

Final Environmental Assessment for Phase II Air Cargo Facility Development

Volume 2: Appendix H

Lakeland Linder International Airport
Polk County, Florida

October 2021

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APPENDIX H

Traffic Study Technical Report

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Environmental Assessment for Phase II Air Cargo Facility Development at Lakeland Linder International Airport (LAL)

Traffic Study Technical Report

Prepared for:

**City of Lakeland
Federal Aviation Administration**

Prepared by:

AECOM

August 2020

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Attachment A Synchro Outputs

ACRONYMS AND ABBREVIATIONS

AADT	Average Annual Daily Traffic
AST	Aboveground Storage Tank
LAL	Lakeland Linder International Airport
D	Directional Factor
D1RPM	District 1 Regional Planning Model
DDHV	Daily Directional Hourly Volume
EA	Environmental Assessment
EB	Eastbound
FDOT	Florida Department of Transportation
FTI	Florida Traffic Information
GSE	Ground Service Equipment
HCM	Highway Capacity Manual
K	Scale Factor
LOS	Level of Service
LT	Left Turn
NB	Northbound
NCRHP	National Cooperative Highway Research Program
NEPA	National Environmental Policy Act
RT	Right Turn
SB	Southbound
SF	Square Foot
SY	Square Yard
T	Truck Factor
TH	Through
TMC	Turning Movement Counts
WB	Westbound

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1.0 INTRODUCTION

The City of Lakeland (City), through their Airports Department, is undertaking an Environmental Assessment (EA) in accordance with the National Environmental Policy Act of 1969 (NEPA). The EA is being completed to support Phase II of air cargo facility development at Lakeland Linder International Airport (LAL or Airport), hereinafter referred to as the Proposed Project. The Proposed Project is an extension of development already completed to support air cargo service operations at LAL. The purpose of the EA is to identify and consider the potential environmental impacts associated with the Proposed Project and any reasonable alternatives.

This *Traffic Study Technical Report* details the assessment scope, input data and other technical information used in the analysis of traffic impacts associated with the Proposed Project.

In May 2019, the City completed a Major Traffic Study¹ for Phase I of the air cargo facility to determine the impacts a new air cargo facility will have on the adjacent transportation system and to recommend mitigation measures if necessary. The 2019 study determined how the intersections within the study area operate under existing AM and PM peak hour conditions. This additional traffic study was conducted to update the 2019 study and determine potential traffic impacts that would result from the Proposed Project. Conclusions from both the 2019 traffic study and the current study are summarized in the following sections.

1.1. PROPOSED PROJECT

The Proposed Project is a Phase II expansion of an air cargo facility already constructed. The Phase II expansion is being contemplated to accommodate future flexibility for expanded operations, given the potential for network and customer demand to increase in the near future. A notional layout for the Proposed Project is shown on **Figure 1.1-1a** based on facility sizing needs. The Proposed Project would be developed on an approximate 68-acre site in the northwest quadrant of LAL, immediately west and adjacent to the Phase I development already completed. All project components would be constructed on airport. Specific construction and operational activities included in the Proposed Project are listed below:

- Construct up to 464,600-square foot (SF) expansion of the Phase I sort and office building;
- Construct up to approximately 69,100 square yards (SY) of paved truck court to accommodate up to 370 additional truck bays;
- Construct up to approximately 42,500 SY of paved vehicle parking lot to accommodate up to 1,120 additional parking spaces;
- Construct up to approximately 29,200 SY of concrete aircraft parking apron to accommodate three additional Boeing 767-300 aircraft parking positions;
- Construct up to approximately 19,400 SY of pavement for aircraft ground support equipment (GSE) staging and periodic aircraft parking;

¹ RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

- Construct new airport access road to provide access to the Phase II facilities via Drane Field Road;
- Site clearing, grading, and landscaping;
- Modifications to the Airport's stormwater management system, including construction of swales and retention ponds;
- Installation of security fencing, gates and security checkpoints;
- Installation of airfield lighting and signage

The facility will be designed to approve Boeing 767 and 737 cargo aircraft. If approved, the Phase II Cargo Development project is expected to generate 8 additional bi-directional aircraft flights per day at LAL during the facility's first year of operation (2022) and 12 additional daily bi-directional flights in 2027. According to the forecast of project trips provided by the operator of Phase II Cargo Development, the project is expected to generate approximately 664 additional car and truck trips per day in 2022 (peak daily) and 1,242 additional car and truck trips per day in 2027.

Additionally, to accommodate the potential need for additional aviation fueling capacity at LAL, a fuel farm is being proposed in an area separate from the Proposed Project footprint, at the intersection of Aero Place and Taxiway H (**Figure 1.1-1b**). Current projections indicate need for additional aboveground storage tanks (ASTs) providing a total of 850,000 gallons of Jet-A fuel capacity. There is potential for a small portion of this capacity to be dedicated to off-road equipment fuel (e.g., gasoline, diesel or hydrogen) if usage needs dictate once the facility is operational.

2.0 EXISTING CONDITIONS

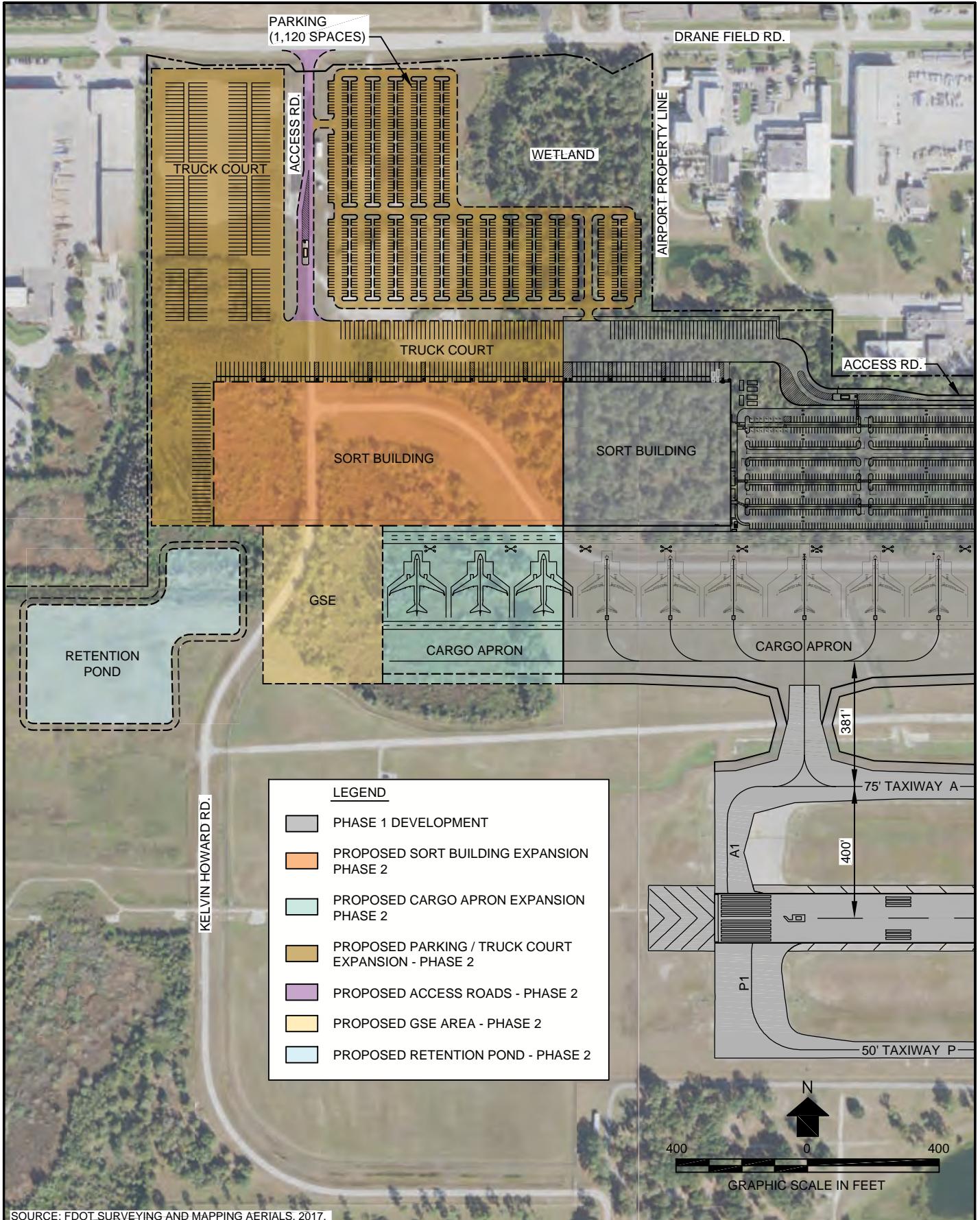
2.1. AREA TRANSPORTATION NETWORK CHARACTERISTICS

Table 2.1-1 presents the exiting conditions for the roadways adjacent to the Proposed Project including number of lanes, speed limit, and functional classification. The existing intersection controls are presented in **Table 2.1-2**. The existing roadway configurations are shown in **Figure 2.1-1**.

