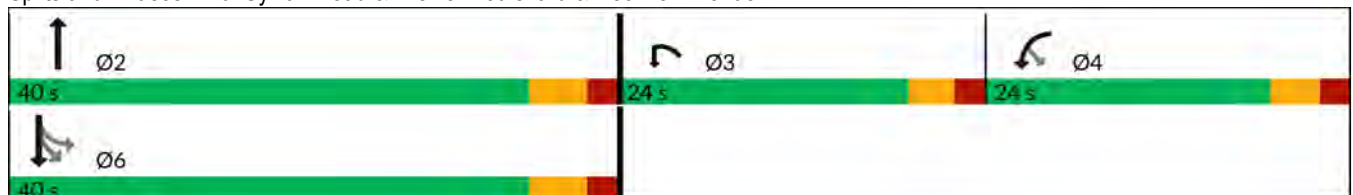
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	↙	↑	↘	↙	↓	↘
Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations	↘	↘			↘	↘
Traffic Volume (vph)	35	430	25	28	312	1
Future Volume (vph)	35	430	25	28	312	1
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	17.2	12.8	12.8	12.8	12.8	16.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.2	43.6			43.6	12.2
Actuated g/C Ratio	0.18	0.65			0.65	0.18
v/c Ratio	0.22	0.50			0.44	0.09
Control Delay (s/veh)	7.1	12.9			12.4	0.5
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	7.1	12.9			12.4	0.5
LOS	A	B			B	A
Approach Delay (s/veh)	7.1	12.9			12.4	0.5
Approach LOS	A	B			B	A

Intersection Summary

Cycle Length: 88	
Actuated Cycle Length: 67.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay (s/veh): 11.9	Intersection LOS: B
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

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Movement	WBL2	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2	
Lane Configurations													
Traffic Volume (vph)	2	35	24	430	43	6	25	28	312	1	15	7	
Future Volume (vph)	2	35	24	430	43	6	25	28	312	1	15	7	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.2		5.8					5.8	4.9			
Lane Util. Factor		1.00		1.00					1.00	1.00			
Frt		0.95		0.99					1.00	0.87			
Flt Protected		0.97		1.00					0.99	1.00			
Satd. Flow (prot)		1656		1833					1797	1653			
Flt Permitted		0.97		1.00					0.86	1.00			
Satd. Flow (perm)		1656		1833					1558	1653			
Peak-hour factor, PHF	0.74	0.74	0.74	0.81	0.81	0.81	0.83	0.83	0.83	0.66	0.66	0.66	
Adj. Flow (vph)	3	47	32	531	53	7	30	34	376	2	23	11	
RTOR Reduction (vph)	0	71	0	0	0	0	0	0	0	34	0	0	
Lane Group Flow (vph)	0	11	0	591	0	0	0	0	440	2	0	0	
Heavy Vehicles (%)	50%	3%	5%	2%	5%	0%	0%	20%	4%	0%	0%	0%	
Turn Type	Perm	Prot		NA			Perm	Perm	NA	Prot			
Protected Phases		4		2					6	3			
Permitted Phases	4						6	6					
Actuated Green, G (s)		9.2		42.2					42.2	4.4			
Effective Green, g (s)		9.2		42.2					42.2	4.4			
Actuated g/C Ratio		0.13		0.59					0.59	0.06			
Clearance Time (s)		5.2		5.8					5.8	4.9			
Vehicle Extension (s)		3.0		3.0					3.0	3.0			
Lane Grp Cap (vph)		212		1078					916	101			
v/s Ratio Prot				c0.32						c0.00			
v/s Ratio Perm		0.01							0.28				
v/c Ratio		0.05		0.55					0.48	0.02			
Uniform Delay, d1		27.4		9.0					8.5	31.6			
Progression Factor		1.00		1.00					1.00	1.00			
Incremental Delay, d2		0.1		0.6					0.4	0.1			
Delay (s)		27.5		9.5					8.9	31.7			
Level of Service		C		A					A	C			
Approach Delay (s/veh)		27.5		9.5					8.9	31.7			
Approach LOS		C		A					A	C			
Intersection Summary													
HCM 2000 Control Delay (s/veh)			11.3		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.42										
Actuated Cycle Length (s)			71.7		Sum of lost time (s)					15.9			
Intersection Capacity Utilization			83.0%		ICU Level of Service					E			
Analysis Period (min)			15										
c	Critical Lane Group												

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection												
Intersection Delay, s/veh	42											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	167	72	49	175	66	65	317	55	39	200	15
Future Vol, veh/h	15	167	72	49	175	66	65	317	55	39	200	15
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.86	0.86	0.86
Heavy Vehicles, %	7	5	9	9	4	2	9	3	6	3	2	0
Mvmt Flow	17	188	81	52	184	69	73	356	62	45	233	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	4.1	26.5	72.5	24.7
HCM LOS	C	D	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	6%	17%	15%
Vol Thru, %	73%	66%	60%	79%
Vol Right, %	13%	28%	23%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	437	254	290	254
LT Vol	65	15	49	39
Through Vol	317	167	175	200
RT Vol	55	72	66	15
Lane Flow Rate	491	285	305	295
Geometry Grp	1	1	1	1
Degree of Util (X)	1.016	0.632	0.676	0.647
Departure Headway (Hd)	7.452	8.144	8.14	8.058
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	491	445	446	452
Service Time	5.452	6.144	6.14	6.058
HCM Lane V/C Ratio	1	0.64	0.684	0.653
HCM Control Delay, s/veh	72.5	24.1	26.5	24.7
HCM Lane LOS	F	C	D	C
HCM 95th-tile Q	14.1	4.3	4.9	4.5

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	2	6	4	14	2	400	10	21	245	4
Future Vol, veh/h	1	4	2	6	4	14	2	400	10	21	245	4
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	79	79	79	95	95	95	83	83	83
Heavy Vehicles, %	0	0	50	0	0	0	50	2	22	0	3	0
Mvmt Flow	2	7	3	8	5	18	2	421	11	25	295	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	776	784	298	780	781	426	300	0	0	432	0	0
Stage 1	348	348	-	431	431	-	-	-	-	-	-	-
Stage 2	428	436	-	349	351	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	6.2	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	317	327	642	315	329	632	1032	-	-	1139	-	-
Stage 1	672	638	-	607	587	-	-	-	-	-	-	-
Stage 2	609	583	-	671	636	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	295	318	642	298	319	632	1032	-	-	1139	-	-
Mov Cap-2 Maneuver	295	318	-	298	319	-	-	-	-	-	-	-
Stage 1	654	621	-	605	585	-	-	-	-	-	-	-
Stage 2	585	582	-	643	619	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	15.16		13.83		0.04		0.64	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	9	-	-	366	438	140	-	-
HCM Lane V/C Ratio	0.002	-	-	0.033	0.069	0.022	-	-
HCM Ctrl Dly (s/v)	8.5	0	-	15.2	13.8	8.2	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

Intersection												
Intersection Delay, s/veh	10.7											
Intersection LOS	B											

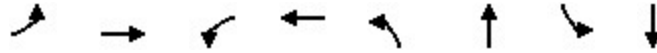
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	277	8	10	239	11	6	7	7	15	10	25
Future Vol, veh/h	42	277	8	10	239	11	6	7	7	15	10	25
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.53	0.53	0.53	0.77	0.77	0.77
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	48	315	9	12	281	13	11	13	13	19	13	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	1.5		10.5	8.7
HCM LOS	B		A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	13%	4%	30%
Vol Thru, %	35%	85%	92%	20%
Vol Right, %	35%	2%	4%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	327	260	50
LT Vol	6	42	10	15
Through Vol	7	277	239	10
RT Vol	7	8	11	25
Lane Flow Rate	38	372	306	65
Geometry Grp	1	1	1	1
Degree of Util (X)	0.056	0.466	0.387	0.094
Departure Headway (Hd)	5.352	4.512	4.553	5.214
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	664	795	789	682
Service Time	3.425	2.551	2.593	3.281
HCM Lane V/C Ratio	0.057	0.468	0.388	0.095
HCM Control Delay, s/veh	8.7	11.5	10.5	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.5	1.8	0.3

Timings
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM

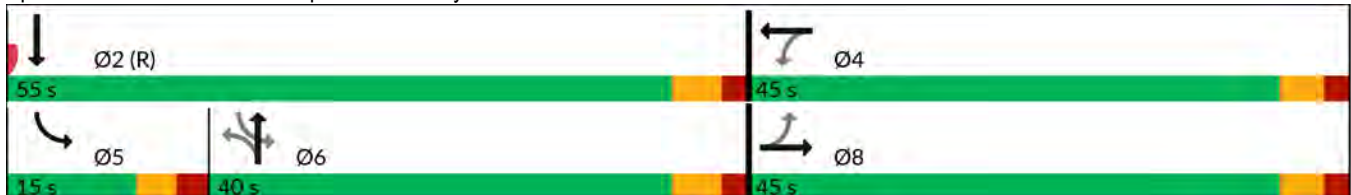


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	154	20	13	14	57	779	38	901
Future Volume (vph)	154	20	13	14	57	779	38	901
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	45.0	45.0	45.0	45.0	40.0	40.0	15.0	55.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	40.0%	40.0%	15.0%	55.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)		25.6		25.6		63.8		63.8
Actuated g/C Ratio		0.26		0.26		0.64		0.64
v/c Ratio		0.78		0.16		0.58		0.62
Control Delay (s/veh)		44.5		15.8		13.5		13.7
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		44.5		15.8		13.5		13.7
LOS		D		B		B		B
Approach Delay (s/veh)		44.5		15.8		13.5		13.7
Approach LOS		D		B		B		B

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 61 (61%), Referenced to phase 2:SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 17.2
 Intersection LOS: B
 Intersection Capacity Utilization 89.9%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	154	20	81	13	14	25	57	779	6	38	901	186
Future Volume (vph)	154	20	81	13	14	25	57	779	6	38	901	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2			5.2			5.4			5.4	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.94			1.00			0.98	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1659			1690			3510			3331	
Flt Permitted		0.80			0.91			0.75			0.88	
Satd. Flow (perm)		1363			1551			2653			2937	
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.86	0.86	0.86	0.96	0.96	0.96
Adj. Flow (vph)	173	22	91	17	19	33	66	906	7	40	939	194
RTOR Reduction (vph)	0	21	0	0	25	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	265	0	0	44	0	0	979	0	0	1161	0
Heavy Vehicles (%)	4%	6%	11%	8%	0%	4%	6%	2%	20%	6%	6%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)		25.6			25.6			63.8			63.8	
Effective Green, g (s)		25.6			25.6			63.8			63.8	
Actuated g/C Ratio		0.26			0.26			0.64			0.64	
Clearance Time (s)		5.2			5.2			5.4			5.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		348			397			1692			1873	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.03			0.37			c0.40	
v/c Ratio		0.76			0.11			0.58			0.62	
Uniform Delay, d1		34.4			28.5			10.4			10.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.5			0.1			0.5			0.6	
Delay (s)		43.9			28.6			10.9			11.5	
Level of Service		D			C			B			B	
Approach Delay (s/veh)		43.9			28.6			10.9			11.5	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			15.4									B
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			100.0						15.9			
Intersection Capacity Utilization			89.9%									E
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	409	258	0
Future Vol, veh/h	0	0	0	409	258	0
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	0	0	0	445	297	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	741	297	297	0	0
Stage 1	297	-	-	-	-
Stage 2	445	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	386	748	1276	-	-
Stage 1	759	-	-	-	-
Stage 2	650	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	386	748	1276	-	-
Mov Cap-2 Maneuver	386	-	-	-	-
Stage 1	759	-	-	-	-
Stage 2	650	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	0	0	0	409	258	0
Future Vol, veh/h	0	0	0	409	258	0
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	0	0	0	511	311	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	822	311	311	0	0
Stage 1	311	-	-	-	-
Stage 2	511	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	346	734	1261	-	-
Stage 1	748	-	-	-	-
Stage 2	606	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	346	734	1261	-	-
Mov Cap-2 Maneuver	346	-	-	-	-
Stage 1	748	-	-	-	-
Stage 2	606	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1261	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Ctrl Dly (s/v)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

2035 BUILD SYNCHRO REPORTS

9: Murphy Avenue & Sylvan Road Performance by approach

Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.3	418.1	21.9	16.8	177.0

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	66	1439	100	226	134
Average Queue (ft)	3	1430	100	116	59
95th Queue (ft)	24	1451	100	181	110
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	39			
Queuing Penalty (veh)	0	285			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		95	29		
Queuing Penalty (veh)		372	98		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

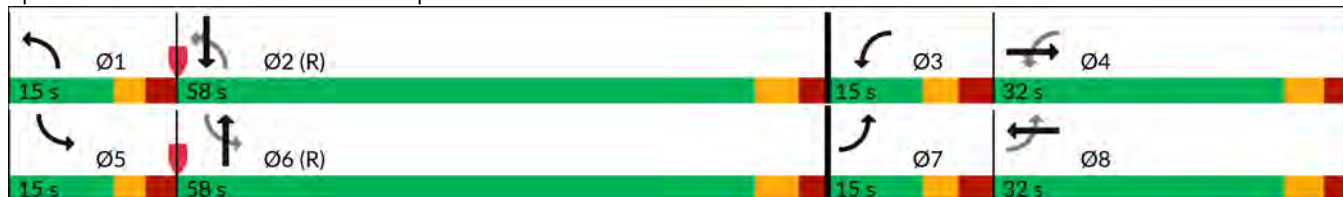
DRI #4430 Sylvan Mixed-Use
2035 Build AM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	234	205	23	112	141	50	1641	123	418	107
Future Volume (vph)	234	205	23	112	141	50	1641	123	418	107
Turn Type	D.P+P	NA	Perm	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4		3	8	1	6	5	2	
Permitted Phases	8		4	4		2		6		2
Detector Phase	7	4	4	3	8	1	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	30.9	11.3	30.9	11.0	27.2	11.0	27.2	27.2
Total Split (s)	15.0	32.0	32.0	15.0	32.0	15.0	58.0	15.0	58.0	58.0
Total Split (%)	12.5%	26.7%	26.7%	12.5%	26.7%	12.5%	48.3%	12.5%	48.3%	48.3%
Yellow Time (s)	3.3	3.6	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	28.5	20.2	20.2	28.5	20.2	68.9	57.2	67.7	62.2	62.2
Actuated g/C Ratio	0.24	0.17	0.17	0.24	0.17	0.57	0.48	0.56	0.52	0.52
v/c Ratio	1.08	0.76	0.07	0.60	0.63	0.11	1.36	0.71	0.25	0.13
Control Delay (s/veh)	119.8	64.0	0.3	44.1	30.9	11.3	192.8	39.2	21.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	119.8	64.0	0.3	44.1	30.9	11.3	192.8	39.2	21.9	7.7
LOS	F	E	A	D	C	B	F	D	C	A
Approach Delay (s/veh)		89.2			34.4		188.2		22.8	
Approach LOS		F			C		F		C	

Intersection Summary

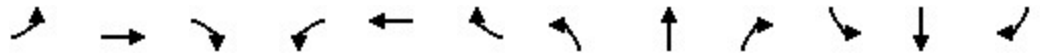
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 54 (45%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.36
 Intersection Signal Delay (s/veh): 126.9 Intersection LOS: F
 Intersection Capacity Utilization 103.5% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM

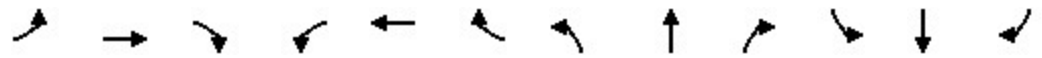


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	205	23	112	141	168	50	1641	294	123	418	107
Future Volume (vph)	234	205	23	112	141	168	50	1641	294	123	418	107
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	1712	1468	1736	3002		1687	3420		1543	3438	1495
Flt Permitted	0.33	1.00	1.00	0.38	1.00		0.48	1.00		0.07	1.00	1.00
Satd. Flow (perm)	617	1712	1468	694	3002		846	3420		114	3438	1495
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Adj. Flow (vph)	249	218	24	145	183	218	57	1886	338	129	440	113
RTOR Reduction (vph)	0	0	20	0	136	0	0	11	0	0	0	56
Lane Group Flow (vph)	249	218	4	145	265	0	57	2213	0	129	440	57
Heavy Vehicles (%)	1%	11%	10%	4%	11%	10%	7%	3%	4%	17%	5%	8%
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8		4	4			2			6		2
Actuated Green, G (s)	28.9	20.2	20.2	28.9	20.2		67.1	57.1		67.1	61.0	61.0
Effective Green, g (s)	28.9	20.2	20.2	28.9	20.2		67.1	57.1		67.1	61.0	61.0
Actuated g/C Ratio	0.24	0.17	0.17	0.24	0.17		0.56	0.48		0.56	0.51	0.51
Clearance Time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	233	288	247	242	505		515	1627		182	1747	759
v/s Ratio Prot	c0.08	0.13		0.04	0.09		0.01	c0.65		c0.06	c0.13	
v/s Ratio Perm	c0.18		0.00	0.10			0.06			0.34		0.04
v/c Ratio	1.07	0.76	0.02	0.60	0.53		0.11	1.36		0.71	0.25	0.08
Uniform Delay, d1	43.5	47.6	41.6	38.0	45.5		12.1	31.5		28.7	16.6	15.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		0.74	1.22	3.46
Incremental Delay, d2	78.3	10.8	0.0	4.0	1.0		0.1	166.2		11.6	0.3	0.2
Delay (s)	121.8	58.4	41.6	42.0	46.5		12.2	197.6		32.9	20.6	52.3
Level of Service	F	E	D	D	D		B	F		C	C	D
Approach Delay (s/veh)		89.7			45.3			193.0			28.2	
Approach LOS		F			D			F			C	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	132.0	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	1.20	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 24.0
Intersection Capacity Utilization	103.5%	ICU Level of Service G
Analysis Period (min)	15	
c Critical Lane Group		

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	205	23	112	141	168	50	1641	294	123	418	107
Future Volume (veh/h)	234	205	23	112	141	168	50	1641	294	123	418	107
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	249	218	0	145	183	0	57	1886	338	129	440	0
Peak Hour Factor	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	305	253		213	480		559	1570	273	153	1896	
Arrive On Green	0.07	0.15	0.00	0.07	0.15	0.00	0.04	0.52	0.52	0.06	0.55	0.00
Sat Flow, veh/h	1795	1737	1485	1753	3387	0	1711	3002	522	1570	3469	1510
Grp Volume(v), veh/h	249	218	0	145	183	0	57	1083	1141	129	440	0
Grp Sat Flow(s),veh/h/ln	1795	1737	1485	1753	1650	0	1711	1763	1762	1570	1735	1510
Q Serve(g_s), s	8.7	14.7	0.0	8.5	6.0	0.0	1.7	62.8	62.8	5.1	7.9	0.0
Cycle Q Clear(g_c), s	8.7	14.7	0.0	8.5	6.0	0.0	1.7	62.8	62.8	5.1	7.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.30	1.00		1.00
Lane Grp Cap(c), veh/h	305	253		213	480		559	922	921	153	1896	
V/C Ratio(X)	0.82	0.86		0.68	0.38		0.10	1.18	1.24	0.85	0.23	
Avail Cap(c_a), veh/h	305	378		213	718		632	922	921	183	1896	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	46.0	50.1	0.0	41.0	46.4	0.0	11.1	28.6	28.6	31.0	14.1	0.0
Incr Delay (d2), s/veh	15.5	12.5	0.0	8.4	0.5	0.0	0.1	90.2	116.4	25.2	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	7.2	0.0	4.2	2.5	0.0	0.6	47.4	54.1	2.9	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.5	62.7	0.0	49.5	46.9	0.0	11.2	118.9	145.0	56.2	14.4	0.0
LnGrp LOS	E	E		D	D		B	F	F	E	B	
Approach Vol, veh/h		467			328			2281			569	
Approach Delay, s/veh		62.0			48.0			129.2			23.9	
Approach LOS		E			D			F			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	71.8	15.0	23.4	12.7	69.0	15.0	23.4				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	51.8	8.7	26.1	9.4	51.8	8.7	26.1				
Max Q Clear Time (g_c+I1), s	3.7	9.9	10.5	16.7	7.1	64.8	10.7	8.0				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.7	0.1	0.0	0.0	1.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			96.9									
HCM 7th LOS			F									

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

HCM Signalized Intersection Capacity Analysis
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↕	↕	↘
Traffic Volume (vph)	128	80	64	1927	534	49
Future Volume (vph)	128	80	64	1927	534	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.95			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1726			3497	4794	
Flt Permitted	0.97			0.88	1.00	
Satd. Flow (perm)	1726			3093	4794	
Peak-hour factor, PHF	0.80	0.80	0.96	0.96	0.84	0.84
Adj. Flow (vph)	160	100	67	2007	636	58
RTOR Reduction (vph)	19	0	0	0	8	0
Lane Group Flow (vph)	241	0	0	2074	686	0
Heavy Vehicles (%)	2%	0%	5%	3%	7%	5%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	19.3			88.5	88.5	
Effective Green, g (s)	19.3			88.5	88.5	
Actuated g/C Ratio	0.16			0.74	0.74	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	277			2281	3535	
v/s Ratio Prot	c0.14				0.14	
v/s Ratio Perm				c0.67		
v/c Ratio	0.87			0.91	0.19	
Uniform Delay, d1	49.1			12.6	4.8	
Progression Factor	1.00			1.05	0.89	
Incremental Delay, d2	23.8			0.7	0.1	
Delay (s)	72.9			13.9	4.4	
Level of Service	E			B	A	
Approach Delay (s/veh)	72.9			13.9	4.4	
Approach LOS	E			B	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			16.8	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.90			
Actuated Cycle Length (s)			120.0	Sum of lost time (s)		12.2
Intersection Capacity Utilization			94.4%	ICU Level of Service		F
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue














DRI #4430 Sylvan Mixed-Use
 2035 Build AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	128	80	64	1927	534	49
Future Volume (veh/h)	128	80	64	1927	534	49
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	160	100	67	2007	636	58
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	175	109	93	2375	3343	302
Arrive On Green	0.17	0.17	1.00	1.00	0.73	0.73
Sat Flow, veh/h	1043	652	83	3336	4739	414
Grp Volume(v), veh/h	261	0	1113	961	453	241
Grp Sat Flow(s),veh/h/ln	1701	0	1731	1604	1635	1722
Q Serve(g_s), s	18.1	0.0	0.0	0.0	5.2	5.3
Cycle Q Clear(g_c), s	18.1	0.0	0.0	0.0	5.2	5.3
Prop In Lane	0.61	0.38	0.06			0.24
Lane Grp Cap(c), veh/h	286	0	1296	1172	2388	1258
V/C Ratio(X)	0.91	0.00	0.86	0.82	0.19	0.19
Avail Cap(c_a), veh/h	292	0	1296	1172	2388	1258
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.98	0.98
Uniform Delay (d), s/veh	49.1	0.0	0.0	0.0	5.1	5.1
Incr Delay (d2), s/veh	31.0	0.0	0.8	0.6	0.2	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	0.0	0.3	0.2	1.5	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	80.1	0.0	0.8	0.6	5.2	5.4
LnGrp LOS	F		A	A	A	A
Approach Vol, veh/h	261			2074	694	
Approach Delay, s/veh	80.1			0.7	5.3	
Approach LOS	F			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		94.5			94.5	25.5
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		87.2			87.2	20.6
Max Q Clear Time (g_c+I1), s		7.3			2.0	20.1
Green Ext Time (p_c), s		4.8			37.7	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			8.6			
HCM 7th LOS			A			












HCM Signalized Intersection Capacity Analysis
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 Build AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	62	333	1922	90	190	511
Future Volume (vph)	62	333	1922	90	190	511
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1568	3454		1719	3438
Flt Permitted	0.95	1.00	1.00		0.05	1.00
Satd. Flow (perm)	1805	1568	3454		95	3438
Peak-hour factor, PHF	0.91	0.91	0.92	0.92	0.78	0.78
Adj. Flow (vph)	68	366	2089	98	244	655
RTOR Reduction (vph)	0	91	3	0	0	0
Lane Group Flow (vph)	68	275	2184	0	244	655
Heavy Vehicles (%)	0%	3%	4%	0%	5%	5%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		6		5	2
Permitted Phases		4			6	
Actuated Green, G (s)	19.3	19.3	76.1		83.5	89.1
Effective Green, g (s)	19.3	19.3	76.1		83.5	89.1
Actuated g/C Ratio	0.16	0.16	0.63		0.70	0.74
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	290	252	2190		166	2552
v/s Ratio Prot	0.04		0.63		c0.09	0.19
v/s Ratio Perm		c0.18			c0.93	
v/c Ratio	0.23	1.09	1.00		1.47	0.26
Uniform Delay, d1	43.9	50.3	21.8		40.9	4.9
Progression Factor	1.00	1.00	0.75		1.00	1.00
Incremental Delay, d2	0.4	83.7	11.9		241.2	0.2
Delay (s)	44.3	134.0	28.3		282.1	5.2
Level of Service	D	F	C		F	A
Approach Delay (s/veh)	120.0		28.3			80.3
Approach LOS	F		C			F
Intersection Summary						
HCM 2000 Control Delay (s/veh)			52.9		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.40			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.2
Intersection Capacity Utilization			87.5%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	333	1922	90	190	511
Future Volume (veh/h)	62	333	1922	90	190	511
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	68	366	2089	98	244	655
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	291	253	2158	100	278	2576
Arrive On Green	0.16	0.16	1.00	1.00	0.06	0.74
Sat Flow, veh/h	1810	1572	3495	158	1739	3561
Grp Volume(v), veh/h	68	366	1065	1122	244	655
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1812	1739	1735
Q Serve(g_s), s	3.9	19.3	0.0	0.0	6.0	7.2
Cycle Q Clear(g_c), s	3.9	19.3	0.0	0.0	6.0	7.2
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	291	253	1109	1149	278	2576
V/C Ratio(X)	0.23	1.45	0.96	0.98	0.88	0.25
Avail Cap(c_a), veh/h	291	253	1109	1149	278	2576
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.30	0.30	1.00	1.00
Uniform Delay (d), s/veh	43.9	50.3	0.0	0.0	13.3	4.9
Incr Delay (d2), s/veh	0.4	222.1	8.2	9.9	25.6	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	31.1	2.5	3.2	4.3	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	44.3	272.4	8.2	9.9	38.9	5.1
LnGrp LOS	D	F	A	A	D	A
Approach Vol, veh/h	434		2187			899
Approach Delay, s/veh	236.7		9.1			14.3
Approach LOS	F		A			B
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		95.0		25.0	13.0	82.0
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		89.1		19.3	7.4	76.1
Max Q Clear Time (g_c+I1), s		9.2		21.3	8.0	2.0
Green Ext Time (p_c), s		4.9		0.0	0.0	39.3
Intersection Summary						
HCM 7th Control Delay, s/veh			38.5			
HCM 7th LOS			D			

Intersection												
Intersection Delay, s/veh	181.5											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	344	283	80	6	251	10	124	44	4	3	6	48
Future Vol, veh/h	344	283	80	6	251	10	124	44	4	3	6	48
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.77	0.77	0.77	0.62	0.62	0.62
Heavy Vehicles, %	4	13	18	20	11	0	11	5	0	33	20	8
Mvmt Flow	478	393	111	7	292	12	161	57	5	5	10	77
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	185.8		19.1	17.7
HCM LOS	F	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	72%	49%	2%	5%
Vol Thru, %	26%	40%	94%	11%
Vol Right, %	2%	11%	4%	84%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	707	267	57
LT Vol	124	344	6	3
Through Vol	44	283	251	6
RT Vol	4	80	10	48
Lane Flow Rate	223	982	310	92
Geometry Grp	1	1	1	1
Degree of Util (X)	0.442	1.582	0.558	0.188
Departure Headway (Hd)	8.306	5.799	7.288	8.708
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	438	628	500	415
Service Time	6.306	3.839	5.288	6.708
HCM Lane V/C Ratio	0.509	1.564	0.62	0.222
HCM Control Delay, s/veh	17.7	285.8	19.1	13.7
HCM Lane LOS	C	F	C	B
HCM 95th-tile Q	2.2	51.9	3.4	0.7

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	24	0	362	28	9	33
Future Vol, veh/h	24	0	362	28	9	33
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	-	0	-	-	0
Peak Hour Factor	38	38	61	61	59	59
Heavy Vehicles, %	67	0	4	33	0	3
Mvmt Flow	63	0	593	46	15	56











Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	703	616	0	0	639	0
Stage 1	616	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	7.07	6.2	-	-	4.1	-
Critical Hdwy Stg 1	6.07	-	-	-	-	-
Critical Hdwy Stg 2	6.07	-	-	-	-	-
Follow-up Hdwy	4.103	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	321	494	-	-	954	-
Stage 1	432	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	315	494	-	-	954	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.25	0	1.89
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	315	386
HCM Lane V/C Ratio	-	-	0.2	0.016
HCM Ctrl Dly (s/v)	-	-	19.2	8.8
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

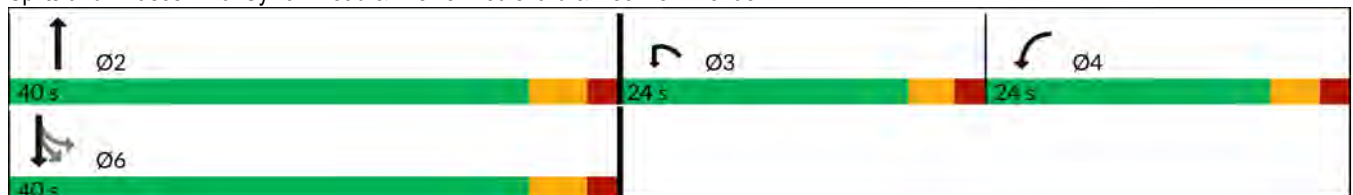
DRI #4430 Sylvan Mixed-Use
2035 Build AM

						
Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations						
Traffic Volume (vph)	21	597	30	11	162	2
Future Volume (vph)	21	597	30	11	162	2
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	21.2	23.8	23.8	23.8	23.8	22.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.2	41.1			41.1	12.2
Actuated g/C Ratio	0.17	0.58			0.58	0.17
v/c Ratio	0.21	0.73			0.33	0.22
Control Delay (s/veh)	6.3	23.1			14.3	6.2
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	6.3	23.1			14.3	6.2
LOS	A	C			B	A
Approach Delay (s/veh)	6.3	23.1			14.3	6.2
Approach LOS	A	C			B	A

Intersection Summary
















Cycle Length: 88
 Actuated Cycle Length: 71.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay (s/veh): 19.1 Intersection LOS: B
 Intersection Capacity Utilization 77.2% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM

											
Movement	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2
Lane Configurations											
Traffic Volume (vph)	21	39	597	29	3	30	11	162	2	21	24
Future Volume (vph)	21	39	597	29	3	30	11	162	2	21	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2		5.8					5.8	4.9		
Lane Util. Factor	1.00		1.00					1.00	1.00		
Frt	0.91		0.99					1.00	0.87		
Flt Protected	0.98		1.00					0.99	1.00		
Satd. Flow (prot)	1592		1818					1874	1573		
Flt Permitted	0.98		1.00					0.65	1.00		
Satd. Flow (perm)	1592		1818					1226	1573		
Peak-hour factor, PHF	0.80	0.80	0.82	0.82	0.82	0.87	0.87	0.87	0.60	0.60	0.60
Adj. Flow (vph)	26	49	728	35	4	34	13	186	3	35	40
RTOR Reduction (vph)	66	0	0	0	0	0	0	0	68	0	0
Lane Group Flow (vph)	9	0	767	0	0	0	0	233	10	0	0
Heavy Vehicles (%)	5%	8%	4%	0%	0%	0%	7%	0%	0%	11%	0%
Turn Type	Prot		NA			Perm	Perm	NA	Prot		
Protected Phases	4		2					6	3		
Permitted Phases						6	6				
Actuated Green, G (s)	9.1		39.6					39.6	9.1		
Effective Green, g (s)	9.1		39.6					39.6	9.1		
Actuated g/C Ratio	0.12		0.54					0.54	0.12		
Clearance Time (s)	5.2		5.8					5.8	4.9		
Vehicle Extension (s)	3.0		3.0					3.0	3.0		
Lane Grp Cap (vph)	196		976					658	194		
v/s Ratio Prot	c0.01		c0.42						c0.01		
v/s Ratio Perm								0.19			
v/c Ratio	0.05		0.79					0.35	0.05		
Uniform Delay, d1	28.5		13.7					9.7	28.5		
Progression Factor	1.00		1.00					1.00	1.00		
Incremental Delay, d2	0.1		4.2					0.3	0.1		
Delay (s)	28.6		17.9					10.1	28.6		
Level of Service	C		B					B	C		
Approach Delay (s/veh)	28.6		17.9					10.1	28.6		
Approach LOS	C		B					B	C		
Intersection Summary											
HCM 2000 Control Delay (s/veh)			17.7								B
HCM 2000 Volume to Capacity ratio			0.55								
Actuated Cycle Length (s)			73.7						15.9		
Intersection Capacity Utilization			77.2%								D
Analysis Period (min)			15								
c Critical Lane Group											

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection												
Intersection Delay, s/veh	56.1											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	134	123	38	53	117	143	34	481	34	86	129	108
Future Vol, veh/h	134	123	38	53	117	143	34	481	34	86	129	108
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88	0.79	0.79	0.79
Heavy Vehicles, %	14	11	18	6	12	2	13	4	3	10	11	25
Mvmt Flow	144	132	41	64	141	172	39	547	39	109	163	137
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	55.4		70.2	302.9
HCM LOS	F		F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	45%	17%	27%
Vol Thru, %	88%	42%	37%	40%
Vol Right, %	6%	13%	46%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	549	295	313	323
LT Vol	34	134	53	86
Through Vol	481	123	117	129
RT Vol	34	38	143	108
Lane Flow Rate	624	317	377	409
Geometry Grp	1	1	1	1
Degree of Util (X)	1.593	0.851	0.945	1.024
Departure Headway (Hd)	9.513	11.508	10.765	10.689
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	387	317	339	343
Service Time	7.513	9.508	8.765	8.689
HCM Lane V/C Ratio	1.612	1	1.112	1.192
HCM Control Delay, s/veh	302.9	55.4	70.2	89.5
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	34.6	7.5	9.8	11.9

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	4	26	29	1	17	23	701	28	14	298	0
Future Vol, veh/h	7	4	26	29	1	17	23	701	28	14	298	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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	34	34	34	83	83	83	84	84	84	81	81	81
Heavy Vehicles, %	0	0	100	25	0	0	100	3	0	0	7	0
Mvmt Flow	21	12	76	35	1	20	27	835	33	17	368	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1292	1325	368	1314	1308	851	368	0	0	868	0	0
Stage 1	402	402	-	906	906	-	-	-	-	-	-	-
Stage 2	890	923	-	408	402	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	7.2	7.35	6.5	6.2	5.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.35	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	4.2	3.725	4	3.3	3.1	-	-	2.2	-	-
Pot Cap-1 Maneuver	141	157	505	121	161	363	805	-	-	785	-	-
Stage 1	628	604	-	301	358	-	-	-	-	-	-	-
Stage 2	340	351	-	577	604	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	120	143	505	86	146	363	805	-	-	785	-	-
Mov Cap-2 Maneuver	120	143	-	86	146	-	-	-	-	-	-	-
Stage 1	611	587	-	281	334	-	-	-	-	-	-	-
Stage 2	299	328	-	466	587	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	27.25		59.08		0.29		0.43	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	55	-	-	269	120	81	-	-
HCM Lane V/C Ratio	0.034	-	-	0.405	0.471	0.022	-	-
HCM Ctrl Dly (s/v)	9.6	0	-	27.3	59.1	9.7	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	2.1	0.1	-	-

Intersection												
Intersection Delay, s/veh	10.6											
Intersection LOS	B											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	17	242	2	3	264	36	7	12	9	33	8	17
Future Vol, veh/h	17	242	2	3	264	36	7	12	9	33	8	17
Peak Hour Factor	0.88	0.88	0.88	0.84	0.84	0.84	0.63	0.63	0.63	0.83	0.83	0.83
Heavy Vehicles, %	0	7	0	0	9	0	0	0	0	0	0	0
Mvmt Flow	19	275	2	4	314	43	11	19	14	40	10	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	11.1		8.8	
HCM LOS	B		A	

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	7%	1%	57%
Vol Thru, %	43%	93%	87%	14%
Vol Right, %	32%	1%	12%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	28	261	303	58
LT Vol	7	17	3	33
Through Vol	12	242	264	8
RT Vol	9	2	36	17
Lane Flow Rate	44	297	361	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.066	0.379	0.447	0.104
Departure Headway (Hd)	5.323	4.601	4.464	5.358
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	668	780	804	665
Service Time	3.398	2.645	2.505	3.428
HCM Lane V/C Ratio	0.066	0.381	0.449	0.105
HCM Control Delay, s/veh	8.8	10.5	11.1	9.1
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	1.8	2.3	0.3

Timings
11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	219	11	10	7	100	1265	17	321
Future Volume (vph)	219	11	10	7	100	1265	17	321
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	40.0	40.0	40.0	40.0	45.0	45.0	15.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effect Green (s)		29.6		29.6		59.8		59.8
Actuated g/C Ratio		0.30		0.30		0.60		0.60
v/c Ratio		0.86		0.14		0.95		0.31
Control Delay (s/veh)		51.2		11.2		33.1		8.8
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		51.2		11.2		33.1		8.8
LOS		D		B		C		A
Approach Delay (s/veh)		51.2		11.2		33.1		8.8
Approach LOS		D		B		C		A

Intersection Summary

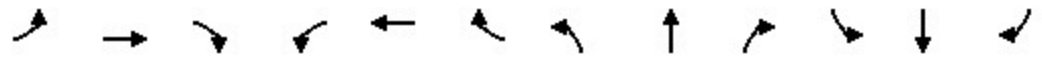
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 97 (97%), Referenced to phase 2:SBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay (s/veh): 30.2	Intersection LOS: C
Intersection Capacity Utilization 90.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	219	11	95	10	7	34	100	1265	4	17	321	155
Future Volume (vph)	219	11	95	10	7	34	100	1265	4	17	321	155
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2			5.2			5.4			5.4	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.96			0.91			1.00			0.95	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1646			1569			3441			3115	
Flt Permitted		0.77			0.92			0.84			0.85	
Satd. Flow (perm)		1309			1452			2912			2647	
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.83	0.83	0.83	0.96	0.96	0.96
Adj. Flow (vph)	233	12	101	13	9	44	120	1524	5	18	334	161
RTOR Reduction (vph)	0	16	0	0	31	0	0	0	0	0	47	0
Lane Group Flow (vph)	0	330	0	0	35	0	0	1649	0	0	466	0
Heavy Vehicles (%)	8%	20%	4%	11%	17%	7%	11%	4%	0%	27%	8%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)		29.6			29.6			59.8			59.8	
Effective Green, g (s)		29.6			29.6			59.8			59.8	
Actuated g/C Ratio		0.30			0.30			0.60			0.60	
Clearance Time (s)		5.2			5.2			5.4			5.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		387			429			1741			1582	
v/s Ratio Prot												
v/s Ratio Perm		c0.25			0.02			c0.57			0.18	
v/c Ratio		0.85			0.08			0.95			0.29	
Uniform Delay, d1		33.1			25.4			18.6			9.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		16.4			0.1			11.3			0.1	
Delay (s)		49.5			25.5			30.0			9.9	
Level of Service		D			C			C			A	
Approach Delay (s/veh)		49.5			25.5			30.0			9.9	
Approach LOS		D			C			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			28.5									C
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			100.0						15.9			
Intersection Capacity Utilization			90.8%									E
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	39.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		4		P	
Traffic Vol, veh/h	109	130	155	613	196	130
Future Vol, veh/h	109	130	155	613	196	130
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	118	141	194	766	236	157

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1468	314	393	0	0
Stage 1	314	-	-	-	-
Stage 2	1154	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	142	731	1177	-	-
Stage 1	745	-	-	-	-
Stage 2	303	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 101	731	1177	-	-
Mov Cap-2 Maneuver	~ 101	-	-	-	-
Stage 1	531	-	-	-	-
Stage 2	303	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	240.64	1.75	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	363	-	191	-	-
HCM Lane V/C Ratio	0.165	-	1.363	-	-
HCM Ctrl Dly (s/v)	8.7	0	240.6	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.6	-	15.1	-	-

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

Intersection						
Int Delay, s/veh	9.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	106	85	103	619	241	128
Future Vol, veh/h	106	85	103	619	241	128
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	115	92	112	673	262	139

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1228	332	401	0	0
Stage 1	332	-	-	-	-
Stage 2	897	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	198	715	1169	-	-
Stage 1	732	-	-	-	-
Stage 2	402	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	168	715	1169	-	-
Mov Cap-2 Maneuver	168	-	-	-	-
Stage 1	620	-	-	-	-
Stage 2	402	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	60.59	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	257	-	255	-	-
HCM Lane V/C Ratio	0.096	-	0.815	-	-
HCM Ctrl Dly (s/v)	8.4	0	60.6	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.3	-	6.4	-	-

9: Murphy Avenue & Sylvan Road Performance by approach

Approach	EB	WB	NB	SB	All
Stop Del/Veh (s)	0.3	573.7	27.6	207.5	213.6

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1446	100	239	990
Average Queue (ft)	8	1414	97	119	555
95th Queue (ft)	29	1525	126	203	925
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	52			
Queuing Penalty (veh)	0	380			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		99	13		
Queuing Penalty (veh)		312	57		

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	212	251	44	267	292	105	1057	264	1078	299
Future Volume (vph)	212	251	44	267	292	105	1057	264	1078	299
Turn Type	D.P+P	NA	Perm	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4		3	8	1	6	5	2	
Permitted Phases	8		4	4		2		6		2
Detector Phase	7	4	4	3	8	1	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	30.9	11.3	30.9	10.6	27.2	10.6	27.2	27.2
Total Split (s)	20.0	38.0	38.0	15.0	33.0	15.0	52.0	15.0	52.0	52.0
Total Split (%)	16.7%	31.7%	31.7%	12.5%	27.5%	12.5%	43.3%	12.5%	43.3%	43.3%
Yellow Time (s)	3.3	3.6	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	36.2	27.9	27.9	36.2	22.9	60.0	45.8	60.0	50.8	50.8
Actuated g/C Ratio	0.30	0.23	0.23	0.30	0.19	0.50	0.38	0.50	0.42	0.42
v/c Ratio	0.90	0.69	0.10	1.12	0.81	0.55	1.05	1.10	0.78	0.41
Control Delay (s/veh)	67.2	51.0	0.5	123.8	42.8	26.4	75.3	125.4	27.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	67.2	51.0	0.5	123.8	42.8	26.4	75.3	125.4	27.6	10.4
LOS	E	D	A	F	D	C	E	F	C	B
Approach Delay (s/veh)		53.4			70.1		71.7		40.2	
Approach LOS		D			E		E		D	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 117 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay (s/veh): 57.4 Intersection LOS: E
 Intersection Capacity Utilization 99.6% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



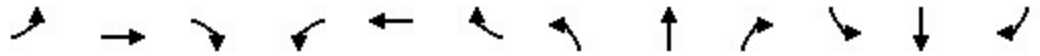
HCM Signalized Intersection Capacity Analysis
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	251	44	267	292	233	105	1057	243	264	1078	299
Future Volume (vph)	212	251	44	267	292	233	105	1057	243	264	1078	299
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1759	1568	1752	3282		1787	3440		1752	3539	1615
Flt Permitted	0.17	1.00	1.00	0.35	1.00		0.10	1.00		0.09	1.00	1.00
Satd. Flow (perm)	325	1759	1568	647	3282		187	3440		161	3539	1615
Peak-hour factor, PHF	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	238	282	49	307	336	268	113	1137	261	287	1172	325
RTOR Reduction (vph)	0	0	38	0	125	0	0	17	0	0	0	103
Lane Group Flow (vph)	238	282	11	307	479	0	113	1381	0	287	1172	222
Heavy Vehicles (%)	2%	8%	3%	3%	4%	1%	1%	2%	2%	3%	2%	0%
Turn Type	D.P+P	NA	Perm	D.P+P	NA		D.P+P	NA		D.P+P	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases	8		4	4			2			6		2
Actuated Green, G (s)	36.6	27.9	27.9	36.6	22.9		59.4	45.8		59.4	50.8	50.8
Effective Green, g (s)	36.6	27.9	27.9	36.6	22.9		59.4	45.8		59.4	50.8	50.8
Actuated g/C Ratio	0.31	0.23	0.23	0.31	0.19		0.50	0.38		0.50	0.42	0.42
Clearance Time (s)	6.3	5.9	5.9	6.3	5.9		5.6	6.2		5.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	264	408	364	277	626		207	1312		260	1498	683
v/s Ratio Prot	c0.10	0.16		0.08	0.15		0.04	0.40		c0.13	c0.33	
v/s Ratio Perm	0.17		0.01	c0.26			0.23			c0.42		0.14
v/c Ratio	0.90	0.69	0.03	1.11	0.76		0.55	1.05		1.10	0.78	0.32
Uniform Delay, d1	34.7	42.1	35.6	40.7	46.0		21.3	37.1		36.8	29.8	23.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.51	0.76	0.78
Incremental Delay, d2	30.9	5.0	0.0	86.3	5.5		2.9	40.0		83.9	3.8	1.1
Delay (s)	65.6	47.1	35.6	127.0	51.5		24.2	77.1		139.7	26.4	19.2
Level of Service	E	D	D	F	D		C	E		F	C	B
Approach Delay (s/veh)		53.9			77.0			73.2			43.3	
Approach LOS		D			E			E			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			60.4			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		24.0				
Intersection Capacity Utilization			99.6%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	251	44	267	292	233	105	1057	243	264	1078	299
Future Volume (veh/h)	212	251	44	267	292	233	105	1057	243	264	1078	299
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	238	282	0	307	336	0	113	1137	261	287	1172	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	313	322		217	486		249	1347	307	243	1778	
Arrive On Green	0.11	0.18	0.00	0.07	0.14	0.00	0.05	0.47	0.47	0.05	0.34	0.00
Sat Flow, veh/h	1781	1781	1572	1767	3589	0	1795	2874	655	1767	3554	1610
Grp Volume(v), veh/h	238	282	0	307	336	0	113	700	698	287	1172	0
Grp Sat Flow(s),veh/h/ln	1781	1781	1572	1767	1749	0	1795	1777	1752	1767	1777	1610
Q Serve(g_s), s	13.7	18.5	0.0	8.7	11.0	0.0	3.7	41.4	42.2	9.4	33.8	0.0
Cycle Q Clear(g_c), s	13.7	18.5	0.0	8.7	11.0	0.0	3.7	41.4	42.2	9.4	33.8	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	313	322		217	486		249	833	821	243	1778	
V/C Ratio(X)	0.76	0.88		1.42	0.69		0.45	0.84	0.85	1.18	0.66	
Avail Cap(c_a), veh/h	313	477		217	790		306	833	821	243	1778	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	39.4	47.9	0.0	44.4	49.2	0.0	19.3	27.9	28.2	30.1	31.2	0.0
Incr Delay (d2), s/veh	10.4	11.8	0.0	212.0	1.8	0.0	1.3	10.0	10.7	112.5	1.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	9.2	0.0	15.2	5.0	0.0	1.5	18.9	19.1	11.5	15.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.8	59.7	0.0	256.5	51.0	0.0	20.6	37.9	38.9	142.6	32.9	0.0
LnGrp LOS	D	E		F	D		C	D	D	F	C	
Approach Vol, veh/h		520			643			1511			1459	
Approach Delay, s/veh		55.2			149.1			37.1			54.5	
Approach LOS		E			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	66.2	15.0	27.6	15.0	62.4	20.0	22.6				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.4	45.8	8.7	32.1	9.4	45.8	13.7	27.1				
Max Q Clear Time (g_c+I1), s	5.7	35.8	10.7	20.5	11.4	44.2	15.7	13.0				
Green Ext Time (p_c), s	0.1	5.4	0.0	1.2	0.0	1.2	0.0	1.9				

Intersection Summary												
HCM 7th Control Delay, s/veh				62.9								
HCM 7th LOS				E								

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

HCM Signalized Intersection Capacity Analysis
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	86	92	1404	1565	113
Future Volume (vph)	87	86	92	1404	1565	113
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4			6.8	6.8	
Lane Util. Factor	1.00			0.95	0.91	
Frt	0.93			1.00	0.99	
Flt Protected	0.98			1.00	1.00	
Satd. Flow (prot)	1729			3533	5041	
Flt Permitted	0.98			0.59	1.00	
Satd. Flow (perm)	1729			2085	5041	
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.94	0.94
Adj. Flow (vph)	92	91	100	1526	1665	120
RTOR Reduction (vph)	30	0	0	0	4	0
Lane Group Flow (vph)	153	0	0	1626	1781	0
Heavy Vehicles (%)	0%	0%	0%	2%	2%	0%
Turn Type	Prot		Perm	NA	NA	
Protected Phases	8			6	2	
Permitted Phases			6			
Actuated Green, G (s)	15.8			92.0	92.0	
Effective Green, g (s)	15.8			92.0	92.0	
Actuated g/C Ratio	0.13			0.77	0.77	
Clearance Time (s)	5.4			6.8	6.8	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	227			1598	3864	
v/s Ratio Prot	c0.09				0.35	
v/s Ratio Perm				c0.78		
v/c Ratio	0.67			1.02	0.46	
Uniform Delay, d1	49.6			14.0	5.1	
Progression Factor	1.00			1.31	1.34	
Incremental Delay, d2	7.6			16.6	0.3	
Delay (s)	57.2			34.9	7.1	
Level of Service	E			C	A	
Approach Delay (s/veh)	57.2			34.9	7.1	
Approach LOS	E			C	A	
Intersection Summary						
HCM 2000 Control Delay (s/veh)			22.2		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.97			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	12.2
Intersection Capacity Utilization			100.2%		ICU Level of Service	G
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	86	92	1404	1565	113
Future Volume (veh/h)	87	86	92	1404	1565	113
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	92	91	100	1526	1665	120
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	107	106	126	1974	3755	270
Arrive On Green	0.13	0.13	1.00	1.00	0.77	0.77
Sat Flow, veh/h	853	843	119	2641	5030	350
Grp Volume(v), veh/h	184	0	731	895	1165	620
Grp Sat Flow(s),veh/h/ln	1706	0	1058	1617	1702	1807
Q Serve(g_s), s	12.7	0.0	58.7	0.0	14.2	14.3
Cycle Q Clear(g_c), s	12.7	0.0	73.0	0.0	14.2	14.3
Prop In Lane	0.50	0.49	0.14			0.19
Lane Grp Cap(c), veh/h	215	0	851	1249	2629	1396
V/C Ratio(X)	0.86	0.00	0.86	0.72	0.44	0.44
Avail Cap(c_a), veh/h	421	0	851	1249	2629	1396
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.09	0.09	0.80	0.80
Uniform Delay (d), s/veh	51.4	0.0	1.6	0.0	4.7	4.7
Incr Delay (d2), s/veh	9.4	0.0	1.1	0.3	0.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.3	0.1	3.9	4.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.8	0.0	2.8	0.3	5.2	5.5
LnGrp LOS	E		A	A	A	A
Approach Vol, veh/h	184			1626	1785	
Approach Delay, s/veh	60.8			1.4	5.3	
Approach LOS	E			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		99.5			99.5	20.5
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.2			78.2	29.6
Max Q Clear Time (g_c+I1), s		16.3			75.0	14.7
Green Ext Time (p_c), s		20.1			2.8	0.5
Intersection Summary						
HCM 7th Control Delay, s/veh			6.4			
HCM 7th LOS			A			

Timings
3: Lee Street & Sylvan Road

	↙ ↘		↑	↘ ↓	
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↘ ↘	↘ ↘	↑ ↑	↘ ↘	↑ ↑
Traffic Volume (vph)	117	318	1435	312	1469
Future Volume (vph)	117	318	1435	312	1469
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	4		6	5	2
Permitted Phases		4		2	
Detector Phase	4	4	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	8.0	12.0	6.0	12.0
Minimum Split (s)	23.7	23.7	31.9	11.6	17.9
Total Split (s)	32.0	32.0	60.0	28.0	88.0
Total Split (%)	26.7%	26.7%	50.0%	23.3%	73.3%
Yellow Time (s)	4.1	4.1	4.0	3.0	4.0
All-Red Time (s)	1.6	1.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.9	5.6	5.9
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effect Green (s)	14.8	14.8	66.0	93.9	93.6
Actuated g/C Ratio	0.12	0.12	0.55	0.78	0.78
v/c Ratio	0.61	0.77	0.86	0.85	0.57
Control Delay (s/veh)	60.8	19.3	33.4	53.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.8	19.3	33.4	53.7	6.7
LOS	E	B	C	D	A
Approach Delay (s/veh)	30.5		33.4		14.9
Approach LOS	C		C		B

Intersection Summary














Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay (s/veh): 24.5 Intersection LOS: C
 Intersection Capacity Utilization 81.2% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



HCM Signalized Intersection Capacity Analysis
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 Build PM

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	117	318	1435	101	312	1469
Future Volume (vph)	117	318	1435	101	312	1469
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.9		5.6	5.9
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1805	1599	3509		1787	3539
Flt Permitted	0.95	1.00	1.00		0.06	1.00
Satd. Flow (perm)	1805	1599	3509		105	3539
Peak-hour factor, PHF	0.86	0.86	0.92	0.92	0.94	0.94
Adj. Flow (vph)	136	370	1560	110	332	1563
RTOR Reduction (vph)	0	286	4	0	0	0
Lane Group Flow (vph)	136	84	1666	0	332	1563
Heavy Vehicles (%)	0%	1%	2%	0%	1%	2%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		6		5	2
Permitted Phases		4			2	
Actuated Green, G (s)	14.8	14.8	66.0		93.6	93.6
Effective Green, g (s)	14.8	14.8	66.0		93.6	93.6
Actuated g/C Ratio	0.12	0.12	0.55		0.78	0.78
Clearance Time (s)	5.7	5.7	5.9		5.6	5.9
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	222	197	1929		390	2760
v/s Ratio Prot	c0.08		0.47		c0.16	0.44
v/s Ratio Perm		0.05			c0.51	
v/c Ratio	0.61	0.43	0.86		0.85	0.57
Uniform Delay, d1	49.9	48.7	23.1		38.5	5.2
Progression Factor	1.00	1.00	1.28		1.00	1.00
Incremental Delay, d2	4.9	1.5	1.8		16.2	0.8
Delay (s)	54.8	50.2	31.5		54.7	6.0
Level of Service	D	D	C		D	A
Approach Delay (s/veh)	51.4		31.5			14.6
Approach LOS	D		C			B
Intersection Summary						
HCM 2000 Control Delay (s/veh)			26.1		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84			
Actuated Cycle Length (s)			120.0		Sum of lost time (s)	17.2
Intersection Capacity Utilization			81.2%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 Build PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	117	318	1435	101	312	1469
Future Volume (veh/h)	117	318	1435	101	312	1469
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	136	370	1560	110	332	1563
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	397	350	1588	111	360	2431
Arrive On Green	0.22	0.22	0.16	0.16	0.17	0.68
Sat Flow, veh/h	1810	1598	3462	236	1795	3647
Grp Volume(v), veh/h	136	370	818	852	332	1563
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1828	1795	1777
Q Serve(g_s), s	7.6	26.3	55.0	55.8	17.6	29.8
Cycle Q Clear(g_c), s	7.6	26.3	55.0	55.8	17.6	29.8
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	397	350	838	862	360	2431
V/C Ratio(X)	0.34	1.06	0.98	0.99	0.92	0.64
Avail Cap(c_a), veh/h	397	350	838	862	397	2431
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.12	0.12	1.00	1.00
Uniform Delay (d), s/veh	39.6	46.8	50.0	50.3	39.7	10.7
Incr Delay (d2), s/veh	0.5	63.8	6.6	8.2	25.5	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	27.0	27.7	29.2	12.0	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.1	110.7	56.6	58.6	65.2	12.0
LnGrp LOS	D	F	E	E	E	B
Approach Vol, veh/h	506		1670			1895
Approach Delay, s/veh	91.7		57.6			21.3
Approach LOS	F		E			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.0		32.0	25.5	62.5
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		31.8		28.3	19.6	57.8
Green Ext Time (p_c), s		17.5		0.0	0.3	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			45.0			
HCM 7th LOS			D			

Intersection												
Intersection Delay, s/veh	30.2											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	249	500	103	1	410	2	93	25	10	2	28	312
Future Vol, veh/h	249	500	103	1	410	2	93	25	10	2	28	312
Peak Hour Factor	0.80	0.80	0.80	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Heavy Vehicles, %	3	5	1	0	2	0	5	4	11	0	0	2
Mvmt Flow	311	625	129	1	482	2	106	28	11	2	33	367
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	22.7		82.3	23
HCM LOS	F	F	C	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	73%	29%	0%	1%
Vol Thru, %	20%	59%	99%	8%
Vol Right, %	8%	12%	0%	91%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	128	852	413	342
LT Vol	93	249	1	2
Through Vol	25	500	410	28
RT Vol	10	103	2	312
Lane Flow Rate	145	1065	486	402
Geometry Grp	1	1	1	1
Degree of Util (X)	0.375	2.263	1.012	0.826
Departure Headway (Hd)	12.609	7.752	9.779	9.83
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	288	479	374	374
Service Time	10.609	5.752	7.779	7.83
HCM Lane V/C Ratio	0.503	2.223	1.299	1.075
HCM Control Delay, s/veh	23	592.7	82.3	45.7
HCM Lane LOS	C	F	F	F
HCM 95th-tile Q	1.7	78.3	12.1	7.4

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	44	1	239	42	6	302
Future Vol, veh/h	44	1	239	42	6	302
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	-	0	-	-	0
Peak Hour Factor	75	75	63	63	88	88
Heavy Vehicles, %	25	0	2	10	0	1
Mvmt Flow	59	1	379	67	7	343











Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	770	413	0	0	446	0
Stage 1	413	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	338	644	-	-	1125	-
Stage 1	621	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	336	644	-	-	1125	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	621	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	17.87	0	0.16
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	35
HCM Lane V/C Ratio	-	-	0.177	0.006
HCM Ctrl Dly (s/v)	-	-	17.9	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.6	0

Timings
6: Sylvan Road & Brewer Boulevard & Deckner Avenue

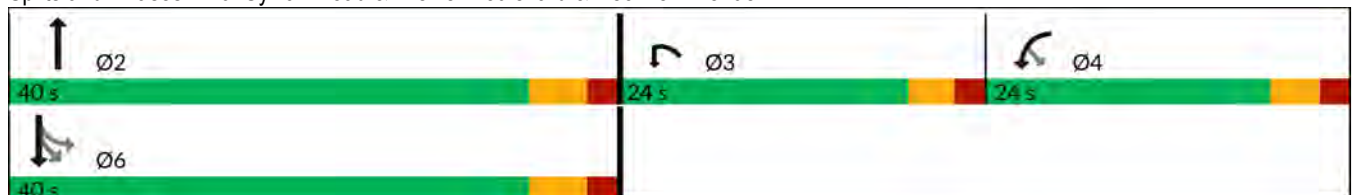
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Lane Group	WBL	NBT	SBL2	SBL	SBT	NWL
Lane Configurations						
Traffic Volume (vph)	35	461	60	28	347	1
Future Volume (vph)	35	461	60	28	347	1
Turn Type	Prot	NA	Perm	Perm	NA	Prot
Protected Phases	4	2			6	3
Permitted Phases			6	6		
Detector Phase	4	2	6	6	6	3
Switch Phase						
Minimum Initial (s)	12.0	7.0	7.0	7.0	7.0	12.0
Minimum Split (s)	17.2	12.8	12.8	12.8	12.8	16.9
Total Split (s)	24.0	40.0	40.0	40.0	40.0	24.0
Total Split (%)	27.3%	45.5%	45.5%	45.5%	45.5%	27.3%
Yellow Time (s)	3.3	3.8	3.8	3.8	3.8	3.0
All-Red Time (s)	1.9	2.0	2.0	2.0	2.0	1.9
Lost Time Adjust (s)	0.0	0.0			0.0	0.0
Total Lost Time (s)	5.2	5.8			5.8	4.9
Lead/Lag	Lag					Lead
Lead-Lag Optimize?	Yes					Yes
Recall Mode	None	Min	Min	Min	Min	None
Act Effct Green (s)	12.2	41.6			41.6	12.2
Actuated g/C Ratio	0.19	0.64			0.64	0.19
v/c Ratio	0.32	0.54			0.66	0.09
Control Delay (s/veh)	12.3	13.8			20.4	0.5
Queue Delay	0.0	0.0			0.0	0.0
Total Delay (s/veh)	12.3	13.8			20.4	0.5
LOS	B	B			C	A
Approach Delay (s/veh)	12.3	13.8			20.4	0.5
Approach LOS	B	B			C	A

Intersection Summary

Cycle Length: 88
 Actuated Cycle Length: 65.5
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 15.9
 Intersection LOS: B
 Intersection Capacity Utilization 88.4%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 6: Sylvan Road & Brewer Boulevard & Deckner Avenue