Table 2.1-1 Existing Roadway Characteristics

Roadway	Functional Classification	Facility Type	Speed Limit (mph)	Directionality	No. of Lanes
Drane Field Road	Major collector	Undivided	50	Two-way	2
County Line Road	Minor arterial	Divided	55	Two-way	4
Kidron Road	N/A	Undivided	25	Two-way	2
Airport Road	Major collector	Undivided	50	Two-way	2

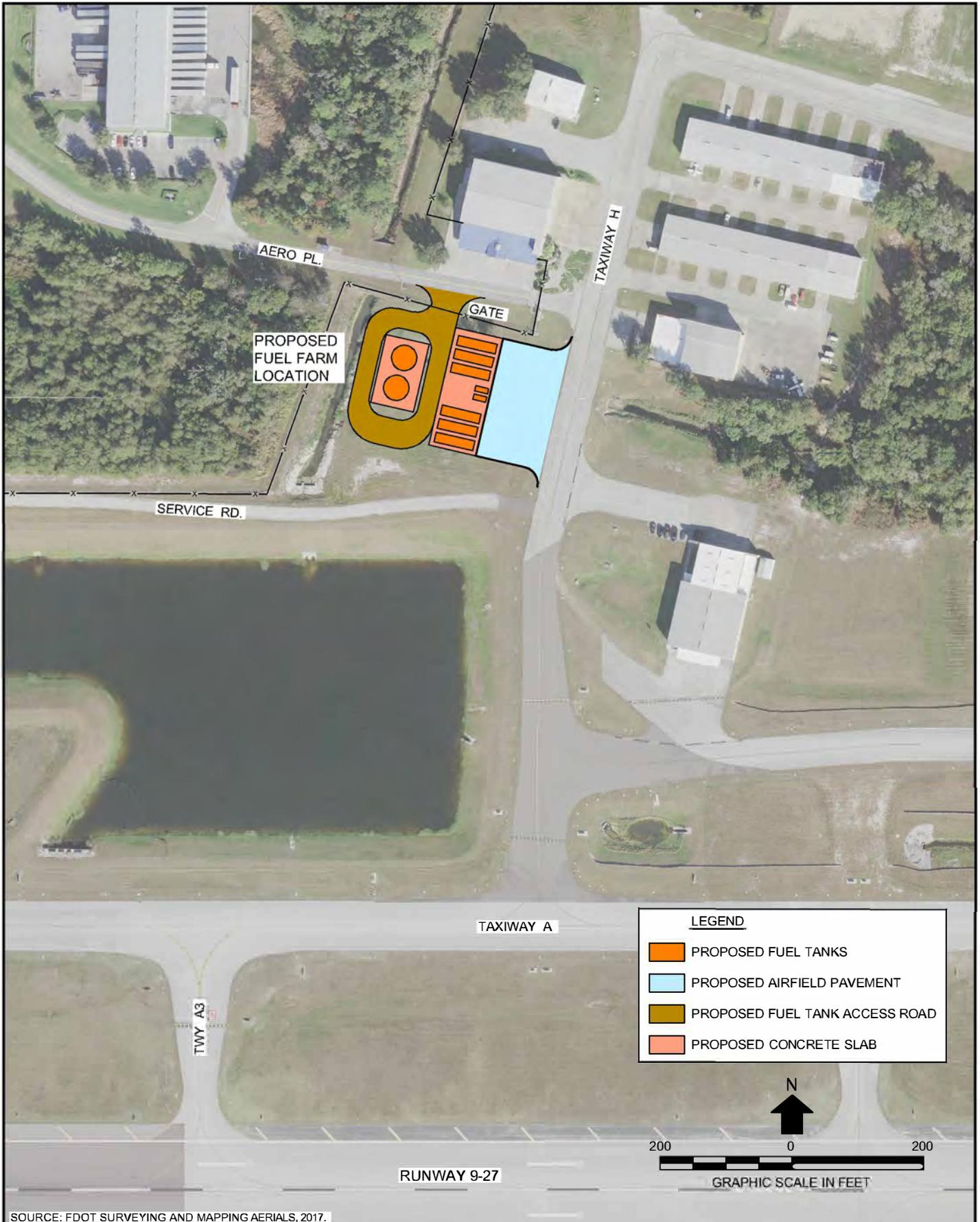
Source: Lakeland Linder Airport – NW Quadrant Traffic Study: Major Traffic Study. May 2019.



**LAKELAND LINER
INTERNATIONAL AIRPORT**
**PHASE II AIR CARGO DEVELOPMENT
ENVIRONMENTAL ASSESSMENT**

EA PROPOSED PROJECT

**FIGURE
1.1-1a**

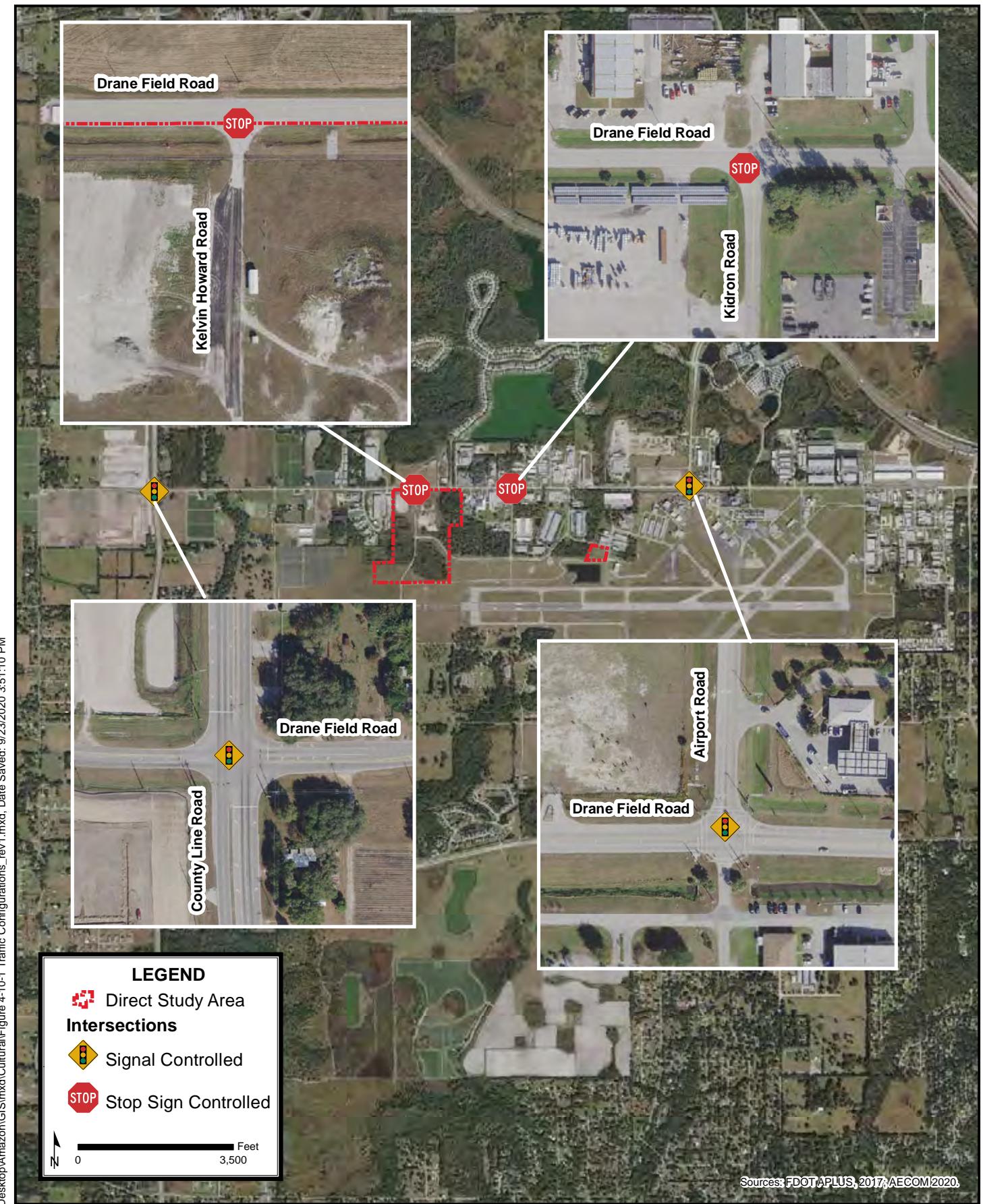


SOURCE: FDOT SURVEYING AND MAPPING AERIALS, 2017.

**LAKELAND LINER
INTERNATIONAL AIRPORT**
PHASE II AIR CARGO DEVELOPMENT
ENVIRONMENTAL ASSESSMENT

**EA PROPOSED PROJECT
FUEL FARM**

**FIGURE
1.1-1b**



**LAKELAND LINDER
INTERNATIONAL AIRPORT**
PHASE II AIR CARGO DEVELOPMENT
ENVIRONMENTAL ASSESSMENT

**EXISTING ROADWAY
CONFIGURATIONS**

**FIGURE
2.1-1**

Table 2.1-2 Intersection and Control Type

Intersection	Control/Signal Type
County Line Road at Drane Field Road	Signal Controlled
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized
Airport Road at Drane Field Road	Signal controlled

Source: Lakeland Linder Airport – NW Quadrant Traffic Study: Major Traffic Study. May 2019.