HCM Signalized Intersection Capacity Analysis
 6: Sylvan Road & Brewer Boulevard & Deckner Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build PM



Movement	WBL2	WBL	WBR	NBT	NBR	NBR2	SBL2	SBL	SBT	NWL	NWR	NWR2
Lane Configurations												
Traffic Volume (vph)	2	35	54	461	43	6	60	28	347	1	15	7
Future Volume (vph)	2	35	54	461	43	6	60	28	347	1	15	7
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2		5.8					5.8	4.9		
Lane Util. Factor		1.00		1.00					1.00	1.00		
Frt		0.92		0.99					1.00	0.87		
Flt Protected		0.98		1.00					0.99	1.00		
Satd. Flow (prot)		1626		1835					1800	1653		
Flt Permitted		0.98		1.00					0.68	1.00		
Satd. Flow (perm)		1626		1835					1240	1653		
Peak-hour factor, PHF	0.74	0.74	0.74	0.81	0.81	0.81	0.83	0.83	0.83	0.66	0.66	0.66
Adj. Flow (vph)	3	47	73	569	53	7	72	34	418	2	23	11
RTOR Reduction (vph)	0	82	0	0	0	0	0	0	0	34	0	0
Lane Group Flow (vph)	0	41	0	629	0	0	0	0	524	2	0	0
Heavy Vehicles (%)	50%	3%	5%	2%	5%	0%	0%	20%	4%	0%	0%	0%
Turn Type	Perm	Prot		NA			Perm	Perm	NA	Prot		
Protected Phases		4		2					6	3		
Permitted Phases	4						6	6				
Actuated Green, G (s)		9.3		40.3					40.3	4.2		
Effective Green, g (s)		9.3		40.3					40.3	4.2		
Actuated g/C Ratio		0.13		0.58					0.58	0.06		
Clearance Time (s)		5.2		5.8					5.8	4.9		
Vehicle Extension (s)		3.0		3.0					3.0	3.0		
Lane Grp Cap (vph)		216		1060					716	99		
v/s Ratio Prot				0.34						c0.00		
v/s Ratio Perm		0.03							c0.42			
v/c Ratio		0.19		0.59					0.73	0.02		
Uniform Delay, d1		26.8		9.4					10.7	30.8		
Progression Factor		1.00		1.00					1.00	1.00		
Incremental Delay, d2		0.4		0.9					3.9	0.1		
Delay (s)		27.3		10.3					14.6	30.9		
Level of Service		C		B					B	C		
Approach Delay (s/veh)		27.3		10.3					14.6	30.9		
Approach LOS		C		B					B	C		

Intersection Summary

HCM 2000 Control Delay (s/veh)	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	15.9
Intersection Capacity Utilization	88.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 7th Edition methodology does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

Intersection												
Intersection Delay, s/veh	73.8											
Intersection LOS	F											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	168	167	72	49	175	157	65	378	55	144	270	191
Future Vol, veh/h	168	167	72	49	175	157	65	378	55	144	270	191
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.86	0.86	0.86
Heavy Vehicles, %	7	5	9	9	4	2	9	3	6	3	2	0
Mvmt Flow	189	188	81	52	184	165	73	425	62	167	314	222
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	71.1	116.3	279.8	425.7
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	41%	13%	24%
Vol Thru, %	76%	41%	46%	45%
Vol Right, %	11%	18%	41%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	498	407	381	605
LT Vol	65	168	49	144
Through Vol	378	167	175	270
RT Vol	55	72	157	191
Lane Flow Rate	560	457	401	703
Geometry Grp	1	1	1	1
Degree of Util (X)	1.509	1.231	1.062	1.858
Departure Headway (Hd)	13.339	13.954	14.621	12.048
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	280	265	253	310
Service Time	11.339	11.954	12.621	10.048
HCM Lane V/C Ratio	2	1.725	1.585	2.268
HCM Control Delay, s/veh	279.8	171.1	116.3	425.7
HCM Lane LOS	F	F	F	F
HCM 95th-tile Q	23.6	15.3	10.9	37.6

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	4	33	37	4	14	37	681	45	21	489	4
Future Vol, veh/h	1	4	33	37	4	14	37	681	45	21	489	4
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	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	58	58	58	79	79	79	95	95	95	83	83	83
Heavy Vehicles, %	0	0	50	0	0	0	50	2	22	0	3	0
Mvmt Flow	2	7	57	47	5	18	39	717	47	25	589	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1439	1484	592	1462	1463	741	594	0	0	764	0	0
Stage 1	642	642	-	818	818	-	-	-	-	-	-	-
Stage 2	797	842	-	643	645	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.7	7.1	6.5	6.2	4.6	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.75	3.5	4	3.3	2.65	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	126	428	108	130	420	785	-	-	858	-	-
Stage 1	466	472	-	373	392	-	-	-	-	-	-	-
Stage 2	383	383	-	465	471	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	90	110	428	77	113	420	785	-	-	858	-	-
Mov Cap-2 Maneuver	90	110	-	77	113	-	-	-	-	-	-	-
Stage 1	445	451	-	340	358	-	-	-	-	-	-	-
Stage 2	330	349	-	380	450	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB			
HCM Ctrl Dly, s/v	20.02		98.38		0.48		0.38			
HCM LOS	C		F							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	86	-	-	305	100	73	-	-
HCM Lane V/C Ratio	0.05	-	-	0.215	0.694	0.029	-	-
HCM Ctrl Dly (s/v)	9.8	0	-	20	98.4	9.3	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	3.5	0.1	-	-

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

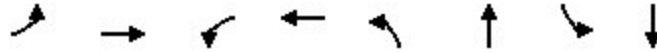
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	382	8	10	330	42	6	7	7	50	10	25
Future Vol, veh/h	42	382	8	10	330	42	6	7	7	50	10	25
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.53	0.53	0.53	0.77	0.77	0.77
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	0
Mvmt Flow	48	434	9	12	388	49	11	13	13	65	13	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.9	15.7	9.8	10.7
HCM LOS	C	C	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	10%	3%	59%
Vol Thru, %	35%	88%	86%	12%
Vol Right, %	35%	2%	11%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	432	382	85
LT Vol	6	42	10	50
Through Vol	7	382	330	10
RT Vol	7	8	42	25
Lane Flow Rate	38	491	449	110
Geometry Grp	1	1	1	1
Degree of Util (X)	0.066	0.68	0.618	0.189
Departure Headway (Hd)	6.281	4.99	4.948	6.162
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	727	728	581
Service Time	4.341	2.99	2.98	4.213
HCM Lane V/C Ratio	0.067	0.675	0.617	0.189
HCM Control Delay, s/veh	9.8	17.9	15.7	10.7
HCM Lane LOS	A	C	C	B
HCM 95th-tile Q	0.2	5.4	4.3	0.7

Timings
11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
2035 Build PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	224	20	13	14	118	779	38	901
Future Volume (vph)	224	20	13	14	118	779	38	901
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	45.0	45.0	45.0	45.0	40.0	40.0	15.0	55.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	40.0%	40.0%	15.0%	55.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)		35.4		35.4		54.0		54.0
Actuated g/C Ratio		0.35		0.35		0.54		0.54
v/c Ratio		0.90		0.12		1.04		0.78
Control Delay (s/veh)		50.3		12.2		65.1		23.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		50.3		12.2		65.1		23.0
LOS		D		B		E		C
Approach Delay (s/veh)		50.3		12.2		65.1		23.0
Approach LOS		D		B		E		C

Intersection Summary

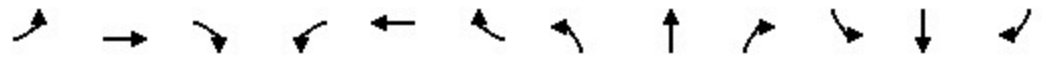
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 61 (61%), Referenced to phase 2:SBT, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay (s/veh): 42.8	Intersection LOS: D
Intersection Capacity Utilization 101.7%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	224	20	151	13	14	25	118	779	6	38	901	247
Future Volume (vph)	224	20	151	13	14	25	118	779	6	38	901	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.2			5.2			5.4			5.4	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.95			0.94			1.00			0.97	
Flt Protected		0.97			0.99			0.99			1.00	
Satd. Flow (prot)		1641			1690			3491			3314	
Flt Permitted		0.79			0.88			0.53			0.87	
Satd. Flow (perm)		1326			1503			1866			2904	
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.86	0.86	0.86	0.96	0.96	0.96
Adj. Flow (vph)	252	22	170	17	19	33	137	906	7	40	939	257
RTOR Reduction (vph)	0	24	0	0	21	0	0	0	0	0	22	0
Lane Group Flow (vph)	0	420	0	0	48	0	0	1050	0	0	1214	0
Heavy Vehicles (%)	4%	6%	11%	8%	0%	4%	6%	2%	20%	6%	6%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)		35.4			35.4			54.0			54.0	
Effective Green, g (s)		35.4			35.4			54.0			54.0	
Actuated g/C Ratio		0.35			0.35			0.54			0.54	
Clearance Time (s)		5.2			5.2			5.4			5.4	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		469			532			1007			1568	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.03			c0.56			0.42	
v/c Ratio		0.90			0.09			1.04			0.77	
Uniform Delay, d1		30.6			21.5			23.0			18.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		19.3			0.1			40.0			2.5	
Delay (s)		49.8			21.6			63.0			20.6	
Level of Service		D			C			E			C	
Approach Delay (s/veh)		49.8			21.6			63.0			20.6	
Approach LOS		D			C			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			41.2									D
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			100.0						15.9			
Intersection Capacity Utilization			101.7%									G
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Edition methodology does not support a perm + prot left-turn type from a shared lane. Left-turn bay is needed for phases 5.

Intersection						
Int Delay, s/veh	207.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	189	224	196	518	385	166
Future Vol, veh/h	189	224	196	518	385	166
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	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	205	243	213	563	443	191

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1527	538	633	0	-	0
Stage 1	538	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 131	547	959	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 88	547	959	-	-	-
Mov Cap-2 Maneuver	~ 88	-	-	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	363	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 855.42	2.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	494	-	162	-	-
HCM Lane V/C Ratio	0.222	-	2.766	-	-
HCM Ctrl Dly (s/v)	9.8	0\$	855.4	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.8	-	40	-	-

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

Intersection						
Int Delay, s/veh	160.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	181	146	128	579	405	159
Future Vol, veh/h	181	146	128	579	405	159
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	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	197	159	160	724	488	192

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1627	584	680	0	0
Stage 1	584	-	-	-	-
Stage 2	1044	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	~ 113	515	922	-	-
Stage 1	562	-	-	-	-
Stage 2	342	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	~ 81	515	922	-	-
Mov Cap-2 Maneuver	~ 81	-	-	-	-
Stage 1	399	-	-	-	-
Stage 2	342	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	\$ 862.14	1.76	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	326	-	129	-	-
HCM Lane V/C Ratio	0.173	-	2.75	-	-
HCM Ctrl Dly (s/v)	9.7	\$ 862.1	-	-	-
HCM Lane LOS	A	A	F	-	-
HCM 95th %tile Q(veh)	0.6	-	32.4	-	-

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

APPENDIX E
QUEUE LENGTH REPORTS

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	TR	L	TR	LTR
Maximum Queue (ft)	99	88	51	170	46	73
Average Queue (ft)	41	4	4	53	19	28
95th Queue (ft)	82	30	22	107	40	63
Link Distance (ft)		146	1860		1170	1514
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			150		
Storage Blk Time (%)	3			1		
Queuing Penalty (veh)	4			0		

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	136	115	221	132
Average Queue (ft)	54	66	105	44
95th Queue (ft)	94	102	177	82
Link Distance (ft)	1860	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	92	67	53
Average Queue (ft)	18	12	4
95th Queue (ft)	59	43	23
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1181	100	286	94
Average Queue (ft)	2	311	92	123	42
95th Queue (ft)	14	828	123	224	79
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		69	29		
Queuing Penalty (veh)		219	57		

Zone Summary

Zone wide Queuing Penalty: 280

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	201	171	58	290	52	1908	94	378	82
v/c Ratio	1.00	0.41	0.24	0.64	0.08	1.00	0.55	0.19	0.09
Control Delay (s/veh)	108.1	49.2	39.6	27.4	7.3	48.1	34.2	14.1	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	108.1	49.2	39.6	27.4	7.3	48.1	34.2	14.1	3.8
Queue Length 50th (ft)	~141	62	37	45	12	720	28	44	1
Queue Length 95th (ft)	#220	96	61	64	27	#986	m61	142	m9
Internal Link Dist (ft)		1363		165		645		1512	
Turn Bay Length (ft)	150		50						150
Base Capacity (vph)	201	704	253	783	673	1907	189	2030	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.24	0.23	0.37	0.08	1.00	0.50	0.19	0.09

Intersection Summary

- ~ 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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	208	1811	582
v/c Ratio	0.78	0.75	0.16
Control Delay (s/veh)	64.8	8.1	4.2
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	64.8	8.1	4.2
Queue Length 50th (ft)	144	65	37
Queue Length 95th (ft)	194	m693	47
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	313	2429	3617
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.66	0.75	0.16

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2025 Existing AM



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	20	249	1930	104	594
v/c Ratio	0.09	0.84	0.83	0.65	0.22
Control Delay (s/veh)	44.6	50.4	10.5	38.3	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.6	50.4	10.5	38.3	4.2
Queue Length 50th (ft)	14	103	436	30	58
Queue Length 95th (ft)	37	#200	354	72	71
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	290	347	2322	167	2669
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.72	0.83	0.62	0.22

Intersection Summary

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

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	TR	L	TR	LTR
Maximum Queue (ft)	99	88	51	170	46	73
Average Queue (ft)	41	4	4	53	19	28
95th Queue (ft)	82	30	22	107	40	63
Link Distance (ft)		146	1860		1170	1514
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			150		
Storage Blk Time (%)	3			1		
Queuing Penalty (veh)	4			0		

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	136	115	221	132
Average Queue (ft)	54	66	105	44
95th Queue (ft)	94	102	177	82
Link Distance (ft)	1860	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	92	67	53
Average Queue (ft)	18	12	4
95th Queue (ft)	59	43	23
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

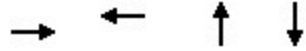
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1181	100	286	94
Average Queue (ft)	2	311	92	123	42
95th Queue (ft)	14	828	123	224	79
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		69	29		
Queuing Penalty (veh)		219	57		

Zone Summary

Zone wide Queuing Penalty: 280

Queues
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	232	60	1439	418
v/c Ratio	0.75	0.17	0.68	0.22
Control Delay (s/veh)	47.6	13.7	13.5	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	47.6	13.7	13.5	6.6
Queue Length 50th (ft)	129	10	262	40
Queue Length 95th (ft)	191	29	379	80
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	470	540	2119	1880
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.11	0.68	0.22
Intersection Summary				

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	TR	L	TR	LTR
Maximum Queue (ft)	98	115	194	152	65	596
Average Queue (ft)	38	7	27	59	19	217
95th Queue (ft)	75	47	98	116	44	494
Link Distance (ft)		146	1860		1170	1514
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			150		
Storage Blk Time (%)	2	0		1		
Queuing Penalty (veh)	8	0		0		

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	139	140	239	96
Average Queue (ft)	72	70	115	60
95th Queue (ft)	116	116	194	90
Link Distance (ft)	1860	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	68	31	31
Average Queue (ft)	11	17	11
95th Queue (ft)	40	41	34
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	53	528	100	283	434
Average Queue (ft)	12	140	73	117	110
95th Queue (ft)	38	367	113	219	267
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		40	13		
Queuing Penalty (veh)		88	26		

Zone Summary

Zone wide Queuing Penalty: 123

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	185	238	169	436	102	1146	229	1026	260
v/c Ratio	0.73	0.44	0.56	0.74	0.35	0.84	0.64	0.59	0.30
Control Delay (s/veh)	50.7	42.1	41.0	37.4	14.4	39.7	39.8	20.2	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.7	42.1	41.0	37.4	14.4	39.7	39.8	20.2	5.4
Queue Length 50th (ft)	112	77	101	103	32	420	71	311	37
Queue Length 95th (ft)	163	110	146	144	64	514	#265	212	54
Internal Link Dist (ft)		1363		165		645		1512	
Turn Bay Length (ft)	150		50						150
Base Capacity (vph)	262	893	302	872	314	1365	356	1726	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.27	0.56	0.50	0.32	0.84	0.64	0.59	0.30

Intersection Summary

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

Queues
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing PM



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	136	1379	1548
v/c Ratio	0.64	0.66	0.39
Control Delay (s/veh)	54.3	14.9	3.0
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	54.3	14.9	3.0
Queue Length 50th (ft)	83	381	41
Queue Length 95th (ft)	144	230	222
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	449	2082	3974
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.30	0.66	0.39
Intersection Summary			

Queues
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2025 Existing PM



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	50	186	1451	183	1415
v/c Ratio	0.34	0.62	0.60	0.54	0.49
Control Delay (s/veh)	58.1	16.8	13.1	10.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.1	16.8	13.1	10.4	3.9
Queue Length 50th (ft)	38	0	174	20	123
Queue Length 95th (ft)	72	59	620	69	199
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	395	495	2400	482	2912
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.38	0.60	0.38	0.49
Intersection Summary					

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	EB	WB	NB	NB	SB
Directions Served	L	T	TR	L	TR	LTR
Maximum Queue (ft)	98	115	194	152	65	596
Average Queue (ft)	38	7	27	59	19	217
95th Queue (ft)	75	47	98	116	44	494
Link Distance (ft)		146	1860		1170	1514
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			150		
Storage Blk Time (%)	2	0		1		
Queuing Penalty (veh)	8	0		0		

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	139	140	239	96
Average Queue (ft)	72	70	115	60
95th Queue (ft)	116	116	194	90
Link Distance (ft)	1860	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	68	31	31
Average Queue (ft)	11	17	11
95th Queue (ft)	40	41	34
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

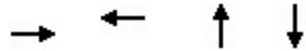
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	53	528	100	283	434
Average Queue (ft)	12	140	73	117	110
95th Queue (ft)	38	367	113	219	267
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		40	13		
Queuing Penalty (veh)		88	26		

Zone Summary

Zone wide Queuing Penalty: 123

Queues
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	258	64	886	1060
v/c Ratio	0.76	0.17	0.48	0.53
Control Delay (s/veh)	45.1	16.9	10.7	11.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	45.1	16.9	10.7	11.0
Queue Length 50th (ft)	138	17	132	162
Queue Length 95th (ft)	198	34	218	283
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	561	637	1844	1984
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.10	0.48	0.53
Intersection Summary				

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	162	92	86	78
Average Queue (ft)	112	48	48	38
95th Queue (ft)	156	76	81	72
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	161	100	242	100
Average Queue (ft)	61	61	125	45
95th Queue (ft)	111	93	194	78
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	52	204	53
Average Queue (ft)	8	22	21	9
95th Queue (ft)	29	50	108	34
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

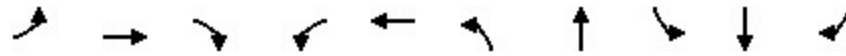
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	77	1436	100	198	154
Average Queue (ft)	5	808	100	115	54
95th Queue (ft)	31	1631	100	179	122
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	3			
Queuing Penalty (veh)	0	18			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		76	50		
Queuing Penalty (veh)		267	106		

Zone Summary

Zone wide Queuing Penalty: 393

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	222	165	24	65	320	57	2108	103	418	91
v/c Ratio	0.95	0.59	0.07	0.25	0.57	0.10	1.19	0.59	0.22	0.10
Control Delay (s/veh)	88.7	55.9	0.3	35.1	25.3	9.8	120.6	30.0	17.6	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	88.7	55.9	0.3	35.1	25.3	9.8	120.6	30.0	17.6	5.4
Queue Length 50th (ft)	146	123	0	39	55	15	~1039	29	117	3
Queue Length 95th (ft)	#249	188	0	60	71	35	#1234	m65	173	m33
Internal Link Dist (ft)		1363			165		645		1512	
Turn Bay Length (ft)	150			50						150
Base Capacity (vph)	233	372	426	263	781	604	1769	188	1888	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.44	0.06	0.25	0.41	0.09	1.19	0.55	0.22	0.10

Intersection Summary

- ~ 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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	229	2000	644
v/c Ratio	0.82	0.84	0.18
Control Delay (s/veh)	68.2	11.8	4.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	68.2	11.8	4.4
Queue Length 50th (ft)	159	792	45
Queue Length 95th (ft)	214	m647	53
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	311	2387	3574
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.74	0.84	0.18

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	22	276	2132	114	655
v/c Ratio	0.09	0.88	0.94	0.70	0.25
Control Delay (s/veh)	44.1	58.6	18.7	44.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.1	58.6	18.7	44.9	4.7
Queue Length 50th (ft)	15	129	276	38	73
Queue Length 95th (ft)	39	#267	#1004	80	78
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	290	342	2272	166	2620
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.81	0.94	0.69	0.25

Intersection Summary

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

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	162	92	86	78
Average Queue (ft)	112	48	48	38
95th Queue (ft)	156	76	81	72
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	2			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	161	100	242	100
Average Queue (ft)	61	61	125	45
95th Queue (ft)	111	93	194	78
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	52	204	53
Average Queue (ft)	8	22	21	9
95th Queue (ft)	29	50	108	34
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

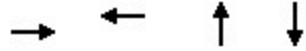
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	77	1436	100	198	154
Average Queue (ft)	5	808	100	115	54
95th Queue (ft)	31	1631	100	179	122
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	3			
Queuing Penalty (veh)	0	18			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		76	50		
Queuing Penalty (veh)		267	106		

Zone Summary

Zone wide Queuing Penalty: 393

Queues
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	256	66	1589	461
v/c Ratio	0.76	0.17	0.78	0.26
Control Delay (s/veh)	47.1	12.6	17.7	7.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	47.1	12.6	17.7	7.7
Queue Length 50th (ft)	143	11	344	49
Queue Length 95th (ft)	208	30	483	95
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	469	540	2044	1793
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.12	0.78	0.26
Intersection Summary				

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	178	115	105	200
Average Queue (ft)	146	59	41	99
95th Queue (ft)	172	93	72	169
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	16			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	132	147	339	186
Average Queue (ft)	63	72	138	81
95th Queue (ft)	108	119	258	143
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	79	53	52
Average Queue (ft)	11	17	8
95th Queue (ft)	43	44	31
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

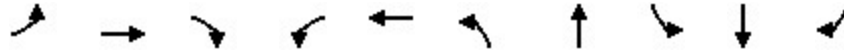
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	30	607	100	350	352
Average Queue (ft)	12	272	93	154	168
95th Queue (ft)	35	552	118	276	321
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		73	27		
Queuing Penalty (veh)		177	57		

Zone Summary

Zone wide Queuing Penalty: 251

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	204	213	49	186	482	113	1265	253	1134	287
v/c Ratio	0.80	0.66	0.12	0.69	0.76	0.44	0.95	0.73	0.69	0.34
Control Delay (s/veh)	55.2	54.4	0.6	46.5	38.1	17.9	52.1	53.1	22.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.2	54.4	0.6	46.5	38.1	17.9	52.1	53.1	22.8	8.6
Queue Length 50th (ft)	122	153	0	111	121	36	489	157	206	31
Queue Length 95th (ft)	#177	217	0	154	161	73	#641	#345	278	86
Internal Link Dist (ft)		1363			165		645		1512	
Turn Bay Length (ft)	150			50						150
Base Capacity (vph)	262	470	519	271	875	270	1335	345	1645	838
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.45	0.09	0.69	0.55	0.42	0.95	0.73	0.69	0.34

Intersection Summary

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

Queues
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	150	1522	1710
v/c Ratio	0.66	0.77	0.43
Control Delay (s/veh)	55.6	15.2	6.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	55.6	15.2	6.3
Queue Length 50th (ft)	94	243	180
Queue Length 95th (ft)	156	m211	309
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	449	1970	3939
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.77	0.43

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	55	206	1603	202	1563
v/c Ratio	0.37	0.64	0.68	0.64	0.54
Control Delay (s/veh)	58.5	16.6	16.0	22.1	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.5	16.6	16.0	22.1	4.4
Queue Length 50th (ft)	41	0	363	41	149
Queue Length 95th (ft)	77	60	740	124	242
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	395	511	2358	445	2905
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	0.40	0.68	0.45	0.54
Intersection Summary					

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	178	115	105	200
Average Queue (ft)	146	59	41	99
95th Queue (ft)	172	93	72	169
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	3			
Queuing Penalty (veh)	16			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	132	147	339	186
Average Queue (ft)	63	72	138	81
95th Queue (ft)	108	119	258	143
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	79	53	52
Average Queue (ft)	11	17	8
95th Queue (ft)	43	44	31
Link Distance (ft)	1303	1456	1426
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Murphy Avenue & Sylvan Road

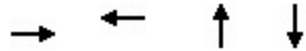
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	30	607	100	350	352
Average Queue (ft)	12	272	93	154	168
95th Queue (ft)	35	552	118	276	321
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	1				
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		73	27		
Queuing Penalty (veh)		177	57		

Zone Summary

Zone wide Queuing Penalty: 251

Queues
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	286	69	979	1173
v/c Ratio	0.78	0.16	0.58	0.62
Control Delay (s/veh)	44.5	15.8	13.5	13.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.5	15.8	13.5	13.7
Queue Length 50th (ft)	153	17	171	209
Queue Length 95th (ft)	215	34	278	361
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	559	636	1693	1886
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.11	0.58	0.62
Intersection Summary				

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	172	162	126	73
Average Queue (ft)	142	74	52	32
95th Queue (ft)	173	131	85	55
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	15			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	336	463	1346	104
Average Queue (ft)	154	147	1024	70
95th Queue (ft)	313	346	1748	107
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)			16	
Queuing Penalty (veh)			107	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	647	462	423	31
Average Queue (ft)	146	244	387	4
95th Queue (ft)	451	462	534	20
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)			35	
Queuing Penalty (veh)			257	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

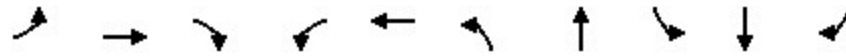
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	66	1439	100	226	134
Average Queue (ft)	3	1430	100	116	59
95th Queue (ft)	24	1451	100	181	110
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	39			
Queuing Penalty (veh)	0	285			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		95	29		
Queuing Penalty (veh)		372	98		

Zone Summary

Zone wide Queuing Penalty: 1135

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	249	218	24	145	401	57	2224	129	440	113
v/c Ratio	1.08	0.76	0.07	0.60	0.63	0.11	1.36	0.71	0.25	0.13
Control Delay (s/veh)	119.8	64.0	0.3	44.1	30.9	11.3	192.8	39.2	21.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	119.8	64.0	0.3	44.1	30.9	11.3	192.8	39.2	21.9	7.7
Queue Length 50th (ft)	~173	162	0	87	90	17	~1218	38	126	4
Queue Length 95th (ft)	#310	237	0	112	103	38	#1331	m#147	m187	m47
Internal Link Dist (ft)		1363			165		645		1512	
Turn Bay Length (ft)	150			50						150
Base Capacity (vph)	230	372	426	240	780	560	1640	188	1780	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.59	0.06	0.60	0.51	0.10	1.36	0.69	0.25	0.13

Intersection Summary

- ~ 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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	260	2074	694
v/c Ratio	0.88	0.91	0.20
Control Delay (s/veh)	73.2	15.2	4.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	73.2	15.2	4.3
Queue Length 50th (ft)	180	840	46
Queue Length 95th (ft)	#253	m591	53
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	315	2279	3540
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.83	0.91	0.20

Intersection Summary

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Lee Street & Sylvan Road



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	68	366	2187	244	655
v/c Ratio	0.23	1.07	1.00	1.46	0.26
Control Delay (s/veh)	46.4	102.6	29.2	264.3	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.4	102.6	29.2	264.3	5.2
Queue Length 50th (ft)	47	~239	408	~210	73
Queue Length 95th (ft)	91	#432	#1053	#302	78
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	290	342	2192	167	2552
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	1.07	1.00	1.46	0.26

Intersection Summary

- ~ 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.

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	172	162	126	73
Average Queue (ft)	142	74	52	32
95th Queue (ft)	173	131	85	55
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	15			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	336	463	1346	104
Average Queue (ft)	154	147	1024	70
95th Queue (ft)	313	346	1748	107
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)			16	
Queuing Penalty (veh)			107	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

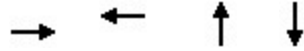
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	647	462	423	31
Average Queue (ft)	146	244	387	4
95th Queue (ft)	451	462	534	20
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)			35	
Queuing Penalty (veh)			257	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	66	1439	100	226	134
Average Queue (ft)	3	1430	100	116	59
95th Queue (ft)	24	1451	100	181	110
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	39			
Queuing Penalty (veh)	0	285			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		95	29		
Queuing Penalty (veh)		372	98		

Zone Summary

Zone wide Queuing Penalty: 1135



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	346	66	1649	513
v/c Ratio	0.86	0.14	0.95	0.31
Control Delay (s/veh)	51.2	11.2	33.1	8.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.2	11.2	33.1	8.8
Queue Length 50th (ft)	190	10	497	61
Queue Length 95th (ft)	#300	29	#636	101
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	470	534	1742	1630
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.74	0.12	0.95	0.31

Intersection Summary

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

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	178	1546	155	868
Average Queue (ft)	163	889	64	564
95th Queue (ft)	181	1615	120	927
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	10			
Queuing Penalty (veh)	83			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	658	944	1354	340
Average Queue (ft)	225	381	968	134
95th Queue (ft)	523	867	1703	286
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)			15	
Queuing Penalty (veh)			97	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	472	810	424	120
Average Queue (ft)	126	451	362	18
95th Queue (ft)	373	917	584	73
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)			38	
Queuing Penalty (veh)			353	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

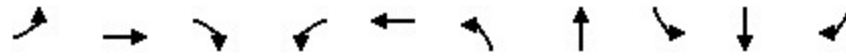
Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1446	100	239	990
Average Queue (ft)	8	1414	97	119	555
95th Queue (ft)	29	1525	126	203	925
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	52			
Queuing Penalty (veh)	0	380			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		99	13		
Queuing Penalty (veh)		312	57		

Zone Summary

Zone wide Queuing Penalty: 1282

Queues
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	238	282	49	307	604	113	1398	287	1172	325
v/c Ratio	0.90	0.69	0.10	1.12	0.81	0.55	1.05	1.10	0.78	0.41
Control Delay (s/veh)	67.2	51.0	0.5	123.8	42.8	26.4	75.3	125.4	27.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	67.2	51.0	0.5	123.8	42.8	26.4	75.3	125.4	27.6	10.4
Queue Length 50th (ft)	134	198	0	~205	176	42	~615	~226	235	32
Queue Length 95th (ft)	#262	280	0	#353	224	86	#757	#443	330	110
Internal Link Dist (ft)		1363			165		645		1512	
Turn Bay Length (ft)	150			50						150
Base Capacity (vph)	263	470	519	274	860	221	1329	261	1499	787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.60	0.09	1.12	0.70	0.51	1.05	1.10	0.78	0.41

Intersection Summary

~ 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.

Queues
2: Lee Street & Avon Avenue



Lane Group	EBL	NBT	SBT
Lane Group Flow (vph)	183	1626	1785
v/c Ratio	0.71	1.02	0.46
Control Delay (s/veh)	54.7	36.2	7.7
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	54.7	36.2	7.7
Queue Length 50th (ft)	111	~312	242
Queue Length 95th (ft)	180	m#760	335
Internal Link Dist (ft)	1143	1512	2096
Turn Bay Length (ft)			
Base Capacity (vph)	452	1597	3869
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	1.02	0.46

Intersection Summary

- ~ 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.
- m Volume for 95th percentile queue is metered by upstream signal.

Queues
3: Lee Street & Sylvan Road



Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	136	370	1670	332	1563
v/c Ratio	0.61	0.77	0.86	0.85	0.57
Control Delay (s/veh)	60.8	19.3	33.4	53.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.8	19.3	33.4	53.7	6.7
Queue Length 50th (ft)	102	31	710	194	203
Queue Length 95th (ft)	149	109	m#755	302	341
Internal Link Dist (ft)	42		2096		1451
Turn Bay Length (ft)				150	
Base Capacity (vph)	395	604	1933	422	2760
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.61	0.86	0.79	0.57

Intersection Summary

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

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Intersection: 4: Murphy Avenue & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	178	1546	155	868
Average Queue (ft)	163	889	64	564
95th Queue (ft)	181	1615	120	927
Link Distance (ft)	155	1866	1184	1512
Upstream Blk Time (%)	10			
Queuing Penalty (veh)	83			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Sylvan Road & Dill Avenue

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	658	944	1354	340
Average Queue (ft)	225	381	968	134
95th Queue (ft)	523	867	1703	286
Link Distance (ft)	1866	1558	1340	392
Upstream Blk Time (%)			15	
Queuing Penalty (veh)			97	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Sylvan Road & Avon Avenue

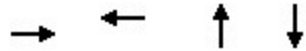
Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	472	810	424	120
Average Queue (ft)	126	451	362	18
95th Queue (ft)	373	917	584	73
Link Distance (ft)	1303	1456	408	1426
Upstream Blk Time (%)			38	
Queuing Penalty (veh)			353	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Murphy Avenue & Sylvan Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	LTR	LTR
Maximum Queue (ft)	31	1446	100	239	990
Average Queue (ft)	8	1414	97	119	555
95th Queue (ft)	29	1525	126	203	925
Link Distance (ft)	44	1426		1956	1451
Upstream Blk Time (%)	0	52			
Queuing Penalty (veh)	0	380			
Storage Bay Dist (ft)			50		
Storage Blk Time (%)		99	13		
Queuing Penalty (veh)		312	57		

Zone Summary

Zone wide Queuing Penalty: 1282



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	444	69	1050	1236
v/c Ratio	0.90	0.12	1.04	0.78
Control Delay (s/veh)	50.3	12.2	65.1	23.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	50.3	12.2	65.1	23.0
Queue Length 50th (ft)	234	14	~403	323
Queue Length 95th (ft)	#392	32	#505	437
Internal Link Dist (ft)	1408	532	610	1030
Turn Bay Length (ft)				
Base Capacity (vph)	550	618	1008	1590
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.81	0.11	1.04	0.78

Intersection Summary

- ~ 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.

APPENDIX F
MITIGATION SYNCHRO REPORTS

2025 EXISTING MITIGATION

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↕	↖	↕	↖	↕↕	↗
Traffic Volume (vph)	189	140	45	90	45	1463	89	359	78
Future Volume (vph)	189	140	45	90	45	1463	89	359	78
Turn Type	Prot	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases			4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	11.0	27.2	11.0	27.2	27.2
Total Split (s)	15.0	32.0	14.0	31.0	11.0	53.0	11.0	53.0	53.0
Total Split (%)	13.6%	29.1%	12.7%	28.2%	10.0%	48.2%	10.0%	48.2%	48.2%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	8.7	16.7	22.4	12.8	66.2	55.4	65.1	59.9	59.9
Actuated g/C Ratio	0.08	0.15	0.20	0.12	0.60	0.50	0.59	0.54	0.54
v/c Ratio	0.73	0.34	0.21	0.66	0.09	1.10	0.50	0.20	0.09
Control Delay (s/veh)	66.0	41.0	40.3	44.7	8.5	80.9	24.1	14.4	0.2
Queue Delay	0.0	0.0	0.0	0.1	0.0	1.2	0.0	0.0	0.0
Total Delay (s/veh)	66.0	41.0	40.3	44.8	8.5	82.2	24.1	14.4	0.2
LOS	E	D	D	D	A	F	C	B	A
Approach Delay (s/veh)		54.5		44.0		80.2		13.9	
Approach LOS		D		D		F		B	

Intersection Summary































Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay (s/veh): 62.0 Intersection LOS: E
 Intersection Capacity Utilization 85.4% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM Mitigation

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	 
Traffic Volume (veh/h)	189	140	21	45	90	133	45	1463	197	89	359	78
Future Volume (veh/h)	189	140	21	45	90	133	45	1463	197	89	359	78
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	201	149	0	58	117	0	52	1682	226	94	378	0
Peak Hour Factor	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	261	419		238	300		637	1795	236	144	2011	
Arrive On Green	0.07	0.13	0.00	0.04	0.09	0.00	0.04	0.57	0.57	0.04	0.58	0.00
Sat Flow, veh/h	3483	3387	0	1753	3387	0	1711	3132	412	1570	3469	1510
Grp Volume(v), veh/h	201	149	0	58	117	0	52	931	977	94	378	0
Grp Sat Flow(s),veh/h/ln	1742	1650	0	1753	1650	0	1711	1763	1781	1570	1735	1510
Q Serve(g_s), s	6.2	4.5	0.0	3.1	3.7	0.0	1.3	52.6	57.0	2.7	5.7	0.0
Cycle Q Clear(g_c), s	6.2	4.5	0.0	3.1	3.7	0.0	1.3	52.6	57.0	2.7	5.7	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	261	419		238	300		637	1010	1021	144	2011	
V/C Ratio(X)	0.77	0.36		0.24	0.39		0.08	0.92	0.96	0.65	0.19	
Avail Cap(c_a), veh/h	275	783		293	753		659	1010	1021	154	2011	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	49.9	43.9	0.0	39.7	47.1	0.0	8.5	21.2	22.2	26.3	10.9	0.0
Incr Delay (d2), s/veh	11.9	0.5	0.0	0.5	0.7	0.0	0.1	14.8	19.5	8.6	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.9	0.0	1.4	1.6	0.0	0.5	23.3	26.6	1.7	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	61.9	44.4	0.0	40.1	47.9	0.0	8.6	36.0	41.7	34.9	11.1	0.0
LnGrp LOS	E	D		D	D		A	D	D	C	B	
Approach Vol, veh/h		350			175			1960			472	
Approach Delay, s/veh		54.4			45.3			38.1			15.8	
Approach LOS		D			D			D			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	70.0	10.6	19.9	10.3	69.2	14.5	15.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	5.4	46.8	7.7	26.1	5.4	46.8	8.7	25.1				
Max Q Clear Time (g_c+I1), s	3.3	7.7	5.1	6.5	4.7	59.0	8.2	5.7				
Green Ext Time (p_c), s	0.0	2.5	0.0	0.8	0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 7th Control Delay, s/veh			36.9									
HCM 7th LOS			D									
Notes												
Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
2: Lee Street & Avon Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	TT		TT	TTT
Traffic Volume (vph)	116	39	1699	445
Future Volume (vph)	116	39	1699	445
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	24.4	75.6	75.6	75.6
Total Split (%)	24.4%	75.6%	75.6%	75.6%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	10.0		77.8	77.8
Actuated g/C Ratio	0.10		0.78	0.78
v/c Ratio	0.53		0.72	0.16
Control Delay (s/veh)	34.3		8.0	2.8
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	34.3		8.0	2.8
LOS	C		A	A
Approach Delay (s/veh)	34.3		8.0	2.8
Approach LOS	C		A	A

Intersection Summary

Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay (s/veh): 8.9	Intersection LOS: A
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: Lee Street & Avon Avenue



HCM 7th Signalized Intersection Summary
2: Lee Street & Avon Avenue












DRI #4430 Sylvan Mixed-Use
2025 Existing AM Mitigation



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YY			↑↑	↑↑↑	
Traffic Volume (veh/h)	116	50	39	1699	445	44
Future Volume (veh/h)	116	50	39	1699	445	44
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	104	106	41	1770	530	52
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	158	142	76	2646	3589	348
Arrive On Green	0.09	0.09	0.79	0.79	0.79	0.79
Sat Flow, veh/h	1781	1610	48	3436	4707	441
Grp Volume(v), veh/h	104	106	968	843	379	203
Grp Sat Flow(s),veh/h/ln	1781	1610	1795	1604	1635	1717
Q Serve(g_s), s	5.7	6.4	0.0	23.3	2.8	2.8
Cycle Q Clear(g_c), s	5.7	6.4	22.9	23.3	2.8	2.8
Prop In Lane	1.00	1.00	0.04			0.26
Lane Grp Cap(c), veh/h	158	142	1455	1267	2581	1356
V/C Ratio(X)	0.66	0.74	0.67	0.67	0.15	0.15
Avail Cap(c_a), veh/h	338	306	1455	1267	2581	1356
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.09	0.09	0.99	0.99
Uniform Delay (d), s/veh	44.1	44.5	4.6	4.7	2.5	2.5
Incr Delay (d2), s/veh	4.7	7.5	0.2	0.3	0.1	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.9	5.2	4.6	0.6	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	48.8	51.9	4.8	4.9	2.6	2.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h				1811	582	
Approach Delay, s/veh	50.4			4.9	2.7	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		85.8			85.8	14.2
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		68.8			68.8	19.0
Max Q Clear Time (g_c+I1), s		4.8			25.3	8.4
Green Ext Time (p_c), s		3.9			20.8	0.4
Intersection Summary						
HCM 7th Control Delay, s/veh			8.1			
HCM 7th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

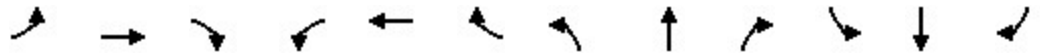
HCM 7th Signalized Intersection Summary
3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2025 Existing AM Mitigation

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	227	1740	36	81	463
Future Volume (veh/h)	18	227	1740	36	81	463
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	20	249	1891	39	104	594
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	291	329	2269	47	196	2576
Arrive On Green	0.16	0.16	0.65	0.65	0.05	0.74
Sat Flow, veh/h	1810	1572	3596	72	1739	3561
Grp Volume(v), veh/h	20	249	940	990	104	594
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1828	1739	1735
Q Serve(g_s), s	1.1	17.9	49.2	50.0	2.2	6.4
Cycle Q Clear(g_c), s	1.1	17.9	49.2	50.0	2.2	6.4
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	291	329	1132	1183	196	2576
V/C Ratio(X)	0.07	0.76	0.83	0.84	0.53	0.23
Avail Cap(c_a), veh/h	291	329	1132	1183	219	2576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.65	0.65	1.00	1.00
Uniform Delay (d), s/veh	42.7	44.6	16.1	16.3	24.8	4.8
Incr Delay (d2), s/veh	0.1	8.5	4.8	4.7	2.2	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	15.6	18.6	19.8	2.1	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	42.8	53.1	20.9	21.0	27.0	5.0
LnGrp LOS	D	D	C	C	C	A
Approach Vol, veh/h	269		1930			698
Approach Delay, s/veh	52.3		21.0			8.3
Approach LOS	D		C			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		95.0		25.0	11.4	83.6
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		89.1		19.3	7.4	76.1
Max Q Clear Time (g_c+I1), s		8.4		19.9	4.2	52.0
Green Ext Time (p_c), s		4.3		0.0	0.1	16.1
Intersection Summary						
HCM 7th Control Delay, s/veh			20.8			
HCM 7th LOS			C			

HCM 7th Signalized Intersection Summary
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	142	72	5	133	9	112	40	4	3	5	24
Future Volume (veh/h)	289	142	72	5	133	9	112	40	4	3	5	24
Initial Q (Qb), veh	0	0	0	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	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	1841	1707	1633	1604	1737	1900	1737	1826	1900	1411	1604	1781
Adj Flow Rate, veh/h	401	197	100	6	155	10	145	52	5	5	8	39
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.77	0.77	0.77	0.62	0.62	0.62
Percent Heavy Veh, %	4	13	18	20	11	0	11	5	0	33	20	8
Cap, veh/h	992	817	415	48	930	59	238	207	20	42	38	132
Arrive On Green	0.16	1.00	1.00	0.59	0.59	0.59	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1753	1068	542	25	1577	99	1262	1640	158	49	300	1047
Grp Volume(v), veh/h	401	0	297	171	0	0	145	0	57	52	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1610	1701	0	0	1262	0	1798	1396	0	0
Q Serve(g_s), s	10.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0	3.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.0	0.0	0.0	5.0	0.0	0.0	11.2	0.0	3.1	3.7	0.0	0.0
Prop In Lane	1.00		0.34	0.04		0.06	1.00		0.09	0.10		0.75
Lane Grp Cap(c), veh/h	992	0	1231	1037	0	0	238	0	227	212	0	0
V/C Ratio(X)	0.40	0.00	0.24	0.16	0.00	0.00	0.61	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1322	0	1231	1037	0	0	411	0	474	400	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.92	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	0.0	0.0	10.3	0.0	0.0	46.6	0.0	43.4	43.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.3	0.0	0.0	2.5	0.0	0.6	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.1	2.0	0.0	0.0	4.1	0.0	1.5	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.0	0.0	0.4	10.6	0.0	0.0	49.1	0.0	44.0	44.2	0.0	0.0
LnGrp LOS	A		A	B			D		D	D		
Approach Vol, veh/h		698			171			202				52
Approach Delay, s/veh		3.6			10.6			47.6				44.2
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		90.1		19.9	19.3	70.9		19.9				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		69.0		29.0	34.0	29.0		29.0				
Max Q Clear Time (g_c+I1), s		2.0		5.7	12.0	7.0		13.2				
Green Ext Time (p_c), s		2.2		0.2	1.3	1.0		0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				14.5								
HCM 7th LOS				B								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2025 Existing AM Mitigation

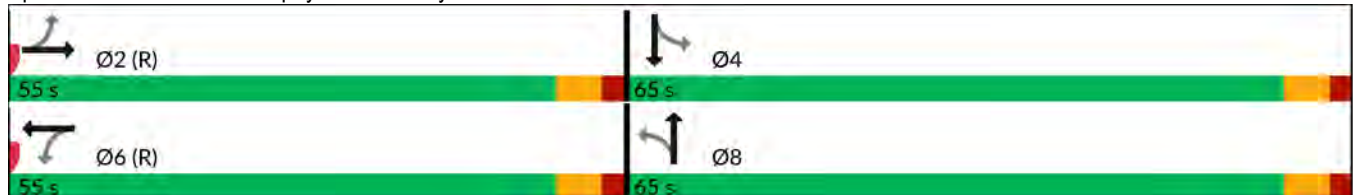


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	34	83	1	192	22	291	29	24
Future Volume (vph)	34	83	1	192	22	291	29	24
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	55.0	55.0	55.0	55.0	65.0	65.0	65.0	65.0
Total Split (%)	45.8%	45.8%	45.8%	45.8%	54.2%	54.2%	54.2%	54.2%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		76.4		76.4		31.6		31.6
Actuated g/C Ratio		0.64		0.64		0.26		0.26
v/c Ratio		0.16		0.49		0.78		0.28
Control Delay (s/veh)		9.1		12.5		52.4		23.7
Queue Delay		2.0		0.8		2.0		0.4
Total Delay (s/veh)		11.1		13.3		54.4		24.1
LOS		B		B		D		C
Approach Delay (s/veh)		11.1		13.3		54.4		24.1
Approach LOS		B		B		D		C

Intersection Summary

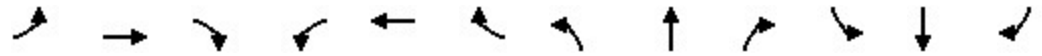
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 65 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay (s/veh): 27.1	Intersection LOS: C
Intersection Capacity Utilization 60.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	34	83	2	1	192	316	22	291	0	29	24	27
Future Volume (veh/h)	34	83	2	1	192	316	22	291	0	29	24	27
Initial Q (Qb), veh	0	0	0	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	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	1900	1811	1900	1900	1856	1856	1900	1841	1900	1796	1841	1900
Adj Flow Rate, veh/h	42	104	2	1	202	333	26	342	0	33	28	31
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.85	0.85	0.85	0.87	0.87	0.87
Percent Heavy Veh, %	0	6	0	0	3	3	0	4	0	7	4	0
Cap, veh/h	268	644	12	30	421	691	50	404	0	106	90	79
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.23	0.23	0.00	0.23	0.23	0.23
Sat Flow, veh/h	345	966	18	0	632	1037	78	1732	0	281	385	339
Grp Volume(v), veh/h	148	0	0	536	0	0	368	0	0	92	0	0
Grp Sat Flow(s),veh/h/ln	1328	0	0	1669	0	0	1810	0	0	1005	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	18.9	0.0	0.0	23.4	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.28		0.01	0.00		0.62	0.07		0.00	0.36		0.34
Lane Grp Cap(c), veh/h	924	0	0	1142	0	0	455	0	0	275	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.47	0.00	0.00	0.81	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	924	0	0	1142	0	0	917	0	0	628	0	0
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)	0.96	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.3	0.0	0.0	9.8	0.0	0.0	44.2	0.0	0.0	37.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	1.4	0.0	0.0	3.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	6.8	0.0	0.0	11.0	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.6	0.0	0.0	11.2	0.0	0.0	47.6	0.0	0.0	38.2	0.0	0.0
LnGrp LOS	A			B			D			D		
Approach Vol, veh/h		148			536			368				92
Approach Delay, s/veh		7.6			11.2			47.6				38.2
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		34.0		86.0		34.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		49.0		59.0		49.0		59.0				
Max Q Clear Time (g_c+I1), s		5.6		9.3		20.9		25.4				
Green Ext Time (p_c), s		1.0		0.7		3.9		2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				24.6								
HCM 7th LOS				C								

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2025 Existing PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔	↔	↕↔	↔	↕↔	↔	↕↕	↔
Traffic Volume (vph)	165	172	147	200	95	929	211	944	239
Future Volume (vph)	165	172	147	200	95	929	211	944	239
Turn Type	Prot	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases			4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	10.6	27.2	10.6	27.2	27.2
Total Split (s)	15.0	32.0	14.0	31.0	14.6	45.0	19.0	49.4	49.4
Total Split (%)	13.6%	29.1%	12.7%	28.2%	13.3%	40.9%	17.3%	44.9%	44.9%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	8.9	15.8	23.7	15.2	62.5	46.6	62.5	53.8	53.8
Actuated g/C Ratio	0.08	0.14	0.22	0.14	0.57	0.42	0.57	0.49	0.49
v/c Ratio	0.67	0.48	0.61	0.71	0.33	0.77	0.69	0.59	0.29
Control Delay (s/veh)	61.7	41.3	46.7	34.2	12.6	32.6	33.9	20.4	5.2
Queue Delay	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.7	41.3	46.8	34.4	12.6	32.6	33.9	20.4	5.2
LOS	E	D	D	C	B	C	C	C	A
Approach Delay (s/veh)		50.3		37.9		31.0		19.8	
Approach LOS		D		D		C		B	

Intersection Summary

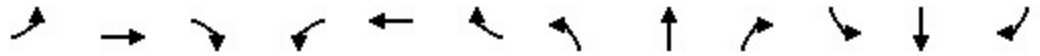
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay (s/veh): 29.8
 Intersection LOS: C
 Intersection Capacity Utilization 78.2%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗		↖	↖↗		↖	↖↗		↖	↖↗	↖
Traffic Volume (veh/h)	165	172	40	147	200	179	95	929	137	211	944	239
Future Volume (veh/h)	165	172	40	147	200	179	95	929	137	211	944	239
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	185	193	0	169	230	0	102	999	147	229	1026	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	245	324		238	332		365	1673	246	358	2035	
Arrive On Green	0.07	0.10	0.00	0.02	0.03	0.00	0.04	0.54	0.54	0.08	0.57	0.00
Sat Flow, veh/h	3456	3474	0	1767	3589	0	1795	3108	457	1767	3554	1610
Grp Volume(v), veh/h	185	193	0	169	230	0	102	571	575	229	1026	0
Grp Sat Flow(s),veh/h/ln	1728	1692	0	1767	1749	0	1795	1777	1788	1767	1777	1610
Q Serve(g_s), s	5.8	6.0	0.0	7.7	7.2	0.0	2.5	24.0	24.1	6.3	19.1	0.0
Cycle Q Clear(g_c), s	5.8	6.0	0.0	7.7	7.2	0.0	2.5	24.0	24.1	6.3	19.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	245	324		238	332		365	956	962	358	2035	
V/C Ratio(X)	0.75	0.60		0.71	0.69		0.28	0.60	0.60	0.64	0.50	
Avail Cap(c_a), veh/h	273	803		238	798		433	956	962	436	2035	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.78	0.78	0.00	1.00	1.00	1.00	0.93	0.93	0.00
Uniform Delay (d), s/veh	50.2	47.7	0.0	45.9	51.7	0.0	10.6	17.3	17.3	14.3	14.1	0.0
Incr Delay (d2), s/veh	10.2	1.7	0.0	7.5	2.0	0.0	0.4	2.7	2.7	2.1	0.8	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.6	0.0	1.3	3.4	0.0	0.9	9.8	9.9	2.4	7.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.3	49.4	0.0	53.4	53.7	0.0	11.0	20.0	20.0	16.4	15.0	0.0
LnGrp LOS	E	D		D	D		B	C	C	B	B	
Approach Vol, veh/h		378			399			1248			1255	
Approach Delay, s/veh		54.8			53.6			19.3			15.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	69.2	14.0	16.4	14.2	65.4	14.1	16.3				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	9.0	43.2	7.7	26.1	13.4	38.8	8.7	25.1				
Max Q Clear Time (g_c+I1), s	4.5	21.1	9.7	8.0	8.3	26.1	7.8	9.2				
Green Ext Time (p_c), s	0.1	7.3	0.0	1.0	0.3	5.8	0.1	1.3				

Intersection Summary												
HCM 7th Control Delay, s/veh				26.0								
HCM 7th LOS				C								

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

Timings
2: Lee Street & Avon Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	TTT		TTT	TTT
Traffic Volume (vph)	79	52	1216	1353
Future Volume (vph)	79	52	1216	1353
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	25.0	85.0	85.0	85.0
Total Split (%)	22.7%	77.3%	77.3%	77.3%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effect Green (s)	8.9		88.9	88.9
Actuated g/C Ratio	0.08		0.81	0.81
v/c Ratio	0.43		0.64	0.38
Control Delay (s/veh)	33.4		12.9	3.2
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	33.4		12.9	3.2
LOS	C		B	A
Approach Delay (s/veh)	33.4		12.9	3.2
Approach LOS	C		B	A

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay (s/veh): 8.9
 Intersection LOS: A
 Intersection Capacity Utilization 86.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Lee Street & Avon Avenue



HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM Mitigation



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TTT	
Traffic Volume (veh/h)	79	50	52	1216	1353	102
Future Volume (veh/h)	79	50	52	1216	1353	102
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	68	69	57	1322	1439	109
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	130	115	107	2450	3958	300
Arrive On Green	0.07	0.07	1.00	1.00	0.82	0.82
Sat Flow, veh/h	1810	1610	88	3082	5010	367
Grp Volume(v), veh/h	68	69	669	710	1012	536
Grp Sat Flow(s),veh/h/ln	1810	1610	1467	1617	1702	1804
Q Serve(g_s), s	4.0	4.6	0.0	0.0	8.5	8.5
Cycle Q Clear(g_c), s	4.0	4.6	0.0	0.0	8.5	8.5
Prop In Lane	1.00	1.00	0.09			0.20
Lane Grp Cap(c), veh/h	130	115	1235	1322	2783	1475
V/C Ratio(X)	0.52	0.60	0.54	0.54	0.36	0.36
Avail Cap(c_a), veh/h	322	287	1235	1322	2783	1475
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.57	0.57	0.88	0.88
Uniform Delay (d), s/veh	49.3	49.5	0.0	0.0	2.6	2.6
Incr Delay (d2), s/veh	3.3	4.9	1.0	0.9	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.0	0.3	0.3	1.7	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.5	54.4	1.0	0.9	2.9	3.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	137			1379	1548	
Approach Delay, s/veh	53.5			0.9	3.0	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		96.7			96.7	13.3
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.2			78.2	19.6
Max Q Clear Time (g_c+I1), s		10.5			2.0	6.6
Green Ext Time (p_c), s		15.6			15.7	0.3

Intersection Summary						
HCM 7th Control Delay, s/veh			4.3			
HCM 7th LOS			A			

Notes
 User approved volume balancing among the lanes for turning movement.

Timings
3: Lee Street & Sylvan Road

	↙ ↘		↑	↘ ↓	
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↘	↗	↑↓	↘	↑↑
Traffic Volume (vph)	43	160	1299	172	1330
Future Volume (vph)	43	160	1299	172	1330
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	4	5	6	5	2
Permitted Phases		4		2	
Detector Phase	4	5	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	6.0	12.0	6.0	12.0
Minimum Split (s)	23.7	11.6	31.9	11.6	17.9
Total Split (s)	32.0	28.0	60.0	28.0	88.0
Total Split (%)	26.7%	23.3%	50.0%	23.3%	73.3%
Yellow Time (s)	4.1	3.0	4.0	3.0	4.0
All-Red Time (s)	1.6	2.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.6	5.9	5.6	5.9
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.3	24.7	83.8	102.1	103.0
Actuated g/C Ratio	0.08	0.21	0.70	0.85	0.86
v/c Ratio	0.36	0.55	0.59	0.51	0.47
Control Delay (s/veh)	66.5	49.2	11.8	9.0	3.3
Queue Delay	0.2	68.1	0.0	30.5	0.0
Total Delay (s/veh)	66.7	117.3	11.9	39.5	3.3
LOS	E	F	B	D	A
Approach Delay (s/veh)	106.6		11.9		7.5
Approach LOS	F		B		A

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay (s/veh): 16.5 Intersection LOS: B
 Intersection Capacity Utilization 67.6% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



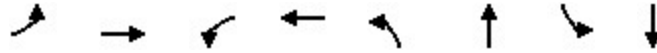
HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	43	160	1299	36	172	1330
Future Volume (veh/h)	43	160	1299	36	172	1330
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	50	186	1412	39	183	1415
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	234	286	2393	66	320	2751
Arrive On Green	0.13	0.13	0.68	0.68	0.05	0.77
Sat Flow, veh/h	1810	1598	3626	97	1795	3647
Grp Volume(v), veh/h	50	186	709	742	183	1415
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1853	1795	1777
Q Serve(g_s), s	3.0	13.0	25.7	25.8	3.5	17.9
Cycle Q Clear(g_c), s	3.0	13.0	25.7	25.8	3.5	17.9
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	234	286	1204	1255	320	2751
V/C Ratio(X)	0.21	0.65	0.59	0.59	0.57	0.51
Avail Cap(c_a), veh/h	397	430	1204	1255	566	2751
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	46.8	45.8	10.4	10.4	10.8	5.1
Incr Delay (d2), s/veh	0.4	2.4	1.6	1.5	1.6	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	11.5	9.3	9.7	1.7	5.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	47.2	48.1	12.0	11.9	12.4	5.8
LnGrp LOS	D	D	B	B	B	A
Approach Vol, veh/h	236		1451			1598
Approach Delay, s/veh	47.9		12.0			6.5
Approach LOS	D		B			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		98.8		21.2	11.6	87.2
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		19.9		15.0	5.5	27.8
Green Ext Time (p_c), s		15.3		0.5	0.4	11.3
Intersection Summary						
HCM 7th Control Delay, s/veh			11.9			
HCM 7th LOS			B			

Timings
4: Murphy Avenue & Dill Avenue



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↗	↘		↕	↖	↗		↕
Traffic Volume (vph)	197	314	1	212	84	23	2	25
Future Volume (vph)	197	314	1	212	84	23	2	25
Turn Type	D.P+P	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		6		8		4
Permitted Phases	6		6		8		4	
Detector Phase	5	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	26.0	68.0	42.0	42.0	42.0	42.0	42.0	42.0
Total Split (%)	23.6%	61.8%	38.2%	38.2%	38.2%	38.2%	38.2%	38.2%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	72.9	78.9		58.4	19.1	19.1		19.1
Actuated g/C Ratio	0.66	0.72		0.53	0.17	0.17		0.17
v/c Ratio	0.30	0.40		0.26	1.46	0.12		0.62
Control Delay (s/veh)	6.9	7.3		17.4	305.9	27.5		11.3
Queue Delay	0.3	1.0		0.0	6.6	0.0		0.1
Total Delay (s/veh)	7.3	8.3		17.4	312.5	27.5		11.5
LOS	A	A		B	F	C		B
Approach Delay (s/veh)		8.0		17.4		234.1		11.5
Approach LOS		A		B		F		B

Intersection Summary

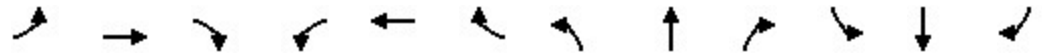
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay (s/veh): 30.6 Intersection LOS: C
 Intersection Capacity Utilization 75.1% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 4: Murphy Avenue & Dill Avenue