2.2. TRAFFIC COUNTS

As part of the 2019 study, turning movement traffic counts (TMC) were taken at the intersection of Drane Field Road and Kidron Road. The Florida Department of Transportation's (FDOT) Florida Traffic Information (FTI) seasonal factor (0.96) and axle factor (0.96) were applied to the counts to account for the time of year and the type of roadway where the counts were taken. A prior study collected volumes for the intersections of Airport Road at Drane Field Road on August 31, 2017 and May 12, 2017 and County Line Road at Drane Field Road on March 12, 2019.²

Additional traffic information was collected from the FTI database and from IdealSpot's 2019 Quarter One Average Annual Daily Traffic (AADT) report for the study year. The 2019 data from IdealSpot was used as the recommended AADT. The AADT developed from TMCs for Kidron Road was used where IdealSpot data was not available. The AADT collected from the 2019 study is summarized in **Table 2.2-1**.

2.3. TRAFFIC FACTORS AND EXISTING VOLUMES

The 2019 study used a directional factor (D) of 54.5 percent, which was identified from the 2018 FTI along Drane Field Road. The standard scale factor (K) of 9 percent and a truck factor (T) of 10.7 percent with an hourly truck factor of 5 percent was used. The seasonal and axle adjusted counts, calculated D factor and standard K factor were used to develop existing AADT volumes and Daily Directional Hourly Volumes (DDHV) on Drane Field Road and Kidron Road. Existing (2019) AADT volumes and DDHVs are shown in **Table 2.2-1**.

² RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

Table 2.2-1 Existing AADT Volumes and Calculated DDHVs

Roadway	From	To	AADT				DDHV	
			Polk TPO	FTI	IdealSpot	TMC		
			2017	2018	2019	Various	Peak	Off Peak
Drane Field Road	County Line Road	Airport Road	7,600	7,100	7,900	9,300	387	324
Drane Field Road	Airport Road	Waring Road	10,700	15,400	13,400	10,000	657	549
County Line Road	Medulla Road	Drane Field Road	25,700	21,000	19,400	15,700	952	794
County Line Road	Drane Field Road	East Baker Street	25,700	20,500	19,600	18,700	961	803
Airport Road	Drane Field Road	Polk Parkway	10,400	10,600	10,600	8,700	520	434
Kidron Road	Airpark Drive	Drane Field Road	--	--	--	800	39	33

Notes: D-Factor = 54.5%; Standard K-Factor = 9%; T-Factor = 10.7%; DHT = 5% from FTI on Drane Field Road

Source: RK&K Engineers. *Lakeland Linder Airport – NW Quadrant Traffic Study – Major Traffic Study*. May 2019.

2.4. EXISTING LEVEL OF SERVICE CAPACITY ANALYSES

The 2019 study included an intersection capacity analysis for the existing intersections pursuant to methodologies prescribed by the *Highway Capacity Manual (HCM)*.³ A level of service (LOS) letter grade was assigned to each intersection for the peak hour of traffic based on the number of lanes, traffic volumes, and traffic existing controls. According to the HCM, LOS is a qualitative measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

The annual traffic volumes, average delay (seconds per vehicle), and LOS results for the existing peak hours are shown in **Table 2.4-1** for the existing roadway configurations (see **Figure 2.1-1**). These values are based on the existing lane configurations and lane usages. Existing turning movement volumes collected in the May 2019 traffic study were used to determine the existing LOS. Existing signal timings were not available for the intersection of Airfield Court West/Airport Road at Drane Field Road; therefore, they were developed based on Synchro optimizations for this intersection. The LOS calculations were performed by AECOM per the HCM using Synchro software. Traffic analysis results in HCM format were reported for intersections except for the intersection of Airfield Court/West Airport Road at Drane Field Road. Due to limitations of Synchro software, results in Synchro format were reported for the intersection instead. Based on the information provided in **Table 2.4-1**, all study intersections currently operate acceptably at LOS B or better during both AM and PM peak hours.

Table 2.4-2 provides a detailed summary of the existing conditions traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection shown on **Figure 2.1-1**.

³ Transportation Research Board. *Highway Capacity Manual, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM)*. 2016

Table 2.4-1 Existing Conditions (2019) Traffic Volumes and Level of Service

Intersections	Control/Signal Type	Signal Type	Annual Volumes	AM		PM	
				LOS	Delay (Seconds/Vehicle)	LOS	Delay (Seconds/Vehicle)
County Line Road at Drane Field Road	Signal controlled	Signal	9,033,800	B	16.3	B	17.2
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	Signal	6,233,400	B	24.5	B	17.1
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsigned	Unsigned	2,883,500	A	0	A	0
Kidron Road at Drane Field Road	Stop sign controlled/unsigned	Unsigned	3,029,500	B	13	B	12.7

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 2.4-2 Existing Conditions (2019) Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	28.9	40	C	29.5	40
		EB TH	A	0.0	71	A	0.0	71
		EB RT	D	37.0	71	D	37.7	71
		WB LT	C	25.7	145	C	26.8	155
		WB TH	C	25.6	54	C	26.1	72
		WB RT	C	26.6	0	C	27.5	34
		NB LT	B	11.4	8	B	10.5	9
		NB TH	B	15.9	218	B	16.3	263
		NB RT	B	13.8	9	B	12.4	17
		SB LT	B	11.0	89	B	11.7	59
		SB TH	B	12.0	210	B	11.9	181
		SB RT	A	8.7	0	A	9.1	0
	Signal controlled	EB LT	F	94.6	#164	D	46.5	112

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
Airfield Court/West Airport Road at Drane Field Road		EB TH & RT	C	31.3	199	C	32.4	181
		WB LT	C	22.2	23	B	19.0	6
		WB TH	C	34.4	226	C	28.4	151
		WB RT	A	5.8	49	A	6.3	48
		NB LT, TH & RT	A	0.0	0.0	A	5.0	13
		SB TH & LT	B	14.7	262	A	8.6	109
		SB RT	A	2.1	22	A	1.8	28
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0	0	A	0	0
		EB RT	A	0	0	A	0	0
		WB LT	A	0	0	A	0	0
		WB TH	A	0	0	A	0	0
		NB LT	A	0	0	A	0	0
		NB RT	A	0	0	A	0	0
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH & RT	A	0	0	A	0	0
		WB LT	A	8.4	3	A	8.3	0
		WB TH	A	0	0	A	0	0
		NB LT & RT	B	12	8	B	12.7	8

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

3.0 FUTURE CONDITIONS

3.1 FORECAST TRAFFIC VOLUMES AND LEVEL OF SERVICE

3.1.1 NO-ACTION ALTERNATIVE

As part of the 2019 traffic study, future year (2023) traffic volumes on Drane Field Road were estimated using the District 1 Regional Planning Model (D1RPM) outputs. Model volumes for 2010 and 2040 from each leg of the study intersections were used to forecast 2019 volumes. The National Cooperative Highway Research Program (NCHRP) 765 adjustment procedure was utilized to develop 2040 AADT. The 2019 AADT and 2040 AADT were then used to linearly interpolate a “no-build” 2023 AADT (i.e., forecast traffic volumes that do not include traffic resulting from Phase I cargo development).

Traffic volumes for no-build conditions for years 2022 and 2027 were calculated via interpolation between years 2019 and 2040. Estimates of additional cargo truck and passenger vehicle traffic that would be generated by the Phase I air cargo development were added to the no-build traffic volumes for years 2022 and 2027 to represent the No-Action Alternative for EA. LOS for each study intersection was calculated for the 2022 and 2027 No-Action Alternative using methodologies previously described. **Tables 3.1-1 and 3.1-2** depict the forecasted No-Action Alternative annual traffic volumes and LOS for the 2022 and 2027 study years, respectively.

Tables 3.1-3 and 3.1-4 provide a detailed summary of the No-Action traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection for the 2022 and 2027 study years, respectively.

Table 3.1-1 2022 No-Action Alternative Traffic Volumes and Level of Service

Intersections	Control/Signal Type	Annual Volumes	AM		PM	
			LOS	Delay (Seconds/Vehicle)	LOS	Delay (Seconds/Vehicle)
County Line Road at Drane Field Road	Signal Controlled	10,128,800	B	17.8	B	18.8
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	6,872,100	C	24	B	17.7
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	3,605,400	C	18.9	C	18.3
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	4,365,800	C	24.2	C	22.5

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 3.1-2 2027 No-Action Alternative Traffic Volumes and Level of Service

Intersections	Control/Signal Type	Annual Volumes	AM		PM	
			LOS	Delay (Seconds/Vehicle)	LOS	Delay (Seconds/Vehicle)
County Line Road at Drane Field Road	Signal Controlled	11,112,200	B	19.7	B	21.4
Airfield Court/West Airport Road at Drane Field Road ¹	Signal controlled	7,486,600	C	24.2	B	17.8
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	3,917,700	C	20.8	C	20
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	4,690,300	D	29.7	D	26.7