HCM 7th Signalized Intersection Summary
 4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	314	93	1	212	2	84	23	9	2	25	251
Future Volume (veh/h)	197	314	93	1	212	2	84	23	9	2	25	251
Initial Q (Qb), veh	0	0	0	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	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	1856	1826	1885	1900	1870	1900	1826	1841	1737	1900	1900	1870
Adj Flow Rate, veh/h	246	392	116	1	249	2	95	26	10	2	29	295
Peak Hour Factor	0.80	0.80	0.80	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	3	5	1	0	2	0	5	4	11	0	0	2
Cap, veh/h	764	879	260	33	934	7	180	306	118	33	37	357
Arrive On Green	0.12	0.86	0.86	0.50	0.50	0.50	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1767	1353	400	1	1851	15	1031	1266	487	2	153	1478
Grp Volume(v), veh/h	246	0	508	252	0	0	95	0	36	326	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1754	1867	0	0	1031	0	1753	1633	0	0
Q Serve(g_s), s	7.4	0.0	7.1	0.0	0.0	0.0	3.5	0.0	1.7	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.4	0.0	7.1	8.5	0.0	0.0	24.2	0.0	1.7	20.8	0.0	0.0
Prop In Lane	1.00		0.23	0.00		0.01	1.00		0.28	0.01		0.90
Lane Grp Cap(c), veh/h	764	0	1139	975	0	0	180	0	424	428	0	0
V/C Ratio(X)	0.32	0.00	0.45	0.26	0.00	0.00	0.53	0.00	0.08	0.76	0.00	0.00
Avail Cap(c_a), veh/h	926	0	1139	975	0	0	269	0	574	567	0	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.00	0.78	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	3.1	15.6	0.0	0.0	43.3	0.0	32.3	39.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.0	0.6	0.0	0.0	2.4	0.0	0.1	4.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	2.1	3.8	0.0	0.0	2.7	0.0	0.8	8.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.4	0.0	4.1	16.2	0.0	0.0	45.6	0.0	32.4	43.8	0.0	0.0
LnGrp LOS	B		A	B			D		C	D		
Approach Vol, veh/h		754			252			131				326
Approach Delay, s/veh		6.2			16.2			42.0				43.8
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		77.4		32.6	15.9	61.5		32.6				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		62.0		36.0	20.0	36.0		36.0				
Max Q Clear Time (g_c+I1), s		9.1		22.8	9.4	10.5		26.2				
Green Ext Time (p_c), s		4.2		1.8	0.5	1.6		0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				19.5								
HCM 7th LOS				B								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2025 Existing PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	52	182	3	179	12	182	76	103
Future Volume (vph)	52	182	3	179	12	182	76	103
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	66.0	66.0	66.0	66.0	54.0	54.0	54.0	54.0
Total Split (%)	55.0%	55.0%	55.0%	55.0%	45.0%	45.0%	45.0%	45.0%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		80.7		80.7		27.3		27.3
Actuated g/C Ratio		0.67		0.67		0.23		0.23
v/c Ratio		0.23		0.35		0.77		1.12
Control Delay (s/veh)		7.4		8.7		55.4		138.6
Queue Delay		9.0		0.8		0.1		1.1
Total Delay (s/veh)		16.4		9.6		55.6		139.6
LOS		B		A		E		F
Approach Delay (s/veh)		16.4		9.6		55.6		139.6
Approach LOS		B		A		E		F

Intersection Summary

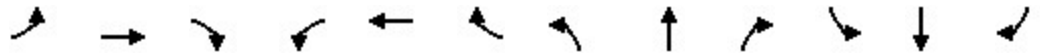
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay (s/veh): 48.8 Intersection LOS: D
 Intersection Capacity Utilization 77.8% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2025 Existing PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	52	182	5	3	179	208	12	182	7	76	103	40
Future Volume (veh/h)	52	182	5	3	179	208	12	182	7	76	103	40
Initial Q (Qb), veh	0	0	0	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	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	1900	1885	1900	1900	1870	1870	1900	1856	1900	1826	1870	1900
Adj Flow Rate, veh/h	53	186	5	3	188	219	19	284	11	84	113	44
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.64	0.64	0.64	0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	2	2	0	3	0	5	2	0
Cap, veh/h	245	841	22	32	528	607	45	389	15	119	148	51
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	312	1261	33	3	792	911	58	1670	63	338	635	217
Grp Volume(v), veh/h	244	0	0	410	0	0	314	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1605	0	0	1705	0	0	1791	0	0	1190	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	12.6	0.0	0.0	19.4	0.0	0.0	24.4	0.0	0.0
Prop In Lane	0.22		0.02	0.01		0.53	0.06		0.04	0.35		0.18
Lane Grp Cap(c), veh/h	1107	0	0	1167	0	0	449	0	0	318	0	0
V/C Ratio(X)	0.22	0.00	0.00	0.35	0.00	0.00	0.70	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	1107	0	0	1167	0	0	748	0	0	561	0	0
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)	0.85	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	8.8	0.0	0.0	42.6	0.0	0.0	44.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.8	0.0	0.0	2.0	0.0	0.0	3.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	4.6	0.0	0.0	8.9	0.0	0.0	7.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.0	0.0	0.0	9.6	0.0	0.0	44.6	0.0	0.0	48.2	0.0	0.0
LnGrp LOS	A			A			D			D		
Approach Vol, veh/h		244			410			314				241
Approach Delay, s/veh		8.0			9.6			44.6				48.2
Approach LOS		A			A			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		86.0		34.0		86.0		34.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		60.0		48.0		60.0		48.0				
Max Q Clear Time (g_c+I1), s		8.0		26.4		14.6		21.4				
Green Ext Time (p_c), s		1.7		1.6		2.9		2.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				26.1								
HCM 7th LOS				C								

2035 NO-BUILD MITIGATION

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation

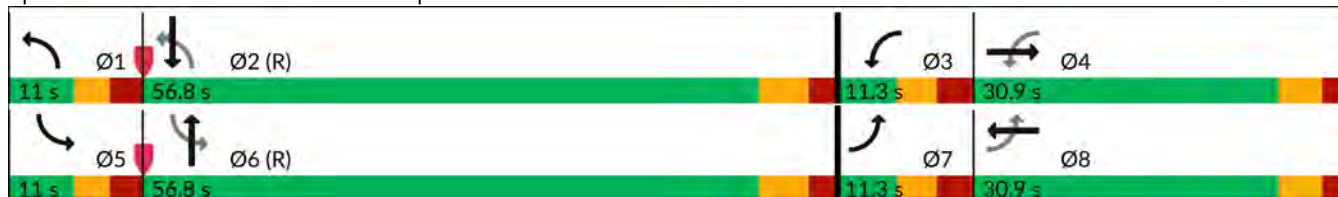


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔	↔	↕↔	↔	↕↔	↔	↕↕	↔
Traffic Volume (vph)	209	155	50	99	50	1616	98	397	86
Future Volume (vph)	209	155	50	99	50	1616	98	397	86
Turn Type	D.P+P	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases	8		4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	11.0	27.2	11.0	27.2	27.2
Total Split (s)	11.3	30.9	11.3	30.9	11.0	56.8	11.0	56.8	56.8
Total Split (%)	10.3%	28.1%	10.3%	28.1%	10.0%	51.6%	10.0%	51.6%	51.6%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	18.3	16.0	19.6	13.7	69.0	57.9	67.9	62.7	62.7
Actuated g/C Ratio	0.17	0.15	0.18	0.12	0.63	0.53	0.62	0.57	0.57
v/c Ratio	0.65	0.40	0.28	0.69	0.09	1.16	0.54	0.21	0.10
Control Delay (s/veh)	46.1	42.3	45.3	47.3	7.6	104.7	29.7	11.3	0.2
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	46.1	42.3	45.3	47.5	7.6	104.7	29.7	11.3	0.2
LOS	D	D	D	D	A	F	C	B	A
Approach Delay (s/veh)		44.4		47.1		102.2		12.7	
Approach LOS		D		D		F		B	

Intersection Summary

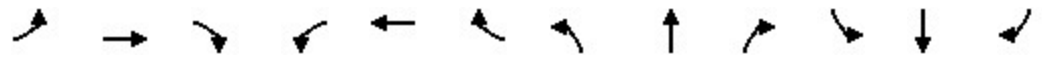
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay (s/veh): 74.3
 Intersection LOS: E
 Intersection Capacity Utilization 91.3%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	209	155	23	50	99	147	50	1616	218	98	397	86
Future Volume (veh/h)	209	155	23	50	99	147	50	1616	218	98	397	86
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	222	165	0	65	129	0	57	1857	251	103	418	0
Peak Hour Factor	0.94	0.94	0.94	0.77	0.77	0.77	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	426	304		196	300		695	1884	249	134	2109	
Arrive On Green	0.05	0.09	0.00	0.07	0.15	0.00	0.04	0.60	0.60	0.09	1.00	0.00
Sat Flow, veh/h	3483	3387	0	1753	3387	0	1711	3130	414	1570	3469	1510
Grp Volume(v), veh/h	222	165	0	65	129	0	57	1027	1081	103	418	0
Grp Sat Flow(s),veh/h/ln	1742	1650	0	1753	1650	0	1711	1763	1781	1570	1735	1510
Q Serve(g_s), s	5.0	5.3	0.0	3.6	3.9	0.0	1.3	61.1	66.2	2.8	0.0	0.0
Cycle Q Clear(g_c), s	5.0	5.3	0.0	3.6	3.9	0.0	1.3	61.1	66.2	2.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	426	304		196	300		695	1061	1072	134	2109	
V/C Ratio(X)	0.52	0.54		0.33	0.43		0.08	0.97	1.01	0.77	0.20	
Avail Cap(c_a), veh/h	426	750		198	750		715	1061	1072	143	2109	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	44.8	47.7	0.0	41.4	44.1	0.0	7.2	20.9	21.9	26.1	0.0	0.0
Incr Delay (d2), s/veh	1.1	1.5	0.0	0.9	0.9	0.0	0.0	20.9	29.5	21.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.2	0.0	1.6	1.6	0.0	0.4	27.8	32.5	2.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.9	49.2	0.0	42.3	44.9	0.0	7.2	41.8	51.4	47.1	0.2	0.0
LnGrp LOS	D	D		D	D		A	D	F	D	A	
Approach Vol, veh/h		387			194			2165			521	
Approach Delay, s/veh		47.3			44.0			45.7			9.5	
Approach LOS		D			D			D			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	73.1	11.2	16.0	10.4	72.4	11.3	15.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	5.4	50.6	5.0	25.0	5.4	50.6	5.0	25.0				
Max Q Clear Time (g_c+I1), s	3.3	2.0	5.6	7.3	4.8	68.2	7.0	5.9				
Green Ext Time (p_c), s	0.0	2.8	0.0	0.8	0.0	0.0	0.0	0.7				

Intersection Summary												
HCM 7th Control Delay, s/veh			40.0									
HCM 7th LOS			D									

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

Timings
2: Lee Street & Avon Avenue



Lane Group	EBL	NBL	NBT	SBT
Lane Configurations	TT		TT	TTT
Traffic Volume (vph)	128	43	1877	492
Future Volume (vph)	128	43	1877	492
Turn Type	Prot	Perm	NA	NA
Protected Phases	8		6	2
Permitted Phases		6		
Detector Phase	8	6	6	2
Switch Phase				
Minimum Initial (s)	8.0	10.0	10.0	10.0
Minimum Split (s)	24.4	16.8	16.8	23.8
Total Split (s)	27.0	83.0	83.0	83.0
Total Split (%)	24.5%	75.5%	75.5%	75.5%
Yellow Time (s)	3.7	3.9	3.9	3.9
All-Red Time (s)	1.7	2.9	2.9	2.9
Lost Time Adjust (s)	0.0		0.0	0.0
Total Lost Time (s)	5.4		6.8	6.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	11.2		86.6	86.6
Actuated g/C Ratio	0.10		0.79	0.79
v/c Ratio	0.59		0.79	0.17
Control Delay (s/veh)	41.1		9.5	2.8
Queue Delay	0.0		0.0	0.0
Total Delay (s/veh)	41.1		9.5	2.8
LOS	D		A	A
Approach Delay (s/veh)	41.1		9.5	2.8
Approach LOS	D		A	A

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay (s/veh): 10.5
 Intersection LOS: B
 Intersection Capacity Utilization 86.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: Lee Street & Avon Avenue



HCM 7th Signalized Intersection Summary
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TTT	
Traffic Volume (veh/h)	128	55	43	1877	492	49
Future Volume (veh/h)	128	55	43	1877	492	49
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	115	118	45	1955	586	58
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	169	152	75	2652	3607	353
Arrive On Green	0.09	0.09	1.00	1.00	0.79	0.79
Sat Flow, veh/h	1781	1610	51	3423	4702	445
Grp Volume(v), veh/h	115	118	1073	927	420	224
Grp Sat Flow(s),veh/h/ln	1781	1610	1785	1604	1635	1716
Q Serve(g_s), s	6.9	7.9	0.0	0.0	3.3	3.4
Cycle Q Clear(g_c), s	6.9	7.9	0.0	0.0	3.3	3.4
Prop In Lane	1.00	1.00	0.04			0.26
Lane Grp Cap(c), veh/h	169	152	1452	1274	2597	1363
V/C Ratio(X)	0.68	0.77	0.74	0.73	0.16	0.16
Avail Cap(c_a), veh/h	350	316	1452	1274	2597	1363
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.99	0.99
Uniform Delay (d), s/veh	48.2	48.7	0.0	0.0	2.7	2.7
Incr Delay (d2), s/veh	4.8	8.1	0.3	0.3	0.1	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	3.5	0.1	0.1	0.8	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.0	56.8	0.3	0.3	2.8	2.9
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	233			2000	644	
Approach Delay, s/veh	54.9			0.3	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		94.2			94.2	15.8
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		76.2			76.2	21.6
Max Q Clear Time (g_c+I1), s		5.4			2.0	9.9
Green Ext Time (p_c), s		4.4			32.1	0.5
Intersection Summary						
HCM 7th Control Delay, s/veh			5.3			
HCM 7th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

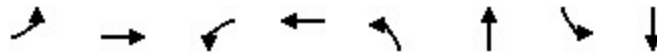
DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	20	251	1922	40	89	511
Future Volume (veh/h)	20	251	1922	40	89	511
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	22	276	2089	43	114	655
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	301	345	2188	45	273	2526
Arrive On Green	0.17	0.17	1.00	1.00	0.05	0.73
Sat Flow, veh/h	1810	1572	3597	72	1739	3561
Grp Volume(v), veh/h	22	276	1039	1093	114	655
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1828	1739	1735
Q Serve(g_s), s	1.1	18.3	0.0	0.0	2.5	7.0
Cycle Q Clear(g_c), s	1.1	18.3	0.0	0.0	2.5	7.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	301	345	1092	1141	273	2526
V/C Ratio(X)	0.07	0.80	0.95	0.96	0.42	0.26
Avail Cap(c_a), veh/h	301	345	1092	1141	298	2526
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.55	0.55	1.00	1.00
Uniform Delay (d), s/veh	38.7	40.7	0.0	0.0	6.1	5.0
Incr Delay (d2), s/veh	0.1	10.6	11.6	12.1	1.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	16.0	3.5	3.8	0.9	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	38.8	51.2	11.6	12.1	7.2	5.3
LnGrp LOS	D	D	B	B	A	A
Approach Vol, veh/h	298		2132			769
Approach Delay, s/veh	50.3		11.8			5.5
Approach LOS	D		B			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.0		24.0	11.4	74.6
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		80.1		18.3	7.4	67.1
Max Q Clear Time (g_c+I1), s		9.0		20.3	4.5	2.0
Green Ext Time (p_c), s		4.9		0.0	0.1	34.6
Intersection Summary						
HCM 7th Control Delay, s/veh			13.9			
HCM 7th LOS			B			

Timings
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation

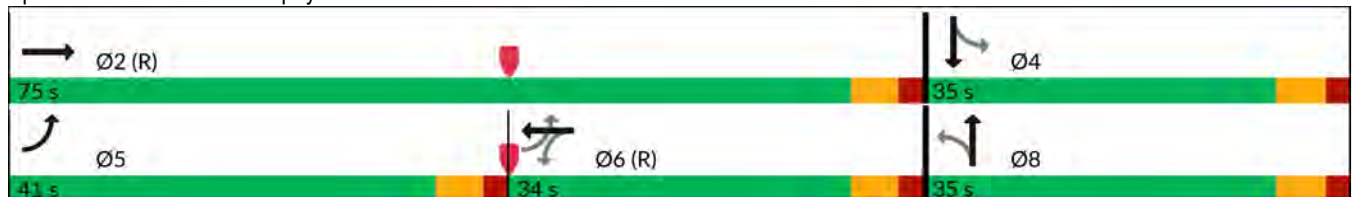


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	319	157	6	147	124	44	3	6
Future Volume (vph)	319	157	6	147	124	44	3	6
Turn Type	D.P+P	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		6		8		4
Permitted Phases	6		6		8		4	
Detector Phase	5	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	41.0	75.0	34.0	34.0	35.0	35.0	35.0	35.0
Total Split (%)	37.3%	68.2%	30.9%	30.9%	31.8%	31.8%	31.8%	31.8%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	72.4	78.4		42.6	19.6	19.6		19.6
Actuated g/C Ratio	0.66	0.71		0.39	0.18	0.18		0.18
v/c Ratio	0.49	0.29		0.29	0.65	0.19		0.20
Control Delay (s/veh)	10.0	6.9		27.7	53.7	34.8		10.7
Queue Delay	1.5	1.4		0.0	0.0	0.0		0.0
Total Delay (s/veh)	11.5	8.4		27.7	53.7	34.8		10.7
LOS	B	A		C	D	C		B
Approach Delay (s/veh)		10.1		27.7		48.5		10.7
Approach LOS		B		C		D		B

Intersection Summary




















Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay (s/veh): 19.7
 Intersection LOS: B
 Intersection Capacity Utilization 54.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Murphy Avenue & Dill Avenue



HCM 7th Signalized Intersection Summary
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	319	157	80	6	147	10	124	44	4	3	6	27
Future Volume (veh/h)	319	157	80	6	147	10	124	44	4	3	6	27
Initial Q (Qb), veh	0	0	0	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	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	1841	1707	1633	1604	1737	1900	1737	1826	1900	1411	1604	1781
Adj Flow Rate, veh/h	443	218	111	7	171	12	161	57	5	5	10	44
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.77	0.77	0.77	0.62	0.62	0.62
Percent Heavy Veh, %	4	13	18	20	11	0	11	5	0	33	20	8
Cap, veh/h	966	799	407	48	854	59	254	235	21	41	44	148
Arrive On Green	0.25	1.00	1.00	0.55	0.55	0.55	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1753	1067	543	25	1565	107	1254	1655	145	42	314	1043
Grp Volume(v), veh/h	443	0	329	190	0	0	161	0	62	59	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1610	1698	0	0	1254	0	1800	1399	0	0
Q Serve(g_s), s	13.0	0.0	0.0	0.0	0.0	0.0	8.8	0.0	3.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.0	0.0	0.0	6.2	0.0	0.0	12.9	0.0	3.4	4.1	0.0	0.0
Prop In Lane	1.00		0.34	0.04		0.06	1.00		0.08	0.08		0.75
Lane Grp Cap(c), veh/h	966	0	1206	961	0	0	254	0	255	234	0	0
V/C Ratio(X)	0.46	0.00	0.27	0.20	0.00	0.00	0.64	0.00	0.24	0.25	0.00	0.00
Avail Cap(c_a), veh/h	1263	0	1206	961	0	0	406	0	474	401	0	0
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.00	0.89	0.74	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.3	0.0	0.0	12.8	0.0	0.0	45.8	0.0	42.0	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.3	0.0	0.0	2.6	0.0	0.5	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.2	2.5	0.0	0.0	4.5	0.0	1.5	1.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	6.6	0.0	0.5	13.1	0.0	0.0	48.4	0.0	42.4	42.8	0.0	0.0
LnGrp LOS	A		A	B			D		D	D		
Approach Vol, veh/h		772			190			223				59
Approach Delay, s/veh		4.0			13.1			46.7				42.8
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		88.4		21.6	22.4	66.0		21.6				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		69.0		29.0	35.0	28.0		29.0				
Max Q Clear Time (g_c+I1), s		2.0		6.1	15.0	8.2		14.9				
Green Ext Time (p_c), s		2.5		0.3	1.4	1.0		0.7				
Intersection Summary												
HCM 7th Control Delay, s/veh				14.9								
HCM 7th LOS				B								

Timings
7: Sylvan Road & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	8	123	53	117	34	431	23	87
Future Volume (vph)	8	123	53	117	34	431	23	87
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	33.0	33.0	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		15.0		15.0		22.5		22.5
Actuated g/C Ratio		0.30		0.30		0.44		0.44
v/c Ratio		0.38		0.63		0.73		0.22
Control Delay (s/veh)		16.7		22.2		18.0		10.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		16.7		22.2		18.0		10.0
LOS		B		C		B		B
Approach Delay (s/veh)		16.7		22.2		18.0		10.0
Approach LOS		B		C		B		B

Intersection Summary

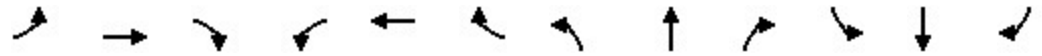
Cycle Length: 80
 Actuated Cycle Length: 50.7
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay (s/veh): 17.8
 Intersection LOS: B
 Intersection Capacity Utilization 66.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Sylvan Road & Dill Avenue



HCM 7th Signalized Intersection Summary
7: Sylvan Road & Dill Avenue

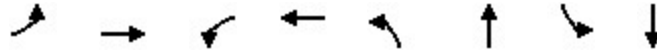
DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	8	123	38	53	117	68	34	431	34	23	87	4
Future Volume (veh/h)	8	123	38	53	117	68	34	431	34	23	87	4
Initial Q (Qb), veh	0	0	0	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	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	1693	1737	1633	1811	1722	1870	1707	1841	1856	1752	1737	1530
Adj Flow Rate, veh/h	9	132	41	64	141	82	39	490	39	29	110	5
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88	0.79	0.79	0.79
Percent Heavy Veh, %	14	11	18	6	12	2	13	4	3	10	11	25
Cap, veh/h	107	329	98	175	227	115	127	678	52	190	578	24
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	30	1250	372	228	865	437	62	1605	123	180	1370	56
Grp Volume(v), veh/h	182	0	0	287	0	0	568	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1652	0	0	1529	0	0	1790	0	0	1606	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.9	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	6.3	0.0	0.0	10.1	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.05		0.23	0.22		0.29	0.07		0.07	0.20		0.03
Lane Grp Cap(c), veh/h	534	0	0	517	0	0	857	0	0	791	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.55	0.00	0.00	0.66	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	1256	0	0	1172	0	0	2009	0	0	1710	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	0.0	12.6	0.0	0.0	9.3	0.0	0.0	6.9	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.9	0.0	0.0	0.9	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	1.9	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	0.0	0.0	13.5	0.0	0.0	10.1	0.0	0.0	7.0	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h		182			287			568				144
Approach Delay, s/veh		12.0			13.5			10.1				7.0
Approach LOS		B			B			B				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		22.1		16.0		22.1		16.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		41.0		27.0		41.0		27.0				
Max Q Clear Time (g_c+I1), s		12.1		5.4		4.0		8.3				
Green Ext Time (p_c), s		4.0		1.0		0.9		1.8				
Intersection Summary												
HCM 7th Control Delay, s/veh				10.9								
HCM 7th LOS				B								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 No-Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	38	92	1	212	24	321	32	27
Future Volume (vph)	38	92	1	212	24	321	32	27
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	63.0	63.0	63.0	63.0	47.0	47.0	47.0	47.0
Total Split (%)	57.3%	57.3%	57.3%	57.3%	42.7%	42.7%	42.7%	42.7%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effect Green (s)		67.2		67.2		30.8		30.8
Actuated g/C Ratio		0.61		0.61		0.28		0.28
v/c Ratio		0.19		0.55		0.82		0.30
Control Delay (s/veh)		11.0		13.4		45.2		23.4
Queue Delay		2.9		1.3		25.8		0.8
Total Delay (s/veh)		13.9		14.7		71.0		24.2
LOS		B		B		E		C
Approach Delay (s/veh)		13.9		14.7		71.0		24.2
Approach LOS		B		B		E		C

Intersection Summary

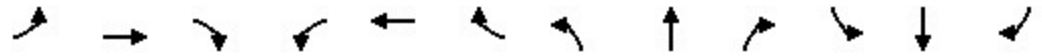
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 33.4 Intersection LOS: C
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	38	92	2	1	212	349	24	321	0	32	27	30
Future Volume (veh/h)	38	92	2	1	212	349	24	321	0	32	27	30
Initial Q (Qb), veh	0	0	0	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	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	1900	1811	1900	1900	1856	1856	1900	1841	1900	1796	1841	1900
Adj Flow Rate, veh/h	48	115	2	1	223	367	28	378	0	37	31	34
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.85	0.85	0.85	0.87	0.87	0.87
Percent Heavy Veh, %	0	6	0	0	3	3	0	4	0	7	4	0
Cap, veh/h	250	576	10	33	402	660	54	441	0	115	96	83
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.25	0.25	0.00	0.25	0.25	0.25
Sat Flow, veh/h	326	905	15	0	632	1036	76	1735	0	278	378	328
Grp Volume(v), veh/h	165	0	0	591	0	0	406	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	1246	0	0	1669	0	0	1810	0	0	984	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	21.9	0.0	0.0	23.7	0.0	0.0	7.4	0.0	0.0
Prop In Lane	0.29		0.01	0.00		0.62	0.07		0.00	0.36		0.33
Lane Grp Cap(c), veh/h	835	0	0	1095	0	0	495	0	0	295	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.54	0.00	0.00	0.82	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	835	0	0	1095	0	0	708	0	0	454	0	0
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)	0.96	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	11.2	0.0	0.0	39.3	0.0	0.0	32.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.9	0.0	0.0	5.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	7.9	0.0	0.0	11.2	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	8.5	0.0	0.0	13.2	0.0	0.0	44.5	0.0	0.0	33.5	0.0	0.0
LnGrp LOS	A			B			D			C		
Approach Vol, veh/h		165			591			406				102
Approach Delay, s/veh		8.5			13.2			44.5				33.5
Approach LOS		A			B			D				C
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		76.0		34.0		76.0		34.0				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		57.0		41.0		57.0		41.0				
Max Q Clear Time (g_c+I1), s		6.0		9.4		23.9		25.7				
Green Ext Time (p_c), s		1.2		0.7		4.6		2.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				24.2								
HCM 7th LOS				C								

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↖↗	↕	↖	↕	↖	↕	↖	↕↕	↗
Traffic Volume (vph)	182	190	162	221	105	1026	233	1043	264
Future Volume (vph)	182	190	162	221	105	1026	233	1043	264
Turn Type	D.P+P	NA	D.P+P	NA	D.P+P	NA	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6	5	2	
Permitted Phases	8		4		2		6		2
Detector Phase	7	4	3	8	1	6	5	2	2
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	10.6	27.2	10.6	27.2	27.2
Total Split (s)	14.0	31.0	14.0	31.0	13.3	46.0	19.0	51.7	51.7
Total Split (%)	12.7%	28.2%	12.7%	28.2%	12.1%	41.8%	17.3%	47.0%	47.0%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	None	C-Min	C-Min
Act Effct Green (s)	23.7	16.4	23.7	16.4	62.5	45.5	62.5	53.7	53.7
Actuated g/C Ratio	0.22	0.15	0.22	0.15	0.57	0.41	0.57	0.49	0.49
v/c Ratio	0.55	0.52	0.71	0.75	0.42	0.87	0.77	0.66	0.32
Control Delay (s/veh)	36.2	42.1	52.5	37.6	14.6	38.8	46.3	21.4	6.5
Queue Delay	0.0	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.2	42.2	52.5	38.3	14.6	38.8	46.3	21.4	6.5
LOS	D	D	D	D	B	D	D	C	A
Approach Delay (s/veh)		39.5		42.2		36.8		22.6	
Approach LOS		D		D		D		C	

Intersection Summary































Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay (s/veh): 32.3
 Intersection LOS: C
 Intersection Capacity Utilization 83.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM Mitigation

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	 
Traffic Volume (veh/h)	182	190	44	162	221	198	105	1026	151	233	1043	264
Future Volume (veh/h)	182	190	44	162	221	198	105	1026	151	233	1043	264
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	204	213	0	186	254	0	113	1103	162	253	1134	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	440	348		238	359		325	1627	238	330	2008	
Arrive On Green	0.07	0.10	0.00	0.02	0.03	0.00	0.04	0.52	0.52	0.09	0.57	0.00
Sat Flow, veh/h	3456	3474	0	1767	3589	0	1795	3110	456	1767	3554	1610
Grp Volume(v), veh/h	204	213	0	186	254	0	113	629	636	253	1134	0
Grp Sat Flow(s),veh/h/ln	1728	1692	0	1767	1749	0	1795	1777	1788	1767	1777	1610
Q Serve(g_s), s	5.7	6.6	0.0	7.7	7.9	0.0	2.9	28.8	28.9	7.2	22.4	0.0
Cycle Q Clear(g_c), s	5.7	6.6	0.0	7.7	7.9	0.0	2.9	28.8	28.9	7.2	22.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	440	348		238	359		325	929	935	330	2008	
V/C Ratio(X)	0.46	0.61		0.78	0.71		0.35	0.68	0.68	0.77	0.56	
Avail Cap(c_a), veh/h	440	772		238	798		372	929	935	394	2008	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.69	0.69	0.00	1.00	1.00	1.00	0.91	0.91	0.00
Uniform Delay (d), s/veh	40.3	47.3	0.0	46.3	51.5	0.0	11.9	19.4	19.4	18.5	15.3	0.0
Incr Delay (d2), s/veh	0.8	1.8	0.0	10.9	1.8	0.0	0.6	4.0	4.0	6.7	1.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.8	0.0	2.1	3.8	0.0	1.1	12.0	12.1	3.5	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.1	49.0	0.0	57.2	53.3	0.0	12.6	23.3	23.4	25.2	16.3	0.0
LnGrp LOS	D	D		E	D		B	C	C	C	B	
Approach Vol, veh/h	417			440			1378			1387		
Approach Delay, s/veh	45.1			54.9			22.5			17.9		
Approach LOS	D			D			C			B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	68.4	14.0	17.2	15.1	63.7	14.0	17.2				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	7.7	45.5	7.7	25.1	13.4	39.8	7.7	25.1				
Max Q Clear Time (g_c+I1), s	4.9	24.4	9.7	8.6	9.2	30.9	7.7	9.9				
Green Ext Time (p_c), s	0.1	8.1	0.0	1.1	0.3	5.0	0.0	1.4				
Intersection Summary												
HCM 7th Control Delay, s/veh				27.3								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary
2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TTT	
Traffic Volume (veh/h)	87	55	57	1343	1495	113
Future Volume (veh/h)	87	55	57	1343	1495	113
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	75	76	62	1460	1590	120
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	130	116	103	2406	3957	298
Arrive On Green	0.07	0.07	1.00	1.00	0.82	0.82
Sat Flow, veh/h	1810	1610	83	3029	5012	365
Grp Volume(v), veh/h	75	76	739	783	1117	593
Grp Sat Flow(s),veh/h/ln	1810	1610	1410	1617	1702	1805
Q Serve(g_s), s	4.4	5.1	0.0	0.0	9.8	9.8
Cycle Q Clear(g_c), s	4.4	5.1	0.0	0.0	9.8	9.8
Prop In Lane	1.00	1.00	0.08			0.20
Lane Grp Cap(c), veh/h	130	116	1188	1321	2781	1475
V/C Ratio(X)	0.58	0.66	0.62	0.59	0.40	0.40
Avail Cap(c_a), veh/h	322	287	1188	1321	2781	1475
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.45	0.45	0.85	0.85
Uniform Delay (d), s/veh	49.4	49.7	0.0	0.0	2.7	2.7
Incr Delay (d2), s/veh	4.0	6.1	1.1	0.9	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	2.2	0.4	0.3	2.0	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.4	55.9	1.1	0.9	3.1	3.4
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	151			1522	1710	
Approach Delay, s/veh	54.6			1.0	3.2	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		96.7			96.7	13.3
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.2			78.2	19.6
Max Q Clear Time (g_c+I1), s		11.8			2.0	7.1
Green Ext Time (p_c), s		18.8			20.1	0.3
Intersection Summary						
HCM 7th Control Delay, s/veh			4.5			
HCM 7th LOS			A			
Notes						
User approved pedestrian interval to be less than phase max green.						
User approved volume balancing among the lanes for turning movement.						

Timings
3: Lee Street & Sylvan Road

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	47	177	1435	190	1469
Future Volume (vph)	47	177	1435	190	1469
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	4	5	6	5	2
Permitted Phases		4		2	
Detector Phase	4	5	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	6.0	12.0	6.0	12.0
Minimum Split (s)	23.7	11.6	31.9	11.6	17.9
Total Split (s)	32.0	28.0	60.0	28.0	88.0
Total Split (%)	26.7%	23.3%	50.0%	23.3%	73.3%
Yellow Time (s)	4.1	3.0	4.0	3.0	4.0
All-Red Time (s)	1.6	2.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.6	5.9	5.6	5.9
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.6	26.4	82.1	101.9	102.8
Actuated g/C Ratio	0.08	0.22	0.68	0.85	0.86
v/c Ratio	0.38	0.57	0.66	0.60	0.52
Control Delay (s/veh)	64.5	50.4	14.3	19.6	3.8
Queue Delay	0.3	70.2	0.0	43.9	0.0
Total Delay (s/veh)	64.7	120.6	14.3	63.5	3.8
LOS	E	F	B	E	A
Approach Delay (s/veh)	108.9		14.3		10.6
Approach LOS	F		B		B

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 89 (74%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 19.3
 Intersection LOS: B
 Intersection Capacity Utilization 72.5%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Lee Street & Sylvan Road



HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	47	177	1435	40	190	1469
Future Volume (veh/h)	47	177	1435	40	190	1469
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	55	206	1560	43	202	1563
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	254	312	2337	64	283	2711
Arrive On Green	0.14	0.14	0.66	0.66	0.05	0.76
Sat Flow, veh/h	1810	1598	3626	97	1795	3647
Grp Volume(v), veh/h	55	206	783	820	202	1563
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1853	1795	1777
Q Serve(g_s), s	3.2	14.3	32.0	32.2	4.1	22.4
Cycle Q Clear(g_c), s	3.2	14.3	32.0	32.2	4.1	22.4
Prop In Lane	1.00	1.00		0.05	1.00	
Lane Grp Cap(c), veh/h	254	312	1176	1226	283	2711
V/C Ratio(X)	0.22	0.66	0.67	0.67	0.71	0.58
Avail Cap(c_a), veh/h	397	437	1176	1226	521	2711
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.63	0.63	1.00	1.00
Uniform Delay (d), s/veh	45.7	44.6	12.3	12.3	17.8	6.0
Incr Delay (d2), s/veh	0.4	2.2	1.9	1.8	3.3	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	12.6	11.7	12.3	3.7	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	46.1	46.8	14.2	14.2	21.1	6.9
LnGrp LOS	D	D	B	B	C	A
Approach Vol, veh/h	261		1603			1765
Approach Delay, s/veh	46.7		14.2			8.6
Approach LOS	D		B			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		97.4		22.6	12.1	85.3
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		24.4		16.3	6.1	34.2
Green Ext Time (p_c), s		18.1		0.6	0.5	11.2
Intersection Summary						
HCM 7th Control Delay, s/veh			13.8			
HCM 7th LOS			B			

Timings
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation

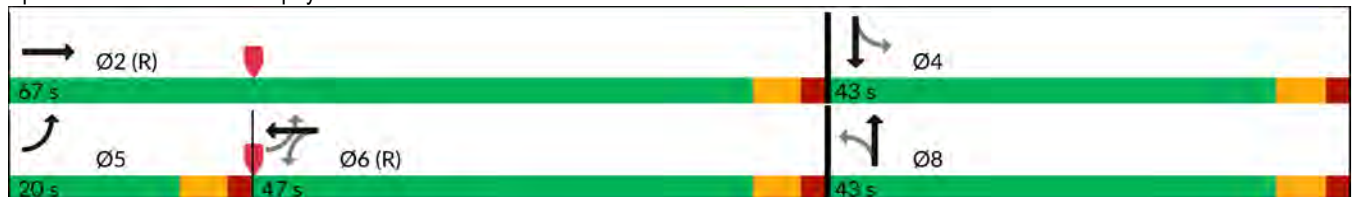


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	218	347	1	234	93	25	2	28
Future Volume (vph)	218	347	1	234	93	25	2	28
Turn Type	D.P+P	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		6		8		4
Permitted Phases	6		6		8		4	
Detector Phase	5	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	67.0	47.0	47.0	43.0	43.0	43.0	43.0
Total Split (%)	18.2%	60.9%	42.7%	42.7%	39.1%	39.1%	39.1%	39.1%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	70.3	76.3		54.7	21.7	21.7		21.7
Actuated g/C Ratio	0.64	0.69		0.50	0.20	0.20		0.20
v/c Ratio	0.36	0.46		0.30	1.63	0.11		0.62
Control Delay (s/veh)	8.0	8.5		20.3	371.2	25.2		10.3
Queue Delay	0.6	1.4		0.0	45.5	0.0		0.3
Total Delay (s/veh)	8.6	9.9		20.3	416.7	25.2		10.5
LOS	A	A		C	F	C		B
Approach Delay (s/veh)		9.5		20.3		311.4		10.5
Approach LOS		A		C		F		B

Intersection Summary

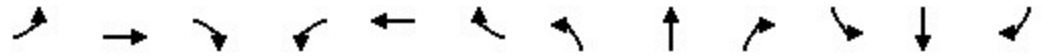
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.63
 Intersection Signal Delay (s/veh): 38.6
 Intersection LOS: D
 Intersection Capacity Utilization 80.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 4: Murphy Avenue & Dill Avenue



HCM 7th Signalized Intersection Summary
4: Murphy Avenue & Dill Avenue

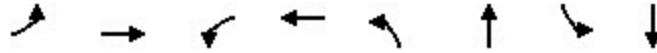
DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	347	103	1	234	2	93	25	10	2	28	277
Future Volume (veh/h)	218	347	103	1	234	2	93	25	10	2	28	277
Initial Q (Qb), veh	0	0	0	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	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	1856	1826	1885	1900	1870	1900	1826	1841	1737	1900	1900	1870
Adj Flow Rate, veh/h	272	434	129	1	275	2	106	28	11	2	33	326
Peak Hour Factor	0.80	0.80	0.80	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	3	5	1	0	2	0	5	4	11	0	0	2
Cap, veh/h	709	838	249	33	862	6	190	341	134	33	42	400
Arrive On Green	0.10	0.62	0.62	0.47	0.47	0.47	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1767	1352	402	1	1853	13	998	1258	494	2	157	1475
Grp Volume(v), veh/h	272	0	563	278	0	0	106	0	39	361	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1754	1867	0	0	998	0	1752	1634	0	0
Q Serve(g_s), s	8.7	0.0	19.8	0.0	0.0	0.0	4.7	0.0	1.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.7	0.0	19.8	10.3	0.0	0.0	27.5	0.0	1.8	22.7	0.0	0.0
Prop In Lane	1.00		0.23	0.00		0.01	1.00		0.28	0.01		0.90
Lane Grp Cap(c), veh/h	709	0	1087	902	0	0	190	0	475	476	0	0
V/C Ratio(X)	0.38	0.00	0.52	0.31	0.00	0.00	0.56	0.00	0.08	0.76	0.00	0.00
Avail Cap(c_a), veh/h	758	0	1087	902	0	0	256	0	589	582	0	0
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)	0.72	0.00	0.72	0.76	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	11.7	18.5	0.0	0.0	42.5	0.0	29.9	37.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	1.3	0.7	0.0	0.0	2.5	0.0	0.1	4.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	7.8	4.6	0.0	0.0	3.0	0.0	0.8	9.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.5	0.0	13.0	19.1	0.0	0.0	45.0	0.0	30.0	42.1	0.0	0.0
LnGrp LOS	B		B	B			D		C	D		
Approach Vol, veh/h		835			278			145				361
Approach Delay, s/veh		12.8			19.1			41.0				42.1
Approach LOS		B			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		74.2		35.8	17.0	57.2		35.8				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		61.0		37.0	14.0	41.0		37.0				
Max Q Clear Time (g_c+I1), s		21.8		24.7	10.7	12.3		29.5				
Green Ext Time (p_c), s		4.7		2.0	0.3	1.8		0.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				23.0								
HCM 7th LOS				C								

Timings
7: Sylvan Road & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	15	167	49	175	65	317	39	200
Future Volume (vph)	15	167	49	175	65	317	39	200
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	37.0	37.0	37.0	37.0	53.0	53.0	53.0	53.0
Total Split (%)	41.1%	41.1%	41.1%	41.1%	58.9%	58.9%	58.9%	58.9%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effect Green (s)		15.3		15.3		21.3		21.3
Actuated g/C Ratio		0.31		0.31		0.43		0.43
v/c Ratio		0.54		0.61		0.70		0.42
Control Delay (s/veh)		18.7		20.9		17.8		12.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		18.7		20.9		17.8		12.2
LOS		B		C		B		B
Approach Delay (s/veh)		18.7		20.9		17.8		12.2
Approach LOS		B		C		B		B

Intersection Summary

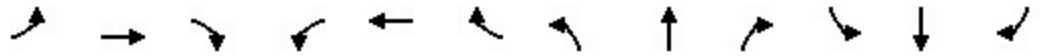
Cycle Length: 90
 Actuated Cycle Length: 49.7
 Natural Cycle: 50
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay (s/veh): 17.5
 Intersection LOS: B
 Intersection Capacity Utilization 71.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 7: Sylvan Road & Dill Avenue



HCM 7th Signalized Intersection Summary
 7: Sylvan Road & Dill Avenue

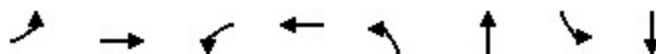
DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	15	167	72	49	175	66	65	317	55	39	200	15
Future Volume (veh/h)	15	167	72	49	175	66	65	317	55	39	200	15
Initial Q (Qb), veh	0	0	0	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	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	1796	1826	1767	1767	1841	1870	1767	1856	1811	1856	1870	1900
Adj Flow Rate, veh/h	17	188	81	52	184	69	73	356	62	45	233	17
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.86	0.86	0.86
Percent Heavy Veh, %	7	5	9	9	4	2	9	3	6	3	2	0
Cap, veh/h	120	315	129	168	301	102	180	526	85	173	598	40
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	46	1182	485	182	1132	384	159	1337	216	140	1519	101
Grp Volume(v), veh/h	286	0	0	305	0	0	491	0	0	295	0	0
Grp Sat Flow(s),veh/h/ln	1713	0	0	1698	0	0	1712	0	0	1761	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.0	5.4	0.0	0.0	8.3	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.06		0.28	0.17		0.23	0.15		0.13	0.15		0.06
Lane Grp Cap(c), veh/h	564	0	0	571	0	0	791	0	0	811	0	0
V/C Ratio(X)	0.51	0.00	0.00	0.53	0.00	0.00	0.62	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	1590	0	0	1546	0	0	2346	0	0	2334	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.4	0.0	0.0	11.5	0.0	0.0	8.9	0.0	0.0	7.7	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	1.8	0.0	0.0	2.1	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.1	0.0	0.0	12.2	0.0	0.0	9.7	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	B			B			A			A		
Approach Vol, veh/h		286			305			491				295
Approach Delay, s/veh		12.1			12.2			9.7				8.0
Approach LOS		B			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		19.9		15.4		19.9		15.4				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		47.0		31.0		47.0		31.0				
Max Q Clear Time (g_c+I1), s		10.3		7.1		6.1		7.4				
Green Ext Time (p_c), s		3.5		1.9		2.0		2.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				10.4								
HCM 7th LOS				B								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 No-Build PM Mitigation

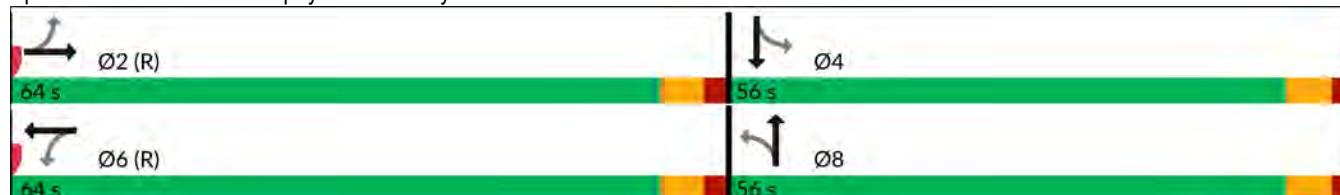


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↔		↔		↔		↔
Traffic Volume (vph)	57	201	3	198	13	201	84	114
Future Volume (vph)	57	201	3	198	13	201	84	114
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	64.0	64.0	64.0	64.0	56.0	56.0	56.0	56.0
Total Split (%)	53.3%	53.3%	53.3%	53.3%	46.7%	46.7%	46.7%	46.7%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		77.7		77.7		30.3		30.3
Actuated g/C Ratio		0.65		0.65		0.25		0.25
v/c Ratio		0.26		0.40		0.77		1.12
Control Delay (s/veh)		11.6		10.8		52.1		132.7
Queue Delay		50.5		1.4		0.2		1.7
Total Delay (s/veh)		62.1		12.2		52.3		134.4
LOS		E		B		D		F
Approach Delay (s/veh)		62.1		12.2		52.3		134.4
Approach LOS		E		B		D		F

Intersection Summary

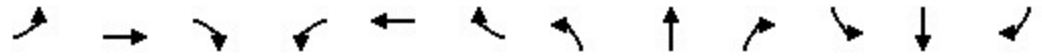
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 40
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay (s/veh): 57.0 Intersection LOS: E
 Intersection Capacity Utilization 83.9% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 No-Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	57	201	6	3	198	230	13	201	8	84	114	44
Future Volume (veh/h)	57	201	6	3	198	230	13	201	8	84	114	44
Initial Q (Qb), veh	0	0	0	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	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	1900	1885	1900	1900	1870	1870	1900	1856	1900	1826	1870	1900
Adj Flow Rate, veh/h	58	205	6	3	208	242	20	314	12	92	125	48
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.64	0.64	0.64	0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	2	2	0	3	0	5	2	0
Cap, veh/h	229	790	22	32	506	582	46	435	16	127	161	55
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	300	1236	35	2	792	911	55	1669	62	332	616	210
Grp Volume(v), veh/h	269	0	0	453	0	0	346	0	0	265	0	0
Grp Sat Flow(s),veh/h/ln	1571	0	0	1705	0	0	1787	0	0	1157	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	15.6	0.0	0.0	21.0	0.0	0.0	27.5	0.0	0.0
Prop In Lane	0.22		0.02	0.01		0.53	0.06		0.03	0.35		0.18
Lane Grp Cap(c), veh/h	1041	0	0	1120	0	0	497	0	0	342	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.40	0.00	0.00	0.70	0.00	0.00	0.77	0.00	0.00
Avail Cap(c_a), veh/h	1041	0	0	1120	0	0	776	0	0	566	0	0
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)	0.77	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	0.0	10.6	0.0	0.0	40.4	0.0	0.0	43.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.1	0.0	0.0	1.8	0.0	0.0	3.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	5.8	0.0	0.0	9.6	0.0	0.0	8.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	9.6	0.0	0.0	11.7	0.0	0.0	42.2	0.0	0.0	46.7	0.0	0.0
LnGrp LOS	A			B			D			D		
Approach Vol, veh/h		269			453			346				265
Approach Delay, s/veh		9.6			11.7			42.2				46.7
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		82.7		37.3		82.7		37.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		58.0		50.0		58.0		50.0				
Max Q Clear Time (g_c+I1), s		9.2		29.5		17.6		23.0				
Green Ext Time (p_c), s		1.9		1.7		3.3		2.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				26.2								
HCM 7th LOS				C								

2035 BUILD MITIGATION

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕	↔	↕↕	↔	↕↕	↔	↔	↕↕	↔
Traffic Volume (vph)	234	205	112	141	50	1641	294	123	418	107
Future Volume (vph)	234	205	112	141	50	1641	294	123	418	107
Turn Type	Prot	NA	D.P+P	NA	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases			4		2		6	6		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	11.0	27.2	27.2	11.0	27.2	27.2
Total Split (s)	19.0	31.0	19.0	31.0	11.0	49.0	49.0	11.0	49.0	49.0
Total Split (%)	17.3%	28.2%	17.3%	28.2%	10.0%	44.5%	44.5%	10.0%	44.5%	44.5%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	11.9	16.0	26.7	15.2	60.7	47.3	47.3	59.5	54.0	54.0
Actuated g/C Ratio	0.11	0.15	0.24	0.14	0.55	0.43	0.43	0.54	0.49	0.49
v/c Ratio	0.67	0.51	0.42	0.72	0.11	1.25	0.43	0.58	0.26	0.14
Control Delay (s/veh)	56.2	44.8	36.7	47.9	11.7	149.1	11.2	34.5	20.2	4.9
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.2	44.9	36.7	48.3	11.7	149.1	11.2	34.5	20.2	4.9
LOS	E	D	D	D	B	F	B	C	C	A
Approach Delay (s/veh)		50.6		45.2		125.2			20.4	
Approach LOS		D		D		F			C	

Intersection Summary

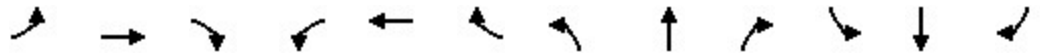
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.25
 Intersection Signal Delay (s/veh): 87.8
 Intersection LOS: F
 Intersection Capacity Utilization 88.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↔		↔	↕↔		↔	↕↕	↔	↔	↕↕	↔
Traffic Volume (veh/h)	234	205	23	112	141	168	50	1641	294	123	418	107
Future Volume (veh/h)	234	205	23	112	141	168	50	1641	294	123	418	107
Initial Q (Qb), veh	0	0	0	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	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	1885	1737	1752	1841	1737	1752	1796	1856	1841	1648	1826	1781
Adj Flow Rate, veh/h	249	218	0	132	166	0	57	1886	338	129	440	0
Peak Hour Factor	0.94	0.94	0.94	0.85	0.85	0.85	0.87	0.87	0.87	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	10	4	11	10	7	3	4	17	5	8
Cap, veh/h	315	322		251	300		643	1944	860	148	1953	
Arrive On Green	0.09	0.10	0.00	0.14	0.15	0.00	0.04	0.55	0.55	0.10	1.00	0.00
Sat Flow, veh/h	3483	3387	0	1753	3387	0	1711	3526	1560	1570	3469	1510
Grp Volume(v), veh/h	249	218	0	132	166	0	57	1886	338	129	440	0
Grp Sat Flow(s),veh/h/ln	1742	1650	0	1753	1650	0	1711	1763	1560	1570	1735	1510
Q Serve(g_s), s	7.7	7.0	0.0	7.3	5.1	0.0	1.5	56.8	13.6	4.1	0.0	0.0
Cycle Q Clear(g_c), s	7.7	7.0	0.0	7.3	5.1	0.0	1.5	56.8	13.6	4.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	315	322		251	300		643	1944	860	148	1953	
V/C Ratio(X)	0.79	0.68		0.53	0.55		0.09	0.97	0.39	0.87	0.23	
Avail Cap(c_a), veh/h	402	753		306	753		663	1944	860	148	1953	
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.80	0.80	0.00	1.00	1.00	1.00	0.99	0.99	0.00
Uniform Delay (d), s/veh	49.0	48.0	0.0	37.6	44.6	0.0	9.1	23.8	14.1	24.9	0.0	0.0
Incr Delay (d2), s/veh	8.0	2.5	0.0	1.4	1.3	0.0	0.1	14.5	1.3	39.1	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.0	0.0	3.1	2.1	0.0	0.5	24.9	5.1	3.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.1	50.5	0.0	39.0	45.9	0.0	9.1	38.3	15.5	64.0	0.3	0.0
LnGrp LOS	E	D		D	D		A	D	B	E	A	
Approach Vol, veh/h		467			298			2281			569	
Approach Delay, s/veh		54.0			42.8			34.2			14.7	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.7	68.1	15.5	16.6	11.0	66.9	16.2	15.9				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	5.4	42.8	12.7	25.1	5.4	42.8	12.7	25.1				
Max Q Clear Time (g_c+I1), s	3.5	2.0	9.3	9.0	6.1	58.8	9.7	7.1				
Green Ext Time (p_c), s	0.0	3.0	0.1	1.1	0.0	0.0	0.2	0.9				

Intersection Summary												
HCM 7th Control Delay, s/veh			34.4									
HCM 7th LOS			C									

Notes
 User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	TT			TT	TTT	
Traffic Volume (veh/h)	128	80	64	1927	534	49
Future Volume (veh/h)	128	80	64	1927	534	49
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1826	1856	1796	1826
Adj Flow Rate, veh/h	130	132	67	2007	636	58
Peak Hour Factor	0.80	0.80	0.96	0.96	0.84	0.84
Percent Heavy Veh, %	2	0	5	3	7	5
Cap, veh/h	183	166	99	2560	3598	325
Arrive On Green	0.10	0.10	1.00	1.00	0.79	0.79
Sat Flow, veh/h	1781	1610	81	3341	4739	414
Grp Volume(v), veh/h	130	132	1113	961	453	241
Grp Sat Flow(s),veh/h/ln	1781	1610	1734	1604	1635	1722
Q Serve(g_s), s	7.8	8.8	0.0	0.0	3.8	3.8
Cycle Q Clear(g_c), s	7.8	8.8	0.0	0.0	3.8	3.8
Prop In Lane	1.00	1.00	0.06			0.24
Lane Grp Cap(c), veh/h	183	166	1398	1261	2570	1354
V/C Ratio(X)	0.71	0.80	0.80	0.76	0.18	0.18
Avail Cap(c_a), veh/h	308	278	1398	1261	2570	1354
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.98	0.98
Uniform Delay (d), s/veh	47.7	48.2	0.0	0.0	2.9	2.9
Incr Delay (d2), s/veh	5.0	8.4	0.5	0.4	0.1	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.9	0.2	0.1	0.9	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.7	56.6	0.5	0.4	3.1	3.2
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	262			2074	694	
Approach Delay, s/veh	54.7			0.4	3.1	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		93.3			93.3	16.7
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		78.8			78.8	19.0
Max Q Clear Time (g_c+1), s		5.8			2.0	10.8
Green Ext Time (p_c), s		4.8			36.2	0.5
Intersection Summary						
HCM 7th Control Delay, s/veh			5.7			
HCM 7th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

Timings
3: Lee Street & Sylvan Road

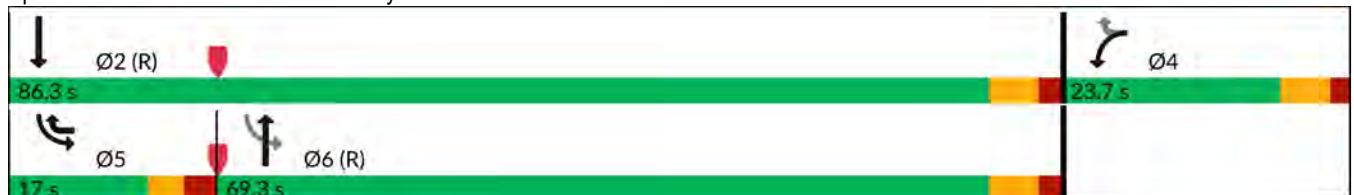
DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation

	↙	↖	↑	↘	↓
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↙	↖	↑↓	↘	↑↑
Traffic Volume (vph)	62	333	1922	190	511
Future Volume (vph)	62	333	1922	190	511
Turn Type	Prot	pm+ov	NA	D,P+P	NA
Protected Phases	4	5	6	5	2
Permitted Phases		4		6	
Detector Phase	4	5	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	6.0	12.0	6.0	12.0
Minimum Split (s)	23.7	11.6	31.9	11.6	17.9
Total Split (s)	23.7	17.0	69.3	17.0	86.3
Total Split (%)	21.5%	15.5%	63.0%	15.5%	78.5%
Yellow Time (s)	4.1	3.0	4.0	3.0	4.0
All-Red Time (s)	1.6	2.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.6	5.9	5.6	5.9
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	9.9	31.6	66.9	85.9	92.4
Actuated g/C Ratio	0.09	0.29	0.61	0.78	0.84
v/c Ratio	0.42	0.80	1.04	0.68	0.23
Control Delay (s/veh)	49.5	42.3	56.0	37.8	2.7
Queue Delay	1.8	63.9	25.0	63.2	0.0
Total Delay (s/veh)	51.3	106.2	81.0	101.0	2.7
LOS	D	F	F	F	A
Approach Delay (s/veh)	97.6		81.0		29.3
Approach LOS	F		F		C

Intersection Summary

Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBSB, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay (s/veh): 69.9	Intersection LOS: E
Intersection Capacity Utilization 87.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Lee Street & Sylvan Road



HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	333	1922	90	190	511
Future Volume (veh/h)	62	333	1922	90	190	511
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1856	1841	1900	1826	1826
Adj Flow Rate, veh/h	68	366	2089	98	244	655
Peak Hour Factor	0.91	0.91	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	0	3	4	0	5	5
Cap, veh/h	296	420	1961	91	246	2536
Arrive On Green	0.16	0.16	0.77	0.77	0.10	0.73
Sat Flow, veh/h	1810	1572	3495	158	1739	3561
Grp Volume(v), veh/h	68	366	1065	1122	244	655
Grp Sat Flow(s),veh/h/ln	1810	1572	1749	1812	1739	1735
Q Serve(g_s), s	3.6	18.0	63.4	63.4	11.3	6.9
Cycle Q Clear(g_c), s	3.6	18.0	63.4	63.4	11.3	6.9
Prop In Lane	1.00	1.00		0.09	1.00	
Lane Grp Cap(c), veh/h	296	420	1008	1044	246	2536
V/C Ratio(X)	0.23	0.87	1.06	1.07	0.99	0.26
Avail Cap(c_a), veh/h	296	420	1008	1044	246	2536
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	0.65	0.65	0.46	0.46	1.00	1.00
Uniform Delay (d), s/veh	40.0	38.5	12.8	12.8	38.3	4.9
Incr Delay (d2), s/veh	0.3	12.3	36.4	42.3	55.4	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	20.8	21.8	24.3	7.3	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.2	50.8	49.3	55.1	93.7	5.2
LnGrp LOS	D	D	F	F	F	A
Approach Vol, veh/h	434		2187			899
Approach Delay, s/veh	49.2		52.3			29.2
Approach LOS	D		D			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.3		23.7	17.0	69.3
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		80.4		18.0	11.4	63.4
Max Q Clear Time (g_c+I1), s		8.9		20.0	13.3	65.4
Green Ext Time (p_c), s		4.9		0.0	0.0	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			46.0			
HCM 7th LOS			D			

Timings
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation

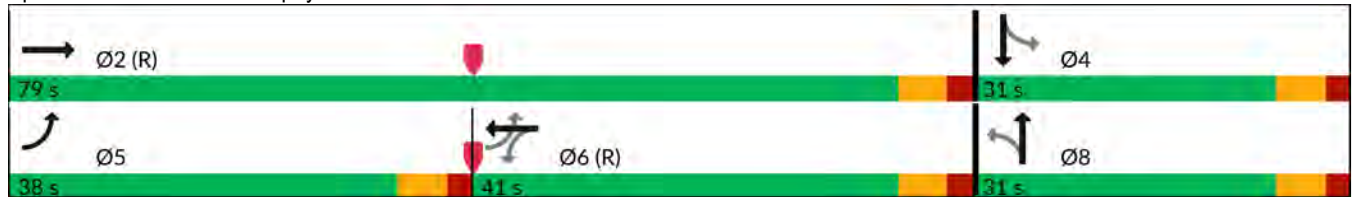


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	344	283	6	251	124	44	3	6
Future Volume (vph)	344	283	6	251	124	44	3	6
Turn Type	D.P+P	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		6		8		4
Permitted Phases	6		6		8		4	
Detector Phase	5	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	38.0	79.0	41.0	41.0	31.0	31.0	31.0	31.0
Total Split (%)	34.5%	71.8%	37.3%	37.3%	28.2%	28.2%	28.2%	28.2%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	72.4	78.4		42.4	19.6	19.6		19.6
Actuated g/C Ratio	0.66	0.71		0.39	0.18	0.18		0.18
v/c Ratio	0.59	0.44		0.48	0.76	0.19		0.28
Control Delay (s/veh)	9.3	5.9		30.9	63.7	34.9		12.1
Queue Delay	1.1	1.1		0.0	1.3	0.0		0.1
Total Delay (s/veh)	10.5	7.0		30.9	65.0	34.9		12.2
LOS	B	A		C	E	C		B
Approach Delay (s/veh)		8.7		30.9		56.6		12.2
Approach LOS		A		C		E		B

Intersection Summary

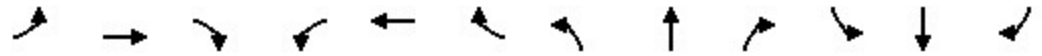
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 19.8 Intersection LOS: B
 Intersection Capacity Utilization 62.4% ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 4: Murphy Avenue & Dill Avenue