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 3.1-3 2022 No-Action Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.6	41	C	29.7	40
		EB TH	A	0.0	69	A	0.0	69
		EB RT	D	37.8	69	D	37.9	69
		WB LT	C	34.7	#200	C	34.6	#213
		WB TH	C	27.2	64	C	27.0	84
		WB RT	C	28.7	1	C	29.1	23
		NB LT	B	11.7	8	B	10.7	10
		NB TH	B	17.1	239	B	17.8	293
		NB RT	B	15.3	39	B	13.5	18
		SB LT	B	12.9	117	B	13.7	83
		SB TH	B	11.7	216	B	11.9	191
		SB RT	A	8.3	0	A	8.8	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	95.6	#207	D	49.6	127
		EB TH & RT	C	26.1	234	C	29.0	197
		WB LT	B	17.2	20	B	16.0	6
		WB TH	C	27.1	246	C	24.8	160
		WB RT	A	4.3	42	A	5.2	43
		NB LT, TH & RT	A	0.0	0	A	6.3	15
		SB TH & LT	B	19.3	258	B	10.1	105
		SB RT	A	2.1	22	A	1.8	28
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	10.6	0	B	10.0	0
		WB TH	A	0.0	0	A	0.0	0
		NB LT	C	24.0	5	C	23.9	5
		NB RT	B	13.8	2.5	B	12.7	3
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH & RT	A	0.0	0	A	0.0	0
		WB LT	A	9.2	13	A	8.7	5
		WB TH	A	0.0	0	A	0.0	0

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
		NB LT & RT	C	24.2	65	C	22.5	70

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

Table 3.1-4 2027 No-Action Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.5	44	C	30.3	44
		EB TH	A	0.0	75	A	0.0	75
		EB RT	D	38.0	75	D	39.0	75
		WB LT	D	41.4	#233	E	56.7	#197
		WB TH	C	27.4	68	C	29.1	91
		WB RT	C	29.1	7	C	32.2	42
		NB LT	B	12.3	9	B	10.4	10
		NB TH	B	18.9	275	B	18.1	320
		NB RT	B	16.5	41	B	13.2	33
		SB LT	B	16.2	161	B	16.5	132 ²
		SB TH	B	12.6	248	B	11.7	212
		SB RT	A	8.6	0	A	8.4	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	95.2	#229	D	54.3	139
		EB TH & RT	C	24.5	249	C	27.9	208
		WB LT	B	16.3	20	B	15.0	6
		WB TH	C	25.5	267	C	24.0	169
		WB RT	A	4.0	43	A	4.9	43
		NB LT, TH & RT	A	0.1	0	A	7.1	18
		SB TH & LT	C	24.6	303	B	11.7	126
		SB RT	A	2.8	35	A	2.5	35
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	WB LT	B	10.9	0	B	10.3	0
		WB TH	A	0.0	0	A	0.0	0
		NB LT	D	27.0	5	D	26.9	5
		NB RT	B	14.5	2.5	B	13.2	3
		EB TH & RT	A	0.0	0	A	0.0	0
		WB LT	A	9.5	13	A	8.8	8
		WB TH	A	0.0	0	A	0.0	0
		NB LT & RT	D	29.7	83	D	26.7	85

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

3.1.2 PROPOSED PROJECT

For the purpose of this study, additional estimates of increased daily cargo truck and passenger vehicle traffic that would result from the operations of the Proposed Project were added to the forecasted No-Action Alternative traffic volumes for each study year to develop total traffic volumes and calculate intersection LOS that would result from the Proposed Project. **Tables 3.1-5** and **3.1-6** depict the forecasted Proposed Project annual traffic volumes and LOS for the 2022 and 2027 study years, respectively. **Tables 3.1-7** and **3.1-8** summarize changes to annual traffic volumes, LOS, and average delay that would result from the Proposed Project in 2022 and 2027, respectively. **Tables 3.1-9** and **3.1-10** provide a detailed summary of the Proposed Project traffic operations including queue length, delays (seconds/vehicle), and LOS for each individual movement at each intersection for the 2022 and 2027 study years, respectively.

Traffic impacts that would result from operation of the Proposed Project incur no unacceptable decrease in LOS at three of the four studied intersections. While impacts would be evident in the 2022 study year, the increased average intersection delay and the resulting impacts to LOS would generally be greatest in the 2027 study year. The County Line Road and Drane Field Road intersection would experience average delay increases of less than three seconds per vehicle, resulting in LOS change from B to C in 2027. The intersection of Airfield Court West/Airport Road and Drane Field Road would experience the least impact, with less than one second increase in average delay per vehicle, and no resulting change to LOS in 2027. At Kelvin Howard Road and Drane Field Road, the 2027 increase in average intersection delay would be 6.3 seconds during the AM peak hour and 5.8 seconds during the PM Peak hour. Both peak hours would experience a reduced LOS from C to D, as compared to the No-Action Alternative.

The intersection of Kidron Road and Drane Field Road would experience an unacceptable decrease to LOS as a result of the Proposed Project. This intersection currently is controlled only by stop signs on Kidron Road, and there are no dedicated turn lanes at the intersection, either on Kidron Road or Drane Field Road. Under the No-Action Alternative, this intersection would have a LOS of C in 2022 and LOS of D in 2027. With operation of the Proposed project, the LOS would decrease to LOS E in 2022 and LOS F in 2027. Without mitigation, this would constitute a significant impact to surface transportation. Mitigation alternatives considered are presented in **Section 4.0**.

Table 3.1-5 2022 Proposed Project Traffic Volumes and Level of Service

Intersections	Control/Signal Type	Annual Volumes	AM		PM	
			LOS	Delay (Seconds/Vehicle)	LOS	Delay (Seconds/Vehicle)
County Line Road at Drane Field Road	Signal Controlled	10,333,600	B	18.6	B	19.4
Airfield Court/West Airport Road at Drane Field Road ¹	Signal controlled	7,170,200	C	24.1	B	17.8
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	3,879,100	C	22.1	C	21.2
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	4,809,900	E	38.7	E	36.6

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 3.1-6 2027 Proposed Project Traffic Volumes and Level of Service

Intersections	Control/Signal Type	Annual Volumes	AM		PM	
			LOS	Delay (Seconds/Vehicle)	LOS	Delay (Seconds/Vehicle)
County Line Road at Drane Field Road	Signal Controlled	11,481,300	C	22	C	23.8
Airfield Court/West Airport Road at Drane Field Road ¹	Signal controlled	8,046,200	C	25	C	17.8
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	4,382,000	D	27.1	D	25.8
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	5,537,900	F	126	F	114.5

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 3.1-7 2022 Traffic Volume, Level of Service, and Delay Changes Resulting from Proposed Project

Intersections	Control/Signal Type	Annual Volume Difference	LOS Difference		Average Delay Difference (Seconds/Vehicle)	
			AM	PM	AM	PM
County Line Road at Drane Field Road	Signal Controlled	204,800	None	None	0.8	0.6
Airfield Court/West Airport Road at Drane Field Road ¹	Signal controlled	298,100	None	None	0.1	0.1
Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	273,700	None	None	3.2	2.9
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	444,100	C to E	C to E	14.5	14.1

Notes: Difference = Difference between No-Action Alternative and Proposed Project

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM). 2016; except as noted with “*”

¹ Calculations performed with Synchro software

Table 3.1-8 2027 Traffic Volume, Level of Service, and Delay Changes Resulting from Proposed Project

Intersections	Control/Signal Type	Annual Volume Difference	LOS Difference		Average Delay Difference (Seconds/Vehicle)	
			AM	PM	AM	PM
County Line Road at Drane Field Road	Signal Controlled	369,100	B to C	B to C	2.3	2.4
Airfield Court/West Airport Road at Drane Field Road ¹	Signal controlled	559,600	None	None	0.8	0

Kelvin Howard Road at Drane Field Road	Stop sign controlled/Unsignalized	464,300	C to D	C to D	6.3	5.8
Kidron Road at Drane Field Road	Stop sign controlled/Unsignalized	847,600	D to F	D to F	96.3	87.8

Notes: Difference = Difference between No-Action Alternative and Proposed Project

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition: A Guide for Multimodal Mobility Analysis (HCM). 2016; except as noted with “**”

¹ Calculations performed with Synchro software

Table 3.1-9 2022 Proposed Project Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.6	41	C	29.7	41
		EB TH	A	0.0	69	A	0.0	69
		EB RT	D	37.8	69	D	37.9	69
		WB LT	C	34.4	#208	D	39.0	#239
		WB TH	C	26.7	66	C	27.3	87
		WB RT	C	28.2	3	C	29.6	26
		NB LT	B	12.5	8	B	10.8	10
		NB TH	B	18.3	247	B	18.0	299
		NB RT	B	16.8	42	B	14.0	25
		SB LT	B	14.4	142	B	14.3	97
		SB TH	B	12.1	220	B	11.7	190
		SB RT	A	8.6	0	A	8.7	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	88.4	#239	D	50.2	138
		EB TH & RT	C	27.3	274	C	28.1	212
		WB LT	B	19.0	22	B	14.7	6
		WB TH	C	27.5	280	C	23.2	164
		WB RT	A	4.2	46	A	4.7	41
		NB LT, TH & RT	A	0.1	0	A	7.0	17
		SB TH & LT	C	20.2	236	B	11.3	112
		SB RT	A	3.0	37	A	2.5	35

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsigned	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	10.9	3	B	10.3	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	D	29.1	10	D	28.8	10
		NB RT	C	15.0	5	B	13.5	3
Kidron Road at Drane Field Road	Stop sign controlled/unsigned	EB TH & RT	A	0.0	0	A	0.0	0
		WB LT	A	9.6	15	A	8.9	8
		WB TH	A	0.0	0	A	0.0	0
		NB LT & RT	E	38.7	13	E	36.6	140

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

Table 3.1-10 2027 Proposed Project Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.5	44	C	30.2	44
		EB TH	A	0.0	75	A	0	75
		EB RT	D	38.0	75	D	38.8	75
		WB LT	E	60.7	#211	E	71.3	#227
		WB TH	C	28.3	74	C	29.2	96
		WB RT	C	30.5	12	C	32.6	37
		NB LT	B	12.3	9	B	10.8	10
		NB TH	B	19.1	273	B	19.1	329
		NB RT	B	17.4	43	B	14.3	36
		SB LT	B	19.1	#215	B	19.2	#167
		SB TH	B	12.0	243	B	11.7	212
		SB RT	A	8.2	0	A	8.4	0
	Signal controlled	EB LT	F	91.3	#269	D	53.6	158

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
Airfield Court/West Airport Road at Drane Field Road		EB TH & RT	C	24.3	296	C	25.8	232
		WB LT	B	16.5	21	B	12.7	5
		WB TH	C	24.4	297	C	20.8	172
		WB RT	A	3.7	43	A	4.1	38
		NB LT, TH & RT	A	0.1	0	A	8.9	20
		SB TH & LT	C	28.6	299	B	14.6	147
		SB RT	A	4.8	57	A	3.0	41
		EB TH	A	0.0	0	A	0.0	0
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB RT	A	0.0	0	A	0.0	0
		WB LT	B	11.5	3	B	10.7	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	E	37.7	15	E	36.9	15
		NB RT	C	16.5	5	B	14.6	5
		EB TH & RT	A	0.0	0	A	0.0	0
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	WB LT	B	10.2	20	A	9.3	13
		WB TH	A	0.0	0	A	0.0	0
		NB LT & RT	F	126.0	298	F	114.5	325

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

4.0 SUMMARY AND RECOMMENDATIONS

4.1 SUMMARY OF FINDINGS

The Proposed Project has the potential to impact vehicle delays and LOS at four intersections. Compared to the No-Action Alternative, the Proposed Project would incur additional delays in the 2022 and 2027 study years at all four intersections, either during AM peak hour, PM peak hour, or both. The greatest impacts would generally occur in the 2027 study year. Three of the four impacted intersections would not experience significant or unacceptable increased average delay or LOS in either study year.

However, the intersection of Kidron Road at Drane Field Road would experience substantial average vehicle delays and decreases in LOS by 2022. With operation of the Proposed Project, in the 2022 study year, the intersection would experience an average vehicle delay of as much as 14.5 seconds more than the No-Action Alternative, resulting in a LOS decrease from C to E. In the 2027 study year, the intersection would experience an average vehicle delay of as much as 96.3 seconds more than the No-Action Alternative, resulting in a LOS decrease from D to F.

4.2 TRAFFIC IMPACTS MITIGATION

Two alternative methods were developed to mitigate the impacts to LOS by reducing the increased average vehicle delay that would be incurred by the Proposed Project at the intersection of Kidron Road at Drane Field Road. Mitigation Alternative 1 includes adding dedicated turning lanes at the intersection. Mitigation Alternative 2 includes the addition of turn lanes and replacing the existing stop sign with a traffic signal. The resulting average delay and LOS for 2022 and 2027 are depicted in **Tables 4.2-1** and **4.2-2**, respectively.

Table 4.2-1 2022 Kidron Road at Drane Field Road Traffic Mitigation Scenarios

Scenario	Control Type	AM		PM	
		LOS	Delay (Seconds/ Vehicle)	LOS	Delay (Seconds/ Vehicle)
No-Action	Stop Sign	C	24.2	C	22.5
Proposed Project, No Mitigation	Stop Sign	E	38.7	E	36.6
Proposed Project, Mitigation Alternative 1	Stop Sign with Dedicated Turn Lanes	C	21.2	C	19.5
Proposed Project, Mitigation Alternative 2	Signal with Dedicated Turn Lanes	B	11.0	B	10.2

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 4.2-2 2027 Kidron Road and Drane Field Road Traffic Mitigation Scenarios

Scenario	Control Type	AM		PM	
		LOS	Delay (Seconds/	LOS	Delay (Seconds/

			Vehicle)		Vehicle)
No-Action	Stop Sign	D	29.7	D	26.7
Proposed Project, No Mitigation	Stop Sign	F	126.0	F	114.5
Proposed Project, Mitigation Alternative 1	Stop Sign with Dedicated Turn Lanes	D	32.0	D	28.4
Proposed Project, Mitigation Alternative 2	Signal with Dedicated Turn Lanes	B	13.0	B	12.0

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Tables 4.2-3 and 4.2-4 summarize the average delay and LOS impacts of the Proposed Project with no mitigation, with Mitigation Alternative 1, and with Mitigation Alternative 2, as compared to the No-Action Alternative.

Table 4.2-3 2022 Kidron Road and Drane Field Road Traffic Mitigation Comparisons

Scenario	AM		PM	
	LOS Difference	Average Delay Difference (Seconds/Vehicle)	LOS Difference	Average Delay Difference (Seconds/Vehicle)
No-Action Vs Proposed Project, No Mitigation	C to E	14.5	C to E	14.1
No-Action Vs Proposed Project, Alternative 1	No Change	-3.0	No Change	-3.0
No-Action Vs Proposed Project, Alternative 2	C to B	-13.2	C to B	-13.2

Notes: Difference = Difference between No-Action Alternative and Proposed Project

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

Table 4.2-4 2027 Kidron Road and Drane Field Road Traffic Mitigation Comparisons

Scenario	AM		PM	
	LOS Difference	Average Delay Difference (Seconds/Vehicle)	LOS Difference	Average Delay Difference (Seconds/Vehicle)
No-Action Vs Proposed Project, No Mitigation	D to F	96.3	D to F	87.8
No-Action Vs Proposed Project, Alternative 1	No Change	2.3	No Change	1.7
No-Action Vs Proposed Project, Alternative 2	D to B	-16.7	D to B	-14.7

Notes: Difference = Difference between No-Action Alternative and Proposed Project

Sources: AECOM, 2020; Transportation Research Board. *Highway Capacity Manual*, 6th Edition

As previously stated, constructing the Proposed Project with no mitigation at the Kidron Road and Drane Field Road intersection would result in significant impacts to surface road traffic. Therefore, implementing mitigation would be required to avoid significant impacts.

By implementing Mitigation Alternative 1 (construct designated turn lanes), the majority of traffic impacts potentially incurred by the Proposed Project at this intersection would be mitigated, and LOS would be preserved at the No-Action Alternative of LOS C, with a slight average delay time decrease in 2022 and a slight increase average delay time increase in 2027. In both study years,

the intersection would remain at an acceptable LOS with this mitigation scenario. The Proposed Project would therefore result in no significant impact to surface road traffic.

If Mitigation Alternative 2 (construct designated turn lanes and a traffic signal) is implemented, all potential traffic impacts incurred by the Proposed Project at this intersection would be mitigated, and average delay and LOS would improve relative to the No-Action Alternative. With the No-Action Alternative, traffic volumes at this intersection would continue to increase over time, and the average delay would be expected to increase, with a resulting LOS decrease from C in 2022 to D 2027. However, with the implementation of Mitigation Alternative 2, the intersection would experience a marked decrease in average delay, resulting in an improvement of LOS compared to the No-Action Alternative LOS. The LOS resulting from Mitigation Alternative 2 would improve to LOS B, compared to the No-Action Alternative LOS C and D in 2022 and 2027, respectively. Therefore, the intersection would remain at an acceptable LOS with this mitigation scenario and there would be no significant impact to surface road traffic.

Further details summarizing the traffic operations, including queue length, delays (seconds/vehicle), and LOS for each individual movement, for the 2022 and 2027 Proposed Project conditions with each mitigation alternative are provided in **Tables 4.2-5 through 4.2-6** below. Attached to this Report are the detailed Synchro outputs utilized in the analysis contained herein.