HCM 7th Signalized Intersection Summary
 4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	283	80	6	251	10	124	44	4	3	6	48
Future Volume (veh/h)	344	283	80	6	251	10	124	44	4	3	6	48
Initial Q (Qb), veh	0	0	0	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	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	1841	1707	1633	1604	1737	1900	1737	1826	1900	1411	1604	1781
Adj Flow Rate, veh/h	478	393	111	7	292	12	161	57	5	5	10	77
Peak Hour Factor	0.72	0.72	0.72	0.86	0.86	0.86	0.77	0.77	0.77	0.62	0.62	0.62
Percent Heavy Veh, %	4	13	18	20	11	0	11	5	0	33	20	8
Cap, veh/h	843	931	263	39	818	33	251	271	24	39	33	190
Arrive On Green	0.29	1.00	1.00	0.50	0.50	0.50	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1753	1281	362	12	1634	66	1217	1655	145	26	200	1159
Grp Volume(v), veh/h	478	0	504	311	0	0	161	0	62	92	0	0
Grp Sat Flow(s),veh/h/ln	1753	0	1642	1712	0	0	1217	0	1800	1385	0	0
Q Serve(g_s), s	15.5	0.0	0.0	0.0	0.0	0.0	9.0	0.0	3.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.5	0.0	0.0	12.1	0.0	0.0	15.5	0.0	3.3	6.5	0.0	0.0
Prop In Lane	1.00		0.22	0.02		0.04	1.00		0.08	0.05		0.84
Lane Grp Cap(c), veh/h	843	0	1195	891	0	0	251	0	294	261	0	0
V/C Ratio(X)	0.57	0.00	0.42	0.35	0.00	0.00	0.64	0.00	0.21	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1051	0	1195	891	0	0	328	0	409	348	0	0
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.87	0.63	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.2	0.0	0.0	16.7	0.0	0.0	45.3	0.0	39.9	41.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.0	0.7	0.0	0.0	2.7	0.0	0.4	0.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.3	4.9	0.0	0.0	4.5	0.0	1.5	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	7.8	0.0	1.0	17.4	0.0	0.0	48.1	0.0	40.2	42.0	0.0	0.0
LnGrp LOS	A		A	B			D		D	D		
Approach Vol, veh/h		982			311			223				92
Approach Delay, s/veh		4.3			17.4			45.9				42.0
Approach LOS		A			B			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		86.0		24.0	24.9	61.1		24.0				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		73.0		25.0	32.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		8.5	17.5	14.1		17.5				
Green Ext Time (p_c), s		4.2		0.4	1.4	1.9		0.5				
Intersection Summary												
HCM 7th Control Delay, s/veh				14.7								
HCM 7th LOS				B								

Timings
7: Sylvan Road & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	134	123	53	117	34	481	86	129
Future Volume (vph)	134	123	53	117	34	481	86	129
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	36.0	36.0	36.0	36.0	44.0	44.0	44.0	44.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	55.0%	55.0%	55.0%	55.0%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	18.7	18.7		18.7		26.7		26.7
Actuated g/C Ratio	0.32	0.32		0.32		0.46		0.46
v/c Ratio	0.57	0.32		0.72		0.79		0.77
Control Delay (s/veh)	28.6	16.4		24.2		23.0		24.6
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay (s/veh)	28.6	16.4		24.2		23.0		24.6
LOS	C	B		C		C		C
Approach Delay (s/veh)		22.0		24.2		23.0		24.6
Approach LOS		C		C		C		C

Intersection Summary

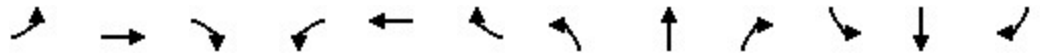
Cycle Length: 80
 Actuated Cycle Length: 58.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay (s/veh): 23.4
 Intersection LOS: C
 Intersection Capacity Utilization 87.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 7: Sylvan Road & Dill Avenue



HCM 7th Signalized Intersection Summary
 7: Sylvan Road & Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	123	38	53	117	143	34	481	34	86	129	108
Future Volume (veh/h)	134	123	38	53	117	143	34	481	34	86	129	108
Initial Q (Qb), veh	0	0	0	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	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	1693	1737	1633	1811	1722	1870	1707	1841	1856	1752	1737	1530
Adj Flow Rate, veh/h	144	132	41	64	141	172	39	547	39	109	163	137
Peak Hour Factor	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88	0.79	0.79	0.79
Percent Heavy Veh, %	14	11	18	6	12	2	13	4	3	10	11	25
Cap, veh/h	391	403	125	141	207	218	105	698	48	204	276	194
Arrive On Green	0.32	0.32	0.32	0.32	0.32	0.32	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	965	1271	395	167	652	688	58	1615	111	252	639	449
Grp Volume(v), veh/h	144	0	173	377	0	0	625	0	0	409	0	0
Grp Sat Flow(s),veh/h/ln	965	0	1666	1507	0	0	1784	0	0	1339	0	0
Q Serve(g_s), s	0.0	0.0	3.8	5.8	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.9	0.0	3.8	10.7	0.0	0.0	14.4	0.0	0.0	11.0	0.0	0.0
Prop In Lane	1.00		0.24	0.17		0.46	0.06		0.06	0.27		0.33
Lane Grp Cap(c), veh/h	391	0	528	566	0	0	851	0	0	674	0	0
V/C Ratio(X)	0.37	0.00	0.33	0.67	0.00	0.00	0.73	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	690	0	1044	1020	0	0	1481	0	0	1125	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.2	0.0	12.5	14.7	0.0	0.0	11.8	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.4	1.4	0.0	0.0	1.3	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.3	3.4	0.0	0.0	4.5	0.0	0.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.8	0.0	12.8	16.1	0.0	0.0	13.0	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	B		B	B			B			B		
Approach Vol, veh/h		317			377			625				409
Approach Delay, s/veh		13.7			16.1			13.0				11.4
Approach LOS		B			B			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.7		21.2		26.7		21.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		38.0		30.0		38.0		30.0				
Max Q Clear Time (g_c+I1), s		16.4		10.9		13.0		12.7				
Green Ext Time (p_c), s		4.3		1.7		3.2		2.4				
Intersection Summary												
HCM 7th Control Delay, s/veh				13.4								
HCM 7th LOS				B								

Timings
8: Sylvan Road & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	7	4	29	1	23	701	14	298
Future Volume (vph)	7	4	29	1	23	701	14	298
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	24.0	24.0	24.0	24.0	41.0	41.0	41.0	41.0
Total Split (%)	36.9%	36.9%	36.9%	36.9%	63.1%	63.1%	63.1%	63.1%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		8.5		8.5		39.1		39.1
Actuated g/C Ratio		0.15		0.15		0.71		0.71
v/c Ratio		0.52		0.26		0.72		0.32
Control Delay (s/veh)		18.8		17.8		13.6		6.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		18.8		17.8		13.6		6.2
LOS		B		B		B		A
Approach Delay (s/veh)		18.8		17.8		13.6		6.2
Approach LOS		B		B		B		A

Intersection Summary

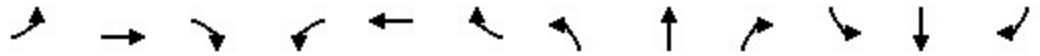
Cycle Length: 65
 Actuated Cycle Length: 55.1
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay (s/veh): 12.2
 Intersection LOS: B
 Intersection Capacity Utilization 63.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Sylvan Road & Avon Avenue



HCM 7th Signalized Intersection Summary
8: Sylvan Road & Avon Avenue

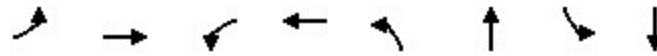
DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	7	4	26	29	1	17	23	701	28	14	298	0
Future Volume (veh/h)	7	4	26	29	1	17	23	701	28	14	298	0
Initial Q (Qb), veh	0	0	0	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	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	1900	1900	418	1530	1900	1900	418	1856	1900	1900	1796	1900
Adj Flow Rate, veh/h	21	12	76	35	1	20	27	835	33	17	368	0
Peak Hour Factor	0.34	0.34	0.34	0.83	0.83	0.83	0.84	0.84	0.84	0.81	0.81	0.81
Percent Heavy Veh, %	0	0	100	25	0	0	100	3	0	0	7	0
Cap, veh/h	132	27	119	239	20	63	106	1033	40	109	1025	0
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.60	0.60	0.60	0.60	0.60	0.00
Sat Flow, veh/h	238	255	1135	880	193	596	23	1735	67	25	1722	0
Grp Volume(v), veh/h	109	0	0	56	0	0	895	0	0	385	0	0
Grp Sat Flow(s),veh/h/ln	1627	0	0	1669	0	0	1824	0	0	1748	0	0
Q Serve(g_s), s	1.4	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.1	0.0	0.0	15.4	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.19		0.70	0.62		0.36	0.03		0.04	0.04		0.00
Lane Grp Cap(c), veh/h	278	0	0	321	0	0	1179	0	0	1134	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.17	0.00	0.00	0.76	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	827	0	0	813	0	0	1680	0	0	1596	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	16.6	0.0	0.0	6.4	0.0	0.0	4.2	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.3	0.0	0.0	1.3	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	0.4	0.0	0.0	2.9	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.1	0.0	0.0	16.8	0.0	0.0	7.6	0.0	0.0	4.3	0.0	0.0
LnGrp LOS	B			B			A			A		
Approach Vol, veh/h		109			56			895				385
Approach Delay, s/veh		18.1			16.8			7.6				4.3
Approach LOS		B			B			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		29.8		10.2		29.8		10.2				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		35.0		18.0		35.0		18.0				
Max Q Clear Time (g_c+I1), s		17.4		4.5		6.4		3.1				
Green Ext Time (p_c), s		6.5		0.4		2.5		0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh				7.9								
HCM 7th LOS				A								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	38	243	1	336	24	321	83	27
Future Volume (vph)	38	243	1	336	24	321	83	27
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	69.0	69.0	69.0	69.0	41.0	41.0	41.0	41.0
Total Split (%)	62.7%	62.7%	62.7%	62.7%	37.3%	37.3%	37.3%	37.3%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		68.4		68.4		29.6		29.6
Actuated g/C Ratio		0.62		0.62		0.27		0.27
v/c Ratio		0.38		0.70		0.85		0.87
Control Delay (s/veh)		12.8		17.5		55.6		74.4
Queue Delay		60.8		10.0		38.4		54.9
Total Delay (s/veh)		73.6		27.5		94.0		129.3
LOS		E		C		F		F
Approach Delay (s/veh)		73.6		27.5		94.0		129.3
Approach LOS		E		C		F		F

Intersection Summary

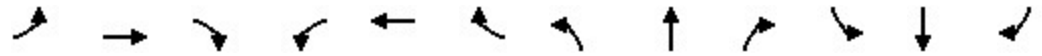
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 54 (49%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay (s/veh): 62.8	Intersection LOS: E
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	38	243	2	1	336	391	24	321	0	83	27	30
Future Volume (veh/h)	38	243	2	1	336	391	24	321	0	83	27	30
Initial Q (Qb), veh	0	0	0	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	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	1900	1811	1900	1900	1856	1856	1900	1841	1900	1796	1841	1900
Adj Flow Rate, veh/h	48	304	2	1	354	412	28	378	0	95	31	34
Peak Hour Factor	0.80	0.80	0.80	0.95	0.95	0.95	0.85	0.85	0.85	0.87	0.87	0.87
Percent Heavy Veh, %	0	6	0	0	3	3	0	4	0	7	4	0
Cap, veh/h	130	797	5	33	493	572	54	449	0	148	49	39
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.26	0.26	0.00	0.26	0.26	0.26
Sat Flow, veh/h	148	1265	8	0	783	909	74	1721	0	367	186	149
Grp Volume(v), veh/h	354	0	0	767	0	0	406	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1420	0	0	1692	0	0	1795	0	0	703	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	9.9	0.0	0.0	33.8	0.0	0.0	23.7	0.0	0.0	26.2	0.0	0.0
Prop In Lane	0.14		0.01	0.00		0.54	0.07		0.00	0.59		0.21
Lane Grp Cap(c), veh/h	932	0	0	1098	0	0	504	0	0	236	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.70	0.00	0.00	0.81	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	932	0	0	1098	0	0	606	0	0	303	0	0
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)	0.68	0.00	0.00	0.63	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	13.8	0.0	0.0	38.7	0.0	0.0	39.6	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	2.3	0.0	0.0	6.7	0.0	0.0	4.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	12.2	0.0	0.0	11.4	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.2	0.0	0.0	16.1	0.0	0.0	45.3	0.0	0.0	43.7	0.0	0.0
LnGrp LOS	B			B			D			D		
Approach Vol, veh/h		354			767			406				160
Approach Delay, s/veh		10.2			16.1			45.3				43.7
Approach LOS		B			B			D				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		75.3		34.7		75.3		34.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		63.0		35.0		63.0		35.0				
Max Q Clear Time (g_c+I1), s		11.9		28.2		35.8		25.7				
Green Ext Time (p_c), s		2.7		0.5		6.4		1.8				
Intersection Summary												
HCM 7th Control Delay, s/veh				24.5								
HCM 7th LOS				C								

Timings
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	219	11	10	7	100	1265	17	321
Future Volume (vph)	219	11	10	7	100	1265	17	321
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	40.0	40.0	40.0	40.0	45.0	45.0	15.0	60.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	45.0%	45.0%	15.0%	60.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	5.2	5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)	24.0	24.0		24.0		65.4		65.4
Actuated g/C Ratio	0.24	0.24		0.24		0.65		0.65
v/c Ratio	0.71	0.25		0.17		0.87		0.28
Control Delay (s/veh)	46.3	8.0		12.8		21.9		6.9
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay (s/veh)	46.3	8.0		12.8		21.9		6.9
LOS	D	A		B		C		A
Approach Delay (s/veh)		33.8		12.8		21.9		6.9
Approach LOS		C		B		C		A

Intersection Summary

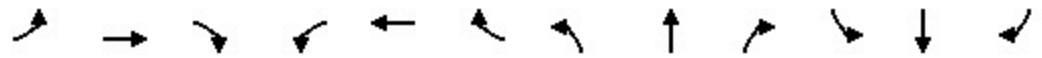
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 97 (97%), Referenced to phase 2:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay (s/veh): 20.3 Intersection LOS: C
 Intersection Capacity Utilization 84.5% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 Build AM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	11	95	10	7	34	100	1265	4	17	321	155
Future Volume (vph)	219	11	95	10	7	34	100	1265	4	17	321	155
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2			5.2			5.4			5.4	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frt	1.00	0.87			0.91			1.00			0.95	
Flt Protected	0.95	1.00			0.99			1.00			1.00	
Satd. Flow (prot)	1671	1557			1569			3441			3115	
Flt Permitted	0.77	1.00			0.94			0.84			0.86	
Satd. Flow (perm)	1358	1557			1494			2914			2693	
Peak-hour factor, PHF	0.94	0.94	0.94	0.77	0.77	0.77	0.83	0.83	0.83	0.96	0.96	0.96
Adj. Flow (vph)	233	12	101	13	9	44	120	1524	5	18	334	161
RTOR Reduction (vph)	0	77	0	0	33	0	0	0	0	0	40	0
Lane Group Flow (vph)	233	36	0	0	33	0	0	1649	0	0	473	0
Heavy Vehicles (%)	8%	20%	4%	11%	17%	7%	11%	4%	0%	27%	8%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)	24.0	24.0			24.0			65.4			65.4	
Effective Green, g (s)	24.0	24.0			24.0			65.4			65.4	
Actuated g/C Ratio	0.24	0.24			0.24			0.65			0.65	
Clearance Time (s)	5.2	5.2			5.2			5.4			5.4	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	325	373			358			1905			1761	
v/s Ratio Prot		0.02										
v/s Ratio Perm	c0.17				0.02			c0.57			0.18	
v/c Ratio	0.72	0.10			0.09			0.87			0.27	
Uniform Delay, d1	34.9	29.6			29.5			13.8			7.3	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	7.3	0.1			0.1			4.4			0.1	
Delay (s)	42.2	29.7			29.6			18.2			7.3	
Level of Service	D	C			C			B			A	
Approach Delay (s/veh)		38.1			29.6			18.2			7.3	
Approach LOS		D			C			B			A	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	19.0	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.88	
Actuated Cycle Length (s)	100.0	Sum of lost time (s) 15.9
Intersection Capacity Utilization	84.5%	ICU Level of Service E
Analysis Period (min)	15	
c Critical Lane Group		

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	109	130	155	613	196	130
Future Vol, veh/h	109	130	155	613	196	130
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	0	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	118	141	194	766	236	157

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1468	314	393	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	1154	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	142	731	1177	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	119	731	1177	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	303	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.84	1.75	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1177	-	272	731	-	-
HCM Lane V/C Ratio	0.165	-	0.435	0.193	-	-
HCM Ctrl Dly (s/v)	8.7	-	28.1	11.1	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	2.1	0.7	-	-

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	106	85	103	619	241	128
Future Vol, veh/h	106	85	103	619	241	128
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	0	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	4	10	0
Mvmt Flow	115	92	112	673	262	139

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1228	332	401	0	-	0
Stage 1	332	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	198	715	1169	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	179	715	1169	-	-	-
Mov Cap-2 Maneuver	354	-	-	-	-	-
Stage 1	662	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	15.89	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1169	-	354	715	-	-
HCM Lane V/C Ratio	0.096	-	0.325	0.129	-	-
HCM Ctrl Dly (s/v)	8.4	-	20	10.8	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.4	0.4	-	-

Timings
1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation

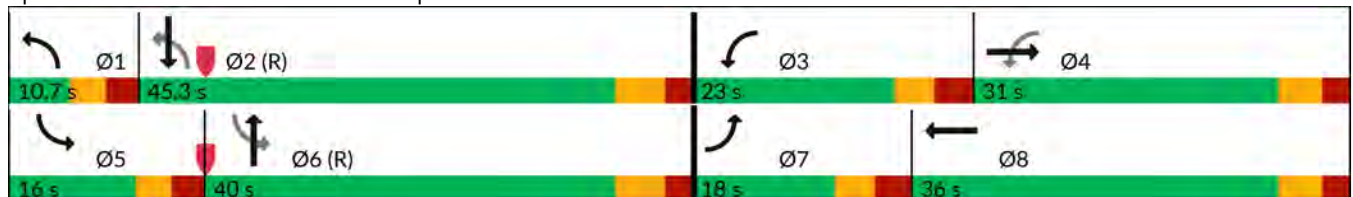


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	212	251	267	292	105	1057	243	264	1078	299
Future Volume (vph)	212	251	267	292	105	1057	243	264	1078	299
Turn Type	Prot	NA	D.P+P	NA	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	7	4	3	8	1	6		5	2	
Permitted Phases			4		2		6	6		2
Detector Phase	7	4	3	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	11.3	30.9	11.3	30.9	10.6	27.2	27.2	10.6	27.2	27.2
Total Split (s)	18.0	31.0	23.0	36.0	10.7	40.0	40.0	16.0	45.3	45.3
Total Split (%)	16.4%	28.2%	20.9%	32.7%	9.7%	36.4%	36.4%	14.5%	41.2%	41.2%
Yellow Time (s)	3.3	3.6	3.3	3.6	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	2.3	3.0	2.3	2.6	2.2	2.2	2.6	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	5.9	6.3	5.9	5.6	6.2	6.2	5.6	6.2	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Min	C-Min	None	C-Min	C-Min
Act Effct Green (s)	11.2	18.2	34.1	23.3	52.1	33.8	33.8	52.1	43.6	43.6
Actuated g/C Ratio	0.10	0.17	0.31	0.21	0.47	0.31	0.31	0.47	0.40	0.40
v/c Ratio	0.68	0.59	0.79	0.76	0.57	1.05	0.41	0.82	0.84	0.43
Control Delay (s/veh)	58.3	43.9	43.5	41.1	30.5	77.8	7.9	48.1	37.6	12.7
Queue Delay	0.0	0.3	5.0	4.7	0.0	0.0	0.0	2.7	0.0	0.0
Total Delay (s/veh)	58.3	44.2	48.5	45.8	30.5	77.8	7.9	50.8	37.6	12.7
LOS	E	D	D	D	C	E	A	D	D	B
Approach Delay (s/veh)		50.1		46.7		62.2			35.2	
Approach LOS		D		D		E			D	

Intersection Summary

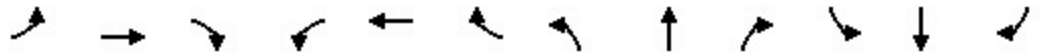
Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay (s/veh): 47.7
 Intersection LOS: D
 Intersection Capacity Utilization 87.0%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Lee Street & Campbellton Road/Dill Avenue



HCM 7th Signalized Intersection Summary
 1: Lee Street & Campbellton Road/Dill Avenue

DRI #4430 Sylvan Mixed-Use
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗		↖	↖↗		↖	↖↗	↖	↖	↖↗	↖
Traffic Volume (veh/h)	212	251	44	267	292	233	105	1057	243	264	1078	299
Future Volume (veh/h)	212	251	44	267	292	233	105	1057	243	264	1078	299
Initial Q (Qb), veh	0	0	0	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	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	1870	1781	1856	1856	1841	1885	1885	1870	1870	1856	1870	1900
Adj Flow Rate, veh/h	238	282	0	307	336	0	113	1137	261	287	1172	0
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.93	0.93	0.93	0.92	0.92	0.92
Percent Heavy Veh, %	2	8	3	3	4	1	1	2	2	3	2	0
Cap, veh/h	301	378		367	617		251	1506	672	291	1677	
Arrive On Green	0.09	0.11	0.00	0.05	0.06	0.00	0.05	0.42	0.42	0.09	0.47	0.00
Sat Flow, veh/h	3456	3474	0	1767	3589	0	1795	3554	1585	1767	3554	1610
Grp Volume(v), veh/h	238	282	0	307	336	0	113	1137	261	287	1172	0
Grp Sat Flow(s),veh/h/ln	1728	1692	0	1767	1749	0	1795	1777	1585	1767	1777	1610
Q Serve(g_s), s	7.4	8.9	0.0	16.7	10.3	0.0	3.6	29.8	12.5	10.3	28.6	0.0
Cycle Q Clear(g_c), s	7.4	8.9	0.0	16.7	10.3	0.0	3.6	29.8	12.5	10.3	28.6	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	301	378		367	617		251	1506	672	291	1677	
V/C Ratio(X)	0.79	0.75		0.84	0.54		0.45	0.76	0.39	0.99	0.70	
Avail Cap(c_a), veh/h	368	772		367	957		251	1506	672	291	1677	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.63	0.63	0.00	1.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	49.2	47.3	0.0	40.9	47.5	0.0	18.5	26.9	21.9	23.4	22.9	0.0
Incr Delay (d2), s/veh	9.1	2.9	0.0	10.2	0.5	0.0	1.3	3.6	1.7	45.9	2.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	3.9	0.0	9.0	4.9	0.0	1.5	12.7	5.0	7.6	11.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.3	50.3	0.0	51.1	48.0	0.0	19.7	30.4	23.6	69.3	25.1	0.0
LnGrp LOS	E	D		D	D		B	C	C	E	C	
Approach Vol, veh/h		520			643			1511			1459	
Approach Delay, s/veh		54.0			49.5			28.4			33.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	58.1	23.0	18.2	16.0	52.8	15.9	25.3				
Change Period (Y+Rc), s	5.6	6.2	6.3	5.9	5.6	6.2	6.3	5.9				
Max Green Setting (Gmax), s	5.1	39.1	16.7	25.1	10.4	33.8	11.7	30.1				
Max Q Clear Time (g_c+I1), s	5.6	30.6	18.7	10.9	12.3	31.8	9.4	12.3				
Green Ext Time (p_c), s	0.0	4.8	0.0	1.4	0.0	1.5	0.2	2.1				

Intersection Summary												
HCM 7th Control Delay, s/veh											36.8	
HCM 7th LOS											D	

Notes
 User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 7th Signalized Intersection Summary
 2: Lee Street & Avon Avenue

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YY			↑↑	↑↑↑	
Traffic Volume (veh/h)	87	86	92	1404	1565	113
Future Volume (veh/h)	87	86	92	1404	1565	113
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1870	1870	1900
Adj Flow Rate, veh/h	92	92	100	1526	1665	120
Peak Hour Factor	0.95	0.95	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	0	0	2	2	0
Cap, veh/h	144	128	136	2112	3882	279
Arrive On Green	0.08	0.08	0.80	0.80	0.80	0.80
Sat Flow, veh/h	1810	1610	120	2730	5030	350
Grp Volume(v), veh/h	92	92	749	877	1165	620
Grp Sat Flow(s),veh/h/ln	1810	1610	1147	1617	1702	1807
Q Serve(g_s), s	4.9	5.6	10.6	23.9	10.5	10.5
Cycle Q Clear(g_c), s	4.9	5.6	21.3	23.9	10.5	10.5
Prop In Lane	1.00	1.00	0.13			0.19
Lane Grp Cap(c), veh/h	144	128	957	1291	2718	1443
V/C Ratio(X)	0.64	0.72	0.78	0.68	0.43	0.43
Avail Cap(c_a), veh/h	344	306	957	1291	2718	1443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.13	0.13	0.80	0.80
Uniform Delay (d), s/veh	44.6	44.9	3.5	4.4	3.1	3.1
Incr Delay (d2), s/veh	4.7	7.3	0.9	0.4	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.5	3.1	4.5	2.1	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	49.3	52.3	4.4	4.8	3.5	3.8
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h				1626	1785	
Approach Delay, s/veh	50.8			4.6	3.6	
Approach LOS	D			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		86.6			86.6	13.4
Change Period (Y+Rc), s		6.8			6.8	5.4
Max Green Setting (Gmax), s		68.8			68.8	19.0
Max Q Clear Time (g_c+I1), s		12.5			25.9	7.6
Green Ext Time (p_c), s		19.7			21.6	0.4

Intersection Summary						
HCM 7th Control Delay, s/veh			6.5			
HCM 7th LOS			A			

Notes
 User approved volume balancing among the lanes for turning movement.

Timings
3: Lee Street & Sylvan Road

	←		↑	→	
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	↖	↗	↕	↘	↗
Traffic Volume (vph)	117	318	1435	312	1469
Future Volume (vph)	117	318	1435	312	1469
Turn Type	Prot	pm+ov	NA	pm+pt	NA
Protected Phases	4	5	6	5	2
Permitted Phases		4		2	
Detector Phase	4	5	6	5	2
Switch Phase					
Minimum Initial (s)	8.0	6.0	12.0	6.0	12.0
Minimum Split (s)	23.7	11.6	31.9	11.6	17.9
Total Split (s)	32.0	28.0	60.0	28.0	88.0
Total Split (%)	26.7%	23.3%	50.0%	23.3%	73.3%
Yellow Time (s)	4.1	3.0	4.0	3.0	4.0
All-Red Time (s)	1.6	2.6	1.9	2.6	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.6	5.9	5.6	5.9
Lead/Lag		Lead	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	
Recall Mode	None	None	C-Min	None	C-Min
Act Effct Green (s)	14.3	42.6	65.9	94.4	94.1
Actuated g/C Ratio	0.12	0.36	0.55	0.79	0.78
v/c Ratio	0.63	0.65	0.87	0.83	0.56
Control Delay (s/veh)	48.9	32.3	31.0	50.7	6.4
Queue Delay	3.3	65.2	43.3	81.2	0.0
Total Delay (s/veh)	52.2	97.5	74.3	131.9	6.4
LOS	D	F	E	F	A
Approach Delay (s/veh)	85.3		74.3		28.4
Approach LOS	F		E		C














Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 89 (74%), Referenced to phase 2:SBTL and 6:NBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay (s/veh): 54.3	Intersection LOS: D
Intersection Capacity Utilization 81.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Lee Street & Sylvan Road



HCM 7th Signalized Intersection Summary
 3: Lee Street & Sylvan Road

DRI #4430 Sylvan Mixed-Use
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (veh/h)	117	318	1435	101	312	1469
Future Volume (veh/h)	117	318	1435	101	312	1469
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1885	1870	1900	1885	1870
Adj Flow Rate, veh/h	136	370	1560	110	332	1563
Peak Hour Factor	0.86	0.86	0.92	0.92	0.94	0.94
Percent Heavy Veh, %	0	1	2	0	1	2
Cap, veh/h	378	591	1639	115	361	2467
Arrive On Green	0.21	0.21	0.49	0.49	0.16	0.69
Sat Flow, veh/h	1810	1598	3462	236	1795	3647
Grp Volume(v), veh/h	136	370	818	852	332	1563
Grp Sat Flow(s),veh/h/ln	1810	1598	1777	1828	1795	1777
Q Serve(g_s), s	7.7	22.8	52.6	53.8	17.0	28.8
Cycle Q Clear(g_c), s	7.7	22.8	52.6	53.8	17.0	28.8
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	378	591	864	889	361	2467
V/C Ratio(X)	0.36	0.63	0.95	0.96	0.92	0.63
Avail Cap(c_a), veh/h	397	607	864	889	407	2467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.29	0.29	1.00	1.00
Uniform Delay (d), s/veh	40.6	31.0	29.3	29.6	38.8	10.0
Incr Delay (d2), s/veh	0.3	1.1	8.0	9.0	24.5	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	20.3	22.8	24.2	11.9	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	40.9	32.1	37.4	38.7	63.2	11.3
LnGrp LOS	D	C	D	D	E	B
Approach Vol, veh/h	506		1670			1895
Approach Delay, s/veh	34.5		38.0			20.4
Approach LOS	C		D			C
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		89.2		30.8	24.9	64.3
Change Period (Y+Rc), s		5.9		5.7	5.6	5.9
Max Green Setting (Gmax), s		82.1		26.3	22.4	54.1
Max Q Clear Time (g_c+I1), s		30.8		24.8	19.0	55.8
Green Ext Time (p_c), s		17.6		0.3	0.3	0.0
Intersection Summary						
HCM 7th Control Delay, s/veh			29.4			
HCM 7th LOS			C			

Timings
4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation

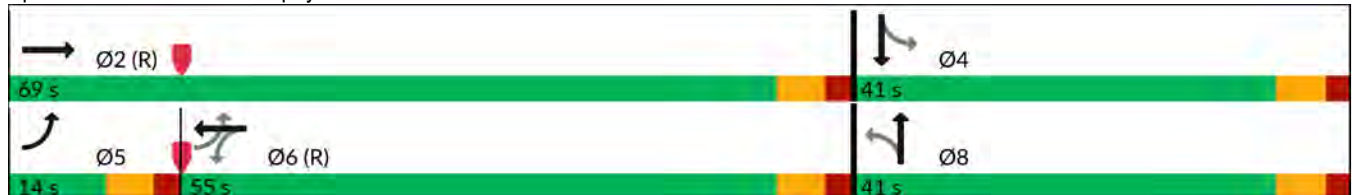


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	249	500	1	410	93	25	2	28
Future Volume (vph)	249	500	1	410	93	25	2	28
Turn Type	D.P+P	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases	5	2		6		8		4
Permitted Phases	6		6		8		4	
Detector Phase	5	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	14.0	69.0	55.0	55.0	41.0	41.0	41.0	41.0
Total Split (%)	12.7%	62.7%	50.0%	50.0%	37.3%	37.3%	37.3%	37.3%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0	6.0		6.0
Lead/Lag	Lead		Lag	Lag				
Lead-Lag Optimize?	Yes		Yes	Yes				
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	68.3	74.3		54.7	23.7	23.7		23.7
Actuated g/C Ratio	0.62	0.68		0.50	0.22	0.22		0.22
v/c Ratio	0.52	0.63		0.52	1.58	0.10		0.63
Control Delay (s/veh)	12.4	12.6		23.2	356.1	23.7		9.4
Queue Delay	0.7	2.4		0.3	30.3	0.0		6.6
Total Delay (s/veh)	13.1	15.0		23.5	386.4	23.7		16.0
LOS	B	B		C	F	C		B
Approach Delay (s/veh)		14.4		23.5		288.8		16.0
Approach LOS		B		C		F		B