Table 4.2-5 2022 Proposed Project Mitigation Alternative 1 Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.6	41	C	29.7	41
		EB TH	A	0.0	69	A	0.0	69
		EB RT	D	37.8	69	D	37.9	69
		WB LT	C	34.4	#208	D	39.0	#239
		WB TH	C	26.7	66	C	27.3	87
		WB RT	C	28.2	3	C	29.6	26
		NB LT	B	12.5	8	B	10.8	10
		NB TH	B	18.3	247	B	18.0	299
		NB RT	B	16.8	42	B	14.0	25
		SB LT	B	14.4	142	B	14.3	97
		SB TH	B	12.1	220	B	11.7	190
		SB RT	A	8.6	0	A	8.7	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	88.4	#239	D	50.2	138
		EB TH & RT	C	27.3	274	C	28.1	212
		WB LT	B	19.0	22	B	14.7	6
		WB TH	C	27.5	280	C	23.2	164
		WB RT	A	4.2	46	A	4.7	41
		NB LT, TH & RT	A	0.1	0	A	7.0	17
		SB TH & LT	C	20.2	236	B	11.3	112
		SB RT	A	3.0	37	A	2.5	35
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	10.9	3	B	10.3	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	D	29.1	10	D	28.8	10
		NB RT	C	15.0	5	B	13.5	3
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	EBTH&RT	A	0	0	A	0	0
		WBLT	A	9.6	15	A	8.9	8
		WBTH	A	0	0	A	0	0
		NBLT	E	39.7	38	D	34.8	40
		NBRT	C	15.3	35	B	14.2	38

Notes:

#95th percentile volume exceeds capacity and queue may be longer. Queue shown is maximum after two cycles.
 SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

Table 4.2-6 2027 Proposed Project Mitigation Alternative 1 Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.5	44	C	30.2	44
		EB TH	A	0.0	75	A	0.0	75
		EB RT	D	38.0	75	D	38.8	75
		WB LT	E	60.7	#211	E	71.3	#227
		WB TH	C	28.3	74	C	29.2	96
		WB RT	C	30.5	12	C	32.6	37
		NB LT	B	12.3	9	B	10.8	10
		NB TH	B	19.1	273	B	19.1	329
		NB RT	B	17.4	43	B	14.3	36
		SB LT	B	19.1	#215	B	19.2	#167
		SB TH	B	12.0	243	B	11.7	212
		SB RT	A	8.2	0	A	8.4	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	91.3	#269	D	53.6	158
		EB TH & RT	C	24.3	296	C	25.8	232
		WB LT	B	16.5	21	B	12.7	5
		WB TH	C	24.4	297	C	20.8	172
		WB RT	A	3.7	43	A	4.1	38
		NB LT, TH & RT	A	0.1	0	A	8.9	20
		SB TH & LT	C	28.6	299	B	14.6	147
		SB RT	A	4.8	57	A	3.0	41
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	11.5	3	B	10.7	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	E	37.7	15	E	36.9	15
		NB RT	C	16.5	5	B	14.6	5
		EBTH&RT	A	0	0	A	0	0

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
Kidron Road at Drane Field Road	Stop sign controlled/unsignalized	WBLT	B	10.2	20	A	9.3	13
		WBTH	A	0	0	A	0	0
		NBLT	F	74.5	73	F	60.9	78
		NBRT	C	18.4	58	C	16.9	58

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

Table 4.2-7 2022 Proposed Project Mitigation Alternative 2 Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.6	41	C	29.7	41
		EB TH	A	0.0	69	A	0.0	69
		EB RT	D	37.8	69	D	37.9	69
		WB LT	C	34.4	#208	D	39.0	#239
		WB TH	C	26.7	66	C	27.3	87
		WB RT	C	28.2	3	C	29.6	26
		NB LT	B	12.5	8	B	10.8	10
		NB TH	B	18.3	247	B	18.0	299
		NB RT	B	16.8	42	B	14.0	25
		SB LT	B	14.4	142	B	14.3	97
		SB TH	B	12.1	220	B	11.7	190
		SB RT	A	8.6	0	A	8.7	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	88.4	#239	D	50.2	138
		EB TH & RT	C	27.3	274	C	28.1	212
		WB LT	B	19	22	B	14.7	6
		WB TH	C	27.5	280	C	23.2	164
		WB RT	A	4.2	46	A	4.7	41
		NB LT, TH & RT	A	0.1	0	A	7.0	17
		SB TH & LT	C	20.2	236	B	11.3	112

		SB RT	A	3.0	37	A	2.5	35
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	10.9	3	B	10.3	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	D	29.1	10	D	28.8	10
		NB RT	C	15.0	5	B	13.5	3
Kidron Road at Drane Field Road	Signal controlled	EB TH	A	0	264	A	0	198
		EBRT	B	12.8	264	B	12.5	198
		WBLT	A	8.2	31	A	7.2	23
		WBTH	A	3.9	73	A	5	103
		NBLT	B	16.4	51	B	13.9	51
		NBRT	C	20.8	44	B	17.7	42

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

Table 4.2-8 2027 Proposed Project Mitigation Alternative 2 Traffic Operations

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/Vehicle)	Queue Length (feet)
County Line Road at Drane Field Road	Signal controlled	EB LT	C	29.5	44	C	30.2	44
		EB TH	A	0.0	75	A	0.0	75
		EB RT	D	38.0	75	D	38.8	75
		WB LT	E	60.7	#211	E	71.3	#227
		WB TH	C	28.3	74	C	29.2	96
		WB RT	C	30.5	12	C	32.6	37
		NB LT	B	12.3	9	B	10.8	10
		NB TH	B	19.1	273	B	19.1	329
		NB RT	B	17.4	43	B	14.3	36
		SB LT	B	19.1	#215	B	19.2	#167
		SB TH	B	12.0	243	B	11.7	212
		SB RT	A	8.2	0	A	8.4	0
Airfield Court/West Airport Road at Drane Field Road	Signal controlled	EB LT	F	91.3	#269	D	53.6	158
		EB TH & RT	C	24.3	296	C	25.8	232
		WB LT	B	16.5	21	B	12.7	5

Intersections	Control/Signal Type	Movement	AM			PM		
			LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)	LOS	Delay (Seconds/ Vehicle)	Queue Length (feet)
		WB TH	C	24.4	297	C	20.8	172
		WB RT	A	3.7	43	A	4.1	38
		NB LT, TH & RT	A	0.1	0	A	8.9	20
		SB TH & LT	C	28.6	299	B	14.6	147
		SB RT	A	4.8	57	A	3	41
Kelvin Howard Road at Drane Field Road	Stop sign controlled/unsignalized	EB TH	A	0.0	0	A	0.0	0
		EB RT	A	0.0	0	A	0.0	0
		WB LT	B	11.5	3	B	10.7	3
		WB TH	A	0.0	0	A	0.0	0
		NB LT	E	37.7	15	E	36.9	15
		NB RT	C	16.5	5	B	14.6	5
Kidron Road at Drane Field Road	Signal controlled	EBTH	A	0	333	A	0	252
		EBRT	B	14.6	333	B	14.3	252
		WBLT	B	11.1	38	A	8.9	29
		WBTH	A	4.4	84	A	5.8	127
		NBLT	B	18.7	66	B	15.6	68
		NBRT	C	24.6	51	C	20.7	49

Notes:

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

SB = southbound; EB = eastbound; WB = westbound; NB = northbound; TH = through; LT = left turn; RT = right turn

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ATTACHMENT A SYNCHRO OUTPUTS

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HCM 6th Signalized Intersection Capacity Analysis
1: County Line Rd & Drane Field Rd

2019 Existing
AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	43	53	22	196	51	76	8	643	143	192	731	38
Future Volume (veh/h)	43	53	22	196	51	76	8	643	143	192	731	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No			No		No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	50	62	26	228	59	88	9	748	166	223	850	44
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	273	98	41	384	323	274	340	1507	672	433	1800	803
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
Prop Arrive On Green	0.04	0.08	0.08	0.14	0.18	0.18	0.01	0.43	0.43	0.10	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.9	0.0	37.0	25.7	25.6	26.6	11.4	15.9	13.8	11.0	12.0	8.7
Ln Grp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h	138			375			923			1117		
Approach Delay, s/veh	34.1			25.9			15.5			11.6		
Approach LOS	C			C			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	11.4	35.9	14.7	10.3	5.3	42.0	7.7	17.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	13.5	29.0	11.5	18.0	5.0	37.5	5.1	24.4				
Max Allow Headway (MAH), s	3.7	4.6	3.7	4.9	3.7	4.7	3.7	4.3				
Max Q Clear (g_c+l1), s	6.7	13.2	10.2	5.6	2.2	13.3	3.9	5.6				
Green Ext Time (g_e), s	0.3	4.5	0.1	0.2	0.0	5.5	0.0	0.4				
Prob of Phs Call (p_c)	0.99	1.00	0.99	1.00	0.17	1.00	0.63	1.00				
Prob of Max Out (p_x)	0.09	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1739		1739		1739		1739					
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3469		1221		3469		1826					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1547		512		1547		1547					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)											

HCM 6th Signalized Intersection Capacity Analysis

1: County Line Rd & Drane Field Rd

2019 Existing

AM Peak

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	223	0	228	0	9	0	50	0
Grp Sat Flow (s), veh/h/ln	1739	0	1739	0	1739	0	1739	0
Q Serve Time (g_s), s	4.7	0.0	8.2	0.0	0.2	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	4.7	0.0	8.2	0.0	0.2	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	596	0	1278	0	608	0	1211	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	33.4	0.0	7.8	0.0	31.4	0.0	5.8	0.0
Perm LT Serve Time (g_u), s	20.1	0.0	2.2	0.0	26.2	0.0	5.8	0.0
Perm LT Q Serve Time (g_ps), s	7.9	0.0	1.2	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	433	0	384	0	340	0	273	0
V/C Ratio (X)	0.52	0.00	0.59	0.00	0.03	0.00	0.18	0.00
Avail Cap (c_a), veh/h	591	0	415	0	440	0	319	0
Upstream Filter (l)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.0	0.0	23.8	0.0	11.3	0.0	28.6	0.0
Incr Delay (d2), s/veh	1.0	0.0	2.0	0.0	0.0	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.0	0.0	25.7	0.0	11.4	0.0	28.9	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	3.0	0.0	0.1	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	3.2	0.0	0.1	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.41	0.00	0.01	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	748	0	0	0	850	0	59
Grp Sat Flow (s), veh/h/ln	0	1735	0	0	0	1735	0	1826
Q Serve Time (g_s), s	0.0	11.2	0.0	0.0	0.0	11.3	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	11.2	0.0	0.0	0.0	11.3	0.0	2.0
Lane Grp Cap (c), veh/h	0	1507	0	0	0	1800	0	323
V/C Ratio (X)	0.00	0.50	0.00	0.00	0.00	0.47	0.00	0.18
Avail Cap (c_a), veh/h	0	1507	0	0	0	1800	0	616
Upstream Filter (l)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	0.0	0.0	11.1	0.0	25.3
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.9	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	0.0	0.0	12.0	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.0	0.0	3.2	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

1: County Line Rd & Drane Field Rd

2019 Existing

AM Peak

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.7	0.0	0.0	0.0	3.4	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	166	0	88	0	44	0	88
Grp Sat Flow (s), veh/h/ln	0	1547	0	1734	0	1547	0	1547
Q Serve Time (g_s), s	0.0	4.9	0.0	3.6	0.0	1.0	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	3.6	0.0	1.0	0.0	3.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.30	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	672	0	138	0	803	0	274
V/C Ratio (X)	0.00	0.25	0.00	0.64	0.00	0.05	0.00	0.32
Avail Cap (c_a), veh/h	0	672	0	432	0	803	0	522
Upstream Filter (l)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.0	0.0	32.2	0.0	8.6	0.0	26.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	4.8	0.0	0.1	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.8	0.0	37.0	0.0	8.7	0.0	26.6
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	1.4	0.0	0.3	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	1.5	0.0	0.3	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.02	0.00	0.03	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intersection Summary								
HCM 6th Ctrl Delay			16.3					
HCM 6th LOS			B					

HCM 6th TWSC
2: Kelvin Howard Rd & Drane Field Rd

2019 Existing
AM Peak

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	387	0	0	324	0	0
Future Vol, veh/h	387	0	0	324	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	450	0	0	377	0	0
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	450	0	827	450
Stage 1	-	-	-	-	450	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1095	-	337	603
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	687	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1095	-	337	603
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	687	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	0		0		
HCM LOS		A				
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)	-	-	-	-	1095	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	0	-

HCM 6th TWSC
3: Kidron Rd & Drane Field Rd

2019 Existing
AM Peak

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	386	1	36	287	8	25
Future Vol, veh/h	386	1	36	287	8	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	449	1	42	334	9	29
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	450	0	868	450
Stage 1	-	-	-	-	450	-
Stage 2	-	-	-	-	418	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1095	-	319	603
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	658	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1095	-	304	603
Mov Cap-2 Maneuver	-	-	-	-	304	-
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	627	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.9	13			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	487	-	-	1095	-	
HCM Lane V/C Ratio	0.079	-	-	0.038	-	
HCM Control Delay (s)	13	-	-	8.4	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Queues

2019 Existing

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	50	88	228	59	88	9	748	166	223	850	44
v/c Ratio	0.21	0.41	0.63	0.15	0.19	0.03	0.55	0.22	0.52	0.43	0.05
Control Delay	22.0	32.1	29.9	26.8	0.9	9.1	21.3	1.6	13.1	12.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	32.1	29.9	26.8	0.9	9.1	21.3	1.6	13.1	12.0	0.1
Queue Length 50th (ft)	17	30	86	24	0	2	147	0	49	113	0
Queue Length 95th (ft)	40	71	145	54	0	8	218	9	89	210	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	242	438	381	600	631	354	1354	749	491	1955	953
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.60	0.10	0.14	0.03	0.55	0.22	0.45	0.43	0.05

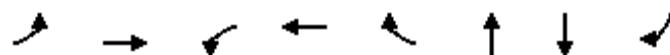
Intersection Summary

Queues

2019 Existing

AM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	148	306	20	344	399	29	463	142
v/c Ratio	0.96	0.63	0.11	0.70	0.56	0.03	0.58	0.14
Control Delay	94.6	31.3	22.2	34.4	5.8	0.0	14.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.6	31.3	22.2	34.4	5.8	0.0	14.7	2.1
Queue Length 50th (ft)	73	134	8	155	0	0	124	0
Queue Length 95th (ft)	#164	199	23	226	49	0	262	22
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	223	710	266	711	846	1097	795	1003
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.43	0.08	0.48	0.47	0.03	0.58	0.14

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Capacity Analysis
1: County Line Rd & Drane Field Rd

2019 Existing
PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	43	53	22	211	73	103	10	818	123	124	647	32
Future Volume (veh/h)	43	53	22	211	73	103	10	818	123	124	647	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	50	62	26	245	85	120	12	951	143	144	752	37
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	265	97	41	395	337	286	377	1601	714	342	1779	793
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
Prop Arrive On Green	0.04	0.08	0.08	0.15	0.18	0.18	0.01	0.46	0.46	0.07	0.51	0.51
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.5	0.0	37.7	26.8	26.1	27.5	10.5	16.3	12.4	11.7	11.9	9.1
Ln Grp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h	138			450			1106			933		
Approach Delay, s/veh	34.8			26.8			15.8			11.8		
Approach LOS	C			C			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	4.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.4	38.5	15.5	10.4	5.6	42.3	7.7	18.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.5	34.0	11.5	18.0	5.0	37.5	5.1	24.4				
Max Allow Headway (MAH), s	3.7	4.6	3.7	4.9	3.7	4.7	3.7	4.3				
Max Q Clear (g_c+l1), s	5.0	17.0	11.0	5.6	2.3	11.9	3.9	7.0				
Green Ext Time (g_e), s	0.1	5.9	0.0	0.2	0.0	4.8	0.0	0.6				
Prob of Phs Call (p_c)	0.95	1.00	0.99	1.00	0.22	1.00	0.64	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1739		1739		1739		1739					
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3469		1221		3469		1826					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1547		512		1547		1547					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)											

HCM 6th Signalized Intersection Capacity Analysis

1: County Line Rd & Drane Field Rd

2019 Existing

PM Peak

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	144	0	245	0	12	0	50	0
Grp Sat Flow (s), veh/h/ln	1739	0	1739	0	1739	0	1739	0
Q Serve Time (g_s), s	3.0	0.0	9.0	0.0	0.3	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	9.0	0.0	0.3	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	503	0	1278	0	670	0	1149	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	35.3	0.0	7.9	0.0	34.0	0.0	5.9	0.0
Perm LT Serve Time (g_u), s	19.0	0.0	2.2	0.0	27.8	0.0	5.9	0.0
Perm LT Q Serve Time (g_ps), s	6.5	0.0	1.3	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	342	0	395	0	377	0	265	0
V/C Ratio (X)	0.42	0.00	0.62	0.00	0.03	0.00	0.19	0.00
Avail Cap (c_a), veh/h	428	0	408	0	469	0	309	0
Upstream Filter (l)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.8	0.0	24.0	0.0	10.4	0.0	29.2	0.0
Incr Delay (d2), s/veh	0.8	0.0	2.7	0.0	0.0	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.7	0.0	26.8	0.0	10.5	0.0	29.5	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	3.3	0.0	0.1	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	3.6	0.0	0.1	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.46	0.00	0.01	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	951	0	0	0	752	0	85
Grp Sat Flow (s), veh/h/ln	0	1735	0	0	0	1735	0	1826
Q Serve Time (g_s), s	0.0	15.0	0.0	0.0	0.0	9.9	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	15.0	0.0	0.0	0.0	9.9	0.0	2.9
Lane Grp Cap (c), veh/h	0	1601	0	0	0	1779	0	337
V/C Ratio (X)	0.00	0.59	0.00	0.00	0.00	0.42	0.00	0.25
Avail Cap (c_a), veh/h	0	1601	0	0	0	1779	0	605
Upstream Filter (l)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	0.0	0.0	11.2	0.0	25.7
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.3	0.0	0.0	0.0	11.9	0.0	26.1
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	0.0	0.0	2.9	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

1: County Line Rd & Drane Field Rd

2019 Existing

PM Peak

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	0.0	0.0	3.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data							
Assigned Mvmt	0	12	0	14	0	16	0
Lane Assignment		R		T+R		R	R
Lanes in Grp	0	1	0	1	0	1	0
Grp Vol (v), veh/h	0	143	0	88	0	37	0
Grp Sat Flow (s), veh/h/ln	0	1547	0	1734	0	1547	0
Q Serve Time (g_s), s	0.0	4.0	0.0	3.6	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	3.6	0.0	0.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.30	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	714	0	138	0	793	0
V/C Ratio (X)	0.00	0.20	0.00	0.64	0.00	0.05	0.00
Avail Cap (c_a), veh/h	0	714	0	424	0	793	0
Upstream Filter (l)	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	32.9	0.0	9.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	4.8	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.4	0.0	37.7	0.0	9.1	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	1.4	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	1.6	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.02	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

HCM 6th TWSC
2: Kelvin Howard Rd & Drane Field Rd

2019 Existing
PM Peak

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	324	0	0	387	0	0
Future Vol, veh/h	324	0	0	387	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	377	0	0	450	0	0
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	377	0	827	377
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1165	-	337	663
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1165	-	337	663
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	687	-
Stage 2	-	-	-	-	636	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	0		0		
HCM LOS		A				
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)	-	-	-	-	-	1165
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	0	-	-	-	0
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-	0