Intersection Summary




















Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:EBWB, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.58
 Intersection Signal Delay (s/veh): 35.8
 Intersection LOS: D
 Intersection Capacity Utilization 100.3%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 4: Murphy Avenue & Dill Avenue



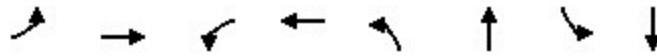
HCM 7th Signalized Intersection Summary
 4: Murphy Avenue & Dill Avenue

DRI #4430 Sylvan Mixed-Use
 2035 Build PM Mitigation

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	500	103	1	410	2	93	25	10	2	28	312
Future Volume (veh/h)	249	500	103	1	410	2	93	25	10	2	28	312
Initial Q (Qb), veh	0	0	0	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	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	1856	1826	1885	1900	1870	1900	1826	1841	1737	1900	1900	1870
Adj Flow Rate, veh/h	311	625	129	1	482	2	106	28	11	2	33	367
Peak Hour Factor	0.80	0.80	0.80	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Percent Heavy Veh, %	3	5	1	0	2	0	5	4	11	0	0	2
Cap, veh/h	510	875	181	33	872	4	188	371	146	33	41	439
Arrive On Green	0.05	0.40	0.40	0.47	0.47	0.47	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1767	1468	303	1	1860	8	961	1258	494	2	140	1489
Grp Volume(v), veh/h	311	0	754	485	0	0	106	0	39	402	0	0
Grp Sat Flow(s),veh/h/ln	1767	0	1771	1868	0	0	961	0	1752	1631	0	0
Q Serve(g_s), s	8.0	0.0	39.4	0.0	0.0	0.0	5.0	0.0	1.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	39.4	20.5	0.0	0.0	30.3	0.0	1.8	25.3	0.0	0.0
Prop In Lane	1.00		0.17	0.00		0.00	1.00		0.28	0.00		0.91
Lane Grp Cap(c), veh/h	510	0	1056	908	0	0	188	0	517	514	0	0
V/C Ratio(X)	0.61	0.00	0.71	0.53	0.00	0.00	0.56	0.00	0.08	0.78	0.00	0.00
Avail Cap(c_a), veh/h	510	0	1056	908	0	0	210	0	557	552	0	0
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.00	0.76	0.50	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.6	0.0	25.2	21.0	0.0	0.0	41.8	0.0	28.0	36.3	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	3.2	1.1	0.0	0.0	2.7	0.0	0.1	6.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	18.4	9.2	0.0	0.0	3.0	0.0	0.8	11.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.2	0.0	28.3	22.1	0.0	0.0	44.5	0.0	28.0	43.0	0.0	0.0
LnGrp LOS	B		C	C			D		C	D		
Approach Vol, veh/h		1065			485			145				402
Approach Delay, s/veh		25.4			22.1			40.0				43.0
Approach LOS		C			C			D				D
Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		71.6		38.4	14.0	57.6		38.4				
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s		63.0		35.0	8.0	49.0		35.0				
Max Q Clear Time (g_c+I1), s		41.4		27.3	10.0	22.5		32.3				
Green Ext Time (p_c), s		6.1		1.7	0.0	3.5		0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh				29.0								
HCM 7th LOS				C								

Timings
7: Sylvan Road & Dill Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	168	167	49	175	65	378	144	270
Future Volume (vph)	168	167	49	175	65	378	144	270
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)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)	25.1	25.1		25.1		45.4		45.4
Actuated g/C Ratio	0.30	0.30		0.30		0.55		0.55
v/c Ratio	0.92	0.50		0.80		0.66		0.97
Control Delay (s/veh)	74.9	23.8		35.5		19.6		47.2
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay (s/veh)	74.9	23.8		35.5		19.6		47.2
LOS	E	C		D		B		D
Approach Delay (s/veh)		44.9		35.5		19.6		47.2
Approach LOS		D		D		B		D

Intersection Summary

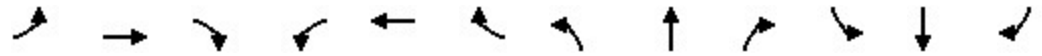
Cycle Length: 90
 Actuated Cycle Length: 82.6
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay (s/veh): 37.2
 Intersection LOS: D
 Intersection Capacity Utilization 107.0%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 7: Sylvan Road & Dill Avenue



HCM 7th Signalized Intersection Summary
7: Sylvan Road & Dill Avenue

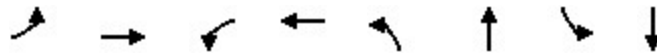
DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	167	72	49	175	157	65	378	55	144	270	191
Future Volume (veh/h)	168	167	72	49	175	157	65	378	55	144	270	191
Initial Q (Qb), veh	0	0	0	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	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	1796	1826	1767	1767	1841	1870	1767	1856	1811	1856	1870	1900
Adj Flow Rate, veh/h	189	188	81	52	184	165	73	425	62	167	314	222
Peak Hour Factor	0.89	0.89	0.89	0.95	0.95	0.95	0.89	0.89	0.89	0.86	0.86	0.86
Percent Heavy Veh, %	7	5	9	9	4	2	9	3	6	3	2	0
Cap, veh/h	298	420	181	93	271	222	115	603	84	193	318	212
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	991	1210	522	134	781	640	132	1171	162	275	616	411
Grp Volume(v), veh/h	189	0	269	401	0	0	560	0	0	703	0	0
Grp Sat Flow(s),veh/h/ln	991	0	1732	1555	0	0	1465	0	0	1303	0	0
Q Serve(g_s), s	7.3	0.0	10.5	9.6	0.0	0.0	0.0	0.0	0.0	21.6	0.0	0.0
Cycle Q Clear(g_c), s	27.4	0.0	10.5	20.0	0.0	0.0	23.4	0.0	0.0	45.0	0.0	0.0
Prop In Lane	1.00		0.30	0.13		0.41	0.13		0.11	0.24		0.32
Lane Grp Cap(c), veh/h	298	0	601	586	0	0	802	0	0	723	0	0
V/C Ratio(X)	0.63	0.00	0.45	0.68	0.00	0.00	0.70	0.00	0.00	0.97	0.00	0.00
Avail Cap(c_a), veh/h	329	0	655	635	0	0	802	0	0	723	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.0	0.0	22.0	25.0	0.0	0.0	15.3	0.0	0.0	22.8	0.0	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.5	2.7	0.0	0.0	2.7	0.0	0.0	26.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	4.3	7.6	0.0	0.0	7.9	0.0	0.0	18.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.5	0.0	22.6	27.7	0.0	0.0	17.9	0.0	0.0	49.5	0.0	0.0
LnGrp LOS	C		C	C			B			D		
Approach Vol, veh/h		458			401			560			703	
Approach Delay, s/veh		27.1			27.7			17.9			49.5	
Approach LOS		C			C			B			D	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.0		36.3		51.0		36.3				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		45.0		33.0		45.0		33.0				
Max Q Clear Time (g_c+I1), s		25.4		29.4		47.0		22.0				
Green Ext Time (p_c), s		3.8		0.9		0.0		2.1				
Intersection Summary												
HCM 7th Control Delay, s/veh				32.2								
HCM 7th LOS				C								

Timings
8: Sylvan Road & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation

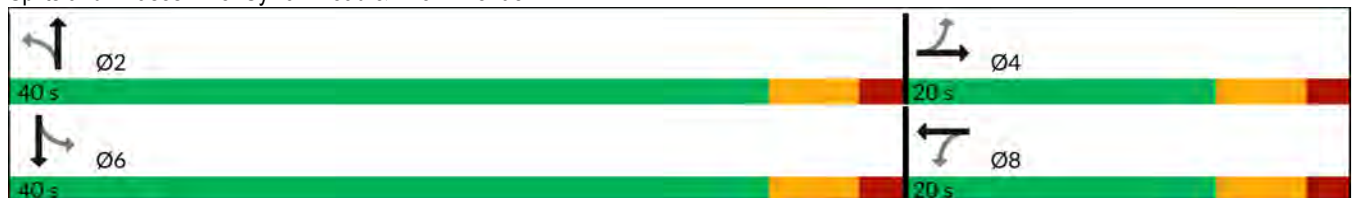


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	1	4	37	4	37	681	21	489
Future Volume (vph)	1	4	37	4	37	681	21	489
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	Min	Min	Min	Min
Act Effct Green (s)		7.5		7.7		36.0		36.0
Actuated g/C Ratio		0.16		0.16		0.77		0.77
v/c Ratio		0.28		0.29		0.61		0.45
Control Delay (s/veh)		11.6		19.2		9.4		6.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay (s/veh)		11.6		19.2		9.4		6.4
LOS		B		B		A		A
Approach Delay (s/veh)		11.6		19.2		9.4		6.4
Approach LOS		B		B		A		A

Intersection Summary

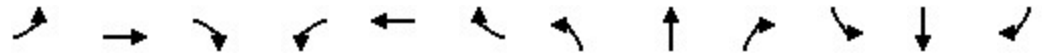
Cycle Length: 60	
Actuated Cycle Length: 46.7	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay (s/veh): 8.7	Intersection LOS: A
Intersection Capacity Utilization 72.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 8: Sylvan Road & Avon Avenue



HCM 7th Signalized Intersection Summary
8: Sylvan Road & Avon Avenue

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	1	4	33	37	4	14	37	681	45	21	489	4
Future Volume (veh/h)	1	4	33	37	4	14	37	681	45	21	489	4
Initial Q (Qb), veh	0	0	0	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	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	1900	1900	1159	1900	1900	1900	1159	1870	1574	1900	1856	1900
Adj Flow Rate, veh/h	2	7	57	47	5	18	39	717	47	25	589	5
Peak Hour Factor	0.58	0.58	0.58	0.79	0.79	0.79	0.95	0.95	0.95	0.83	0.83	0.83
Percent Heavy Veh, %	0	0	50	0	0	0	50	2	22	0	3	0
Cap, veh/h	107	20	146	272	18	42	128	930	59	120	991	8
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	30	193	1412	1008	171	408	40	1654	105	28	1764	15
Grp Volume(v), veh/h	66	0	0	70	0	0	803	0	0	619	0	0
Grp Sat Flow(s),veh/h/ln	1635	0	0	1587	0	0	1800	0	0	1807	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	1.3	0.0	0.0	12.2	0.0	0.0	7.9	0.0	0.0
Prop In Lane	0.03		0.86	0.67		0.26	0.05		0.06	0.04		0.01
Lane Grp Cap(c), veh/h	273	0	0	332	0	0	1117	0	0	1120	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.21	0.00	0.00	0.72	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	740	0	0	747	0	0	1790	0	0	1790	0	0
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	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	15.0	0.0	0.0	6.1	0.0	0.0	5.2	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.3	0.0	0.0	0.9	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.5	0.0	0.0	2.1	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.5	0.0	0.0	15.3	0.0	0.0	7.0	0.0	0.0	5.6	0.0	0.0
LnGrp LOS	B			B			A			A		
Approach Vol, veh/h		66			70			803			619	
Approach Delay, s/veh		15.5			15.3			7.0			5.6	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.2		9.7		26.2		9.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		34.0		14.0		34.0		14.0				
Max Q Clear Time (g_c+I1), s		14.2		3.3		9.9		3.3				
Green Ext Time (p_c), s		5.9		0.2		4.4		0.2				
Intersection Summary												
HCM 7th Control Delay, s/veh				7.2								
HCM 7th LOS				A								

Timings
9: Murphy Avenue & Sylvan Road

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation

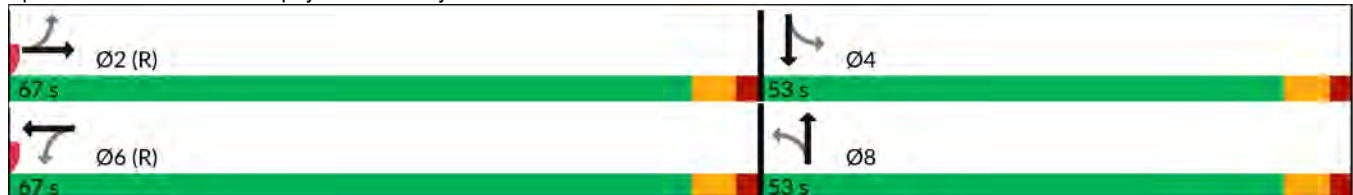


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations		↕		↕		↕		↕
Traffic Volume (vph)	57	384	3	409	13	201	145	114
Future Volume (vph)	57	384	3	409	13	201	145	114
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		2		6		8		4
Permitted Phases	2		6		8		4	
Detector Phase	2	2	6	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	67.0	67.0	67.0	67.0	53.0	53.0	53.0	53.0
Total Split (%)	55.8%	55.8%	55.8%	55.8%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	4.0	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	2.0
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		6.0		6.0		6.0		6.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		66.8		66.8		41.2		41.2
Actuated g/C Ratio		0.56		0.56		0.34		0.34
v/c Ratio		0.52		0.75		0.57		0.97
Control Delay (s/veh)		36.2		26.6		34.9		78.1
Queue Delay		64.5		43.7		0.6		25.0
Total Delay (s/veh)		100.7		70.3		35.5		103.1
LOS		F		E		D		F
Approach Delay (s/veh)		100.7		70.3		35.5		103.1
Approach LOS		F		E		D		F

Intersection Summary

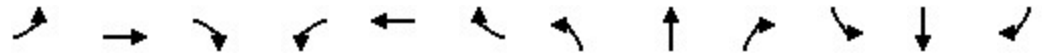
Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.97
 Intersection Signal Delay (s/veh): 77.0 Intersection LOS: E
 Intersection Capacity Utilization 107.4% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 9: Murphy Avenue & Sylvan Road



HCM 7th Signalized Intersection Summary
 9: Murphy Avenue & Sylvan Road

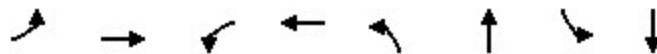
DRI #4430 Sylvan Mixed-Use
 2035 Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	57	384	6	3	409	300	13	201	8	145	114	44
Future Volume (veh/h)	57	384	6	3	409	300	13	201	8	145	114	44
Initial Q (Qb), veh	0	0	0	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	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	1900	1885	1900	1900	1870	1870	1900	1856	1900	1826	1870	1900
Adj Flow Rate, veh/h	58	392	6	3	431	316	20	314	12	159	125	48
Peak Hour Factor	0.98	0.98	0.98	0.95	0.95	0.95	0.64	0.64	0.64	0.91	0.91	0.91
Percent Heavy Veh, %	0	1	0	0	2	2	0	3	0	5	2	0
Cap, veh/h	111	731	11	31	571	417	50	556	21	207	146	52
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	135	1284	19	1	1004	732	55	1682	62	492	442	158
Grp Volume(v), veh/h	456	0	0	750	0	0	346	0	0	332	0	0
Grp Sat Flow(s),veh/h/ln	1439	0	0	1737	0	0	1799	0	0	1093	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0
Cycle Q Clear(g_c), s	20.5	0.0	0.0	39.2	0.0	0.0	18.6	0.0	0.0	36.2	0.0	0.0
Prop In Lane	0.13		0.01	0.00		0.42	0.06		0.03	0.48		0.14
Lane Grp Cap(c), veh/h	853	0	0	1019	0	0	627	0	0	406	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.74	0.00	0.00	0.55	0.00	0.00	0.82	0.00	0.00
Avail Cap(c_a), veh/h	853	0	0	1019	0	0	736	0	0	487	0	0
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)	0.44	0.00	0.00	0.76	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.9	0.0	0.0	19.6	0.0	0.0	33.1	0.0	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	3.6	0.0	0.0	0.8	0.0	0.0	9.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	15.9	0.0	0.0	8.5	0.0	0.0	10.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.9	0.0	0.0	23.2	0.0	0.0	33.8	0.0	0.0	49.8	0.0	0.0
LnGrp LOS	B			C			C			D		
Approach Vol, veh/h		456			750			346				332
Approach Delay, s/veh		15.9			23.2			33.8				49.8
Approach LOS		B			C			C				D
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		74.3		45.7		74.3		45.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		61.0		47.0		61.0		47.0				
Max Q Clear Time (g_c+I1), s		22.5		38.2		41.2		20.6				
Green Ext Time (p_c), s		3.5		1.5		5.5		2.3				
Intersection Summary												
HCM 7th Control Delay, s/veh				28.1								
HCM 7th LOS				C								

Timings
11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
2035 Build PM Mitigation



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	224	20	13	14	118	779	38	901
Future Volume (vph)	224	20	13	14	118	779	38	901
Turn Type	Perm	NA	Perm	NA	Perm	NA	D.P+P	NA
Protected Phases		8		4		6	5	2
Permitted Phases	8		4		6		6	
Detector Phase	8	8	4	4	6	6	5	2
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	12.0	12.0	5.0	12.0
Minimum Split (s)	23.2	23.2	23.2	23.2	22.4	22.4	10.3	22.4
Total Split (s)	45.0	45.0	45.0	45.0	40.0	40.0	15.0	55.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	40.0%	40.0%	15.0%	55.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.0	3.7
All-Red Time (s)	1.9	1.9	1.9	1.9	1.7	1.7	2.3	1.7
Lost Time Adjust (s)	0.0	0.0		0.0		0.0		0.0
Total Lost Time (s)	5.2	5.2		5.2		5.4		5.4
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	None	None	None	None	Min	Min	None	C-Min
Act Effct Green (s)	25.6	25.6		25.6		63.8		63.8
Actuated g/C Ratio	0.26	0.26		0.26		0.64		0.64
v/c Ratio	0.71	0.43		0.16		0.83		0.66
Control Delay (s/veh)	43.7	17.8		15.7		23.3		14.5
Queue Delay	0.0	0.0		0.0		0.0		0.0
Total Delay (s/veh)	43.7	17.8		15.7		23.3		14.5
LOS	D	B		B		C		B
Approach Delay (s/veh)		32.5		15.7		23.3		14.5
Approach LOS		C		B		C		B

Intersection Summary

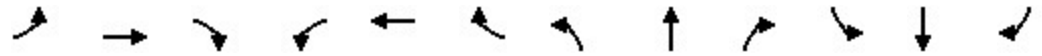
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 61 (61%), Referenced to phase 2:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay (s/veh): 20.7 Intersection LOS: C
 Intersection Capacity Utilization 91.5% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 11: Metropolitan Parkway & Dill Avenue/Manford Road



HCM Signalized Intersection Capacity Analysis
 11: Metropolitan Parkway & Dill Avenue/Manford Road

DRI #4430 Sylvan Mixed-Use
 2035 Build PM Mitigation



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	20	151	13	14	25	118	779	6	38	901	247
Future Volume (vph)	224	20	151	13	14	25	118	779	6	38	901	247
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2			5.2			5.4			5.4	
Lane Util. Factor	1.00	1.00			1.00			0.95			0.95	
Frt	1.00	0.87			0.94			1.00			0.97	
Flt Protected	0.95	1.00			0.99			0.99			1.00	
Satd. Flow (prot)	1736	1492			1690			3491			3314	
Flt Permitted	0.76	1.00			0.91			0.57			0.88	
Satd. Flow (perm)	1395	1492			1558			1988			2910	
Peak-hour factor, PHF	0.89	0.89	0.89	0.75	0.75	0.75	0.86	0.86	0.86	0.96	0.96	0.96
Adj. Flow (vph)	252	22	170	17	19	33	137	906	7	40	939	257
RTOR Reduction (vph)	0	65	0	0	25	0	0	0	0	0	17	0
Lane Group Flow (vph)	252	127	0	0	44	0	0	1050	0	0	1219	0
Heavy Vehicles (%)	4%	6%	11%	8%	0%	4%	6%	2%	20%	6%	6%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		D.P+P	NA	
Protected Phases		8			4			6		5	2	
Permitted Phases	8			4			6			6		
Actuated Green, G (s)	25.6	25.6			25.6			63.8			63.8	
Effective Green, g (s)	25.6	25.6			25.6			63.8			63.8	
Actuated g/C Ratio	0.26	0.26			0.26			0.64			0.64	
Clearance Time (s)	5.2	5.2			5.2			5.4			5.4	
Vehicle Extension (s)	3.0	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	357	381			398			1268			1856	
v/s Ratio Prot		0.08										
v/s Ratio Perm	c0.18				0.03			c0.53			0.42	
v/c Ratio	0.71	0.33			0.11			0.83			0.66	
Uniform Delay, d1	33.8	30.2			28.5			13.9			11.3	
Progression Factor	1.00	1.00			1.00			1.00			1.00	
Incremental Delay, d2	6.2	0.5			0.1			4.6			0.8	
Delay (s)	40.0	30.8			28.6			18.5			12.1	
Level of Service	D	C			C			B			B	
Approach Delay (s/veh)		36.0			28.6			18.5			12.1	
Approach LOS		D			C			B			B	

Intersection Summary		
HCM 2000 Control Delay (s/veh)	18.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.84	B
Actuated Cycle Length (s)	100.0	Sum of lost time (s)
Intersection Capacity Utilization	91.5%	15.9
Analysis Period (min)	15	ICU Level of Service
		F
c Critical Lane Group		

Intersection						
Int Delay, s/veh	8.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	189	224	196	518	385	166
Future Vol, veh/h	189	224	196	518	385	166
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	0	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	87	87
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	205	243	213	563	443	191

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1527	538	633	0	-	0
Stage 1	538	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 131	547	959	-	-	-
Stage 1	589	-	-	-	-	-
Stage 2	363	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 102	547	959	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	363	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	29.28	2.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	959	-	286	547	-	-
HCM Lane V/C Ratio	0.222	-	0.718	0.445	-	-
HCM Ctrl Dly (s/v)	9.8	-	44.1	16.7	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.8	-	5.1	2.3	-	-

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

Intersection						
Int Delay, s/veh	6.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙	↗	↙	↑	↗	
Traffic Vol, veh/h	181	146	128	579	405	159
Future Vol, veh/h	181	146	128	579	405	159
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	0	100	-	-	-
Veh in Median Storage, #	2	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	80	80	83	83
Heavy Vehicles, %	0	0	0	3	3	0
Mvmt Flow	197	159	160	724	488	192

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1627	584	680	0	-	0
Stage 1	584	-	-	-	-	-
Stage 2	1044	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 113	515	922	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 94	515	922	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	464	-	-	-	-	-
Stage 2	342	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	31.83	1.76	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	922	-	275	515	-	-
HCM Lane V/C Ratio	0.173	-	0.716	0.308	-	-
HCM Ctrl Dly (s/v)	9.7	-	45.4	15.1	-	-
HCM Lane LOS	A	-	E	C	-	-
HCM 95th %tile Q(veh)	0.6	-	5	1.3	-	-

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

APPENDIX G
GRTA LETTER OF UNDERSTANDING (LOU)



LETTER OF UNDERSTANDING

June 10th, 2025

Mike Abebe
Abebe Ventures
249 Milton Avenue
Atlanta, GA 30315

RE: **Sylvan Mixed Use (DRI#: 4430)**

Dear Mike Abebe:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on June 2nd, 2025, regarding **Sylvan Mixed Use (DRI 4430)** Development of Regional Impact (DRI). The *GRTA DRI Review Procedures*, as well as the inputs and parameters documented in this Letter of Understanding and the revised Methodology Meeting Packet, shall be adhered to in preparing the GRTA required Transportation Study.

PROJECT OVERVIEW

- The proposed site is located at on the west side of Sylvan Road and south side of Avon Avenue. The parcel Addresses are as follows: 1215 Sylvan Road, 0 Sylvan Road, 997 Cox Avenue, 985 Cox Avenue, 984 Cox Avenue, 1313 Sylvan Road.
- The proposed development includes 3,032 high-rise apartments, a 300-room hotel, 20,000 square feet of civic space, 257,050 square feet of office space, and 147,255 square feet of retail.
- The projected build-out is one phase to be completed by 2035.
- The proposed development includes (2) site accesses along Sylvan Road. Driveway A will only provide access to the south side of the development and Driveway B will only provide access to the north side of the development.
- The DRI trigger for this development is a Rezoning.
- The vehicular trip generation is estimated to be 12,958 net daily trips based on the *ITE Trip Generation Manual 11th edition*.
- The applicant is applying for approval under GRTA's non-expedited Traffic Impact Study review process.

STUDY NETWORK

1. Lee Street (SR 154) & Campbellton Rd/Dill Avenue
2. Lee Street (SR 154) & Avon Avenue
3. Lee Street (SR 154) & Sylvan Road
4. Dill Avenue & Murphy Avenue
5. Murphy Avenue & Avon Avenue
6. Sylvan Road & Deckner Avenue
7. Sylvan Road & Dill Avenue
8. Sylvan Road & Avon Avenue
9. Sylvan Road & Murphy Avenue
10. Dill Avenue & Alene Avenue
11. Metropolitan Parkway & Dill Avenue
12. Driveway A on Sylvan Road
13. Driveway B on Sylvan Road

METHODOLOGY MEETING PACKET INPUTS & PARAMETERS

- The Site Plan shall meet all the applicable requirements in Section 7.1 of the *GRTA DRI Review Procedures*.
- All Study Network intersections shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future “no-build” conditions, and (3) future “build” conditions as specified in the *GRTA DRI Review Procedures*.
- This DRI shall be modeled and reviewed in one phase to be completed by 2035.
- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.
- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Mixed-use and pass-by reductions are allowed for this site. Pass-by reductions shall not exceed 15% of a roadway’s traffic volume standard established in Appendix 7.2. Pass-by reductions for this project will be a reduction of no more than 10% (Retail only). Internal capture reductions will be a reduction of no more than 18%. Alt. Mode Reductions will be a reduction of no more than 20% of a roadway’s traffic volume standard.
- The trip assignment approach in the revised Methodology Meeting Packet shall be utilized for all Study Network intersection movements.
- The applicant shall research TIP, STIP, RTP and GDOT’s construction work program, as well as any local government and transit operator plans (SPLOST, CIP, etc.), to determine the open date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. Programmed transportation projects anticipated to open on or before the Build Out year of the DRI Project shall be modeled as completed in the No-Build and Build conditions unless approved otherwise.
- A 1.0 annual traffic Background Growth Rate shall be used for all roadways.
- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA, unless specified otherwise. As specified in Section 2.3, turning movement counts shall be collected while local schools are in session, on a Tuesday, Wednesday or Thursday (unless approved otherwise) and not during holiday periods (weeks of July 4th, Thanksgiving and +/- 5 days of Christmas).
- If the *GRTA DRI Review Procedures* requires an Enhanced Focus Area for Heavy Vehicles or an Enhanced Focus Area for Dense Urban Environments, the Transportation Study shall incorporate the inputs and parameters agreed to at the Methodology Meeting and documented in the revised Methodology Meeting Packet. These inputs may include a Heavy Vehicle modeling percentages, a Heavy Vehicle route map, a pedestrian crosswalk delay adjustment and a bus blockage adjustment factor.

ADDITIONAL REQUIREMENTS

All applicable requirements of the *GRTA DRI Review Procedures* must be met for the Transportation Study to be considered complete. The *GRTA DRI Review Procedures* are located on GRTA’s DRI website: <https://www.srta.ga.gov/programs-projects/dev-of-regional-impact/> Contact GRTA staff if you have any questions on these requirements.

The Transportation Study shall also include as attachments the native LOS modeling file (i.e., Synchro modeling files) as well as the modeling reports (PDFs) for all Study Network intersections for the Existing, No-Build and Build conditions for all phases. The PDF reports shall be numbered (in page headers) and organized in order according

to the Study Network numbering sequence in this Letter of Understanding. The reports shall also be organized in the following sequence: *Existing condition AM, Existing condition PM, No-build condition AM, No-Build condition PM, Build condition AM, Build condition PM*. If improvements are modeled, those PDFs shall be labeled as such and follow the appropriate condition's applicable peak period.

The Transportation Study appendices shall also include all turning movement count data, regardless of if using historic data or newly collected turning movement counts.

When documenting any Queue Length impacts required in Section 3.2.3.6, the TIS Executive Summary shall also note any individual *movements* not meeting the LOS standard where the DRI Project adds trips in the Build condition and exceeds available storage capacity for that movement.

When identifying mitigations in the existing, no-build and build conditions, the mitigations identified in preceding conditions shall not be modeled as complete when conducting the LOS analysis. The same mitigation may still be proposed as mitigation in the subsequent condition but it shall not be included as completed in the default analysis. For example, a turn lane may be identified as a needed improvement in the no-build condition. The turn lane should not be modeled as completed in the build condition. The turn lane should only be modeled as complete in the no-build with improvements condition and the build with improvements condition.

DRI REVIEW PACKAGE SUBMITTAL

GRTA will begin reviewing the DRI once the DRI Review Package is submitted and deemed complete. The DRI Review Package includes: the permitting Local Government inputting both Department of Community Affairs (DCA) forms into the DCA DRI website; and the **Traffic Engineer submittal of the GRTA Transportation Study (including LOS appendices, traffic count data and any other required attachments) and Site Plan to GRTA staff and ALL stakeholders included in the CC list of this Letter of Understanding.**

All DRI Review Packages shall be submitted electronically via email to all stakeholders in the CC list of the Letter of Understanding. If the DRI Review Package total file size is greater than 10 MB, the DRI Review Package shall be submitted via email with a FTP link provided for downloading the files.

Please contact me if you have any questions about the Letter of Understanding or the *GRTA DRI Review Procedures*.

Sincerely,

Brittany Williams
Program Manager

Cc:

Zane Grennell, DCA	Erika Becker, NV5, Traffic Engineer
Donald Shockey, ARC	Aaron Karnowski, NV5, Traffic Engineer
Shelby Piccolo, ARC	Jeremiah Phillips, Eberly, Site Designer
Brittany Williams, GRTA/SRTA	Colline Hernandez, Perkins Will
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Monique Forte, City of Atlanta	
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