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	379	9	8	316	9	30
Future Vol, veh/h	379	9	8	316	9	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	441	10	9	367	10	35
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	451	0	831	446
Stage 1	-	-	-	-	446	-
Stage 2	-	-	-	-	385	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1094	-	336	606
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1094	-	333	606
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	674	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.2	12.7			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	510	-	-	1094	-	
HCM Lane V/C Ratio	0.089	-	-	0.009	-	
HCM Control Delay (s)	12.7	-	-	8.3	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

Queues

2019 Existing

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	50	88	245	85	120	12	951	143	144	752	37
v/c Ratio	0.22	0.42	0.69	0.22	0.28	0.03	0.62	0.18	0.43	0.38	0.04
Control Delay	22.8	33.1	33.6	28.4	7.0	8.5	20.2	1.9	12.3	11.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	33.1	33.6	28.4	7.0	8.5	20.2	1.9	12.3	11.2	0.1
Queue Length 50th (ft)	18	32	99	37	0	2	194	0	30	96	0
Queue Length 95th (ft)	40	71	155	72	34	9	263	17	59	181	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	232	422	369	575	575	405	1524	783	348	1993	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.21	0.66	0.15	0.21	0.03	0.62	0.18	0.41	0.38	0.04

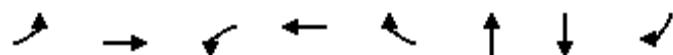
Intersection Summary

Queues

2019 Existing

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	148	303	3	253	381	29	267	337
v/c Ratio	0.74	0.69	0.02	0.58	0.58	0.03	0.33	0.31
Control Delay	46.5	32.4	19.0	28.4	6.3	5.0	8.6	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	32.4	19.0	28.4	6.3	5.0	8.6	1.8
Queue Length 50th (ft)	58	118	1	95	0	2	46	0
Queue Length 95th (ft)	112	181	6	151	48	13	109	28
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	446	978	356	978	1006	1019	801	1090
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.01	0.26	0.38	0.03	0.33	0.31

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022 Phase I
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	232	61	90	9	696	191	251	782	40
Future Volume (veh/h)	42	52	22	232	61	90	9	696	191	251	782	40
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	270	71	105	10	809	222	292	909	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	265	95	41	360	300	254	332	1490	665	441	1860	829
Arrive On Green	0.04	0.08	0.08	0.13	0.16	0.16	0.01	0.43	0.43	0.12	0.54	0.54
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	270	71	105	10	809	222	292	909	47
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.5	9.5	2.5	4.5	0.2	12.8	7.0	6.3	12.1	1.1
Cycle Q Clear(g_c), s	1.9	0.0	3.5	9.5	2.5	4.5	0.2	12.8	7.0	6.3	12.1	1.1
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	0	136	360	300	254	332	1490	665	441	1860	829
V/C Ratio(X)	0.19	0.00	0.63	0.75	0.24	0.41	0.03	0.54	0.33	0.66	0.49	0.06
Avail Cap(c_a), veh/h	310	0	423	360	555	470	429	1490	665	603	1860	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	32.9	26.3	26.8	27.6	11.7	15.6	14.0	11.2	10.7	8.2
Incr Delay (d2), s/veh	0.3	0.0	4.8	8.4	0.4	1.1	0.0	1.4	1.4	1.7	0.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.5	4.6	1.0	1.6	0.1	4.4	2.3	1.8	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.6	0.0	37.8	34.7	27.2	28.7	11.7	17.1	15.3	12.9	11.7	8.3
LnGrp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h		135			446			1041			1248	
Approach Delay, s/veh		34.8			32.1			16.6			11.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	13.3	36.2	14.0	10.3	5.4	44.0	7.7	16.6				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.6	28.9	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	8.3	14.8	11.5	5.5	2.2	14.1	3.9	6.5				
Green Ext Time (p_c), s	0.5	4.8	0.0	0.2	0.0	6.1	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			17.8									
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	488	6	6	373	9	9
Future Vol, veh/h	488	6	6	373	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	67	67
Mvmt Flow	567	7	7	434	10	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	574	0	1015	567
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	448	-
Critical Hdwy	-	-	5.1	-	7.07	6.87
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	-	-	3.1	-	4.103	3.903
Pot Cap-1 Maneuver	-	-	653	-	202	418
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	653	-	200	418
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	520	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.2	18.9			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	418	-	-	653	-
HCM Lane V/C Ratio	0.052	0.025	-	-	0.011	-
HCM Control Delay (s)	24	13.8	-	-	10.6	-
HCM Lane LOS	C	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	422	75	112	313	37	118
Future Vol, veh/h	422	75	112	313	37	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	491	87	130	364	43	137
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	578	0	1159	535
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	624	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	981	-	213	540
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	981	-	178	540
Mov Cap-2 Maneuver	-	-	-	-	178	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	440	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.4	24.2			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	364	-	-	981	-	
HCM Lane V/C Ratio	0.495	-	-	0.133	-	
HCM Control Delay (s)	24.2	-	-	9.2	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	2.6	-	-	0.5	-	

Queues

2022 Phase I

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	270	71	105	10	809	222	292	909	47
v/c Ratio	0.21	0.41	0.82	0.20	0.24	0.03	0.61	0.30	0.65	0.45	0.05
Control Delay	23.5	31.9	45.8	29.4	1.7	8.6	22.5	4.2	15.9	11.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	31.9	45.8	29.4	1.7	8.6	22.5	4.2	15.9	11.0	0.1
Queue Length 50th (ft)	17	29	110	30	0	2	165	0	62	114	0
Queue Length 95th (ft)	41	69	#200	64	1	8	239	39	117	216	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	237	435	331	545	590	336	1337	733	513	2028	959
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.82	0.13	0.18	0.03	0.61	0.30	0.57	0.45	0.05

Intersection Summary

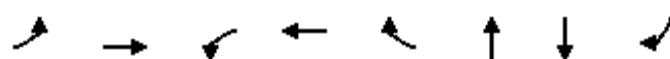
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

2022 Phase I

AM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	194	402	20	420	409	29	405	250
v/c Ratio	1.01	0.64	0.10	0.67	0.51	0.03	0.58	0.27
Control Delay	95.6	26.1	17.2	27.1	4.3	0.0	19.3	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.6	26.1	17.2	27.1	4.3	0.0	19.3	2.7
Queue Length 50th (ft)	94	163	7	173	0	0	135	0
Queue Length 95th (ft)	#207	234	20	246	42	0	258	33
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	270	881	289	883	959	991	695	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.46	0.07	0.48	0.43	0.03	0.58	0.27

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022 Phase I PM
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	251	86	123	11	884	165	166	692	33
Future Volume (veh/h)	42	52	22	251	86	123	11	884	165	166	692	33
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00	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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	292	100	143	13	1028	192	193	805	38
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	259	95	41	383	324	274	364	1575	703	341	1806	805
Arrive On Green	0.04	0.08	0.08	0.14	0.18	0.18	0.02	0.45	0.45	0.08	0.52	0.52
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	292	100	143	13	1028	192	193	805	38
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.6	10.5	3.5	6.2	0.3	17.0	5.7	4.0	10.7	0.9
Cycle Q Clear(g_c), s	1.9	0.0	3.6	10.5	3.5	6.2	0.3	17.0	5.7	4.0	10.7	0.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	0	136	383	324	274	364	1575	703	341	1806	805
V/C Ratio(X)	0.19	0.00	0.63	0.76	0.31	0.52	0.04	0.65	0.27	0.57	0.45	0.05
Avail Cap(c_a), veh/h	304	0	421	383	578	490	454	1575	703	433	1806	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	33.1	25.8	26.5	27.6	10.7	15.7	12.6	12.2	11.1	8.7
Incr Delay (d2), s/veh	0.4	0.0	4.8	8.8	0.5	1.5	0.0	2.1	1.0	1.5	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.6	5.0	1.4	2.2	0.1	5.7	1.8	1.2	3.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	0.0	37.9	34.6	27.0	29.1	10.7	17.8	13.5	13.7	11.9	8.8
LnGrp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h		135			535			1233			1036	
Approach Delay, s/veh		34.9			31.7			17.0			12.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	10.6	38.1	15.0	10.3	5.7	43.0	7.7	17.6				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.0	33.5	10.5	18.0	5.0	38.5	5.1	23.4				
Max Q Clear Time (g_c+l1), s	6.0	19.0	12.5	5.6	2.3	12.7	3.9	8.2				
Green Ext Time (p_c), s	0.2	6.0	0.0	0.2	0.0	5.2	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			18.8									
HCM 6th LOS			B									

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	405	6	6	452	9	9
Future Vol, veh/h	405	6	6	452	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	67	67
Mvmt Flow	471	7	7	526	10	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	478	0	1011	471
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	540	-
Critical Hdwy	-	-	5.1	-	7.07	6.87
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	-	-	3.1	-	4.103	3.903
Pot Cap-1 Maneuver	-	-	720	-	203	479
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	720	-	201	479
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	468	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	18.3			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	201	479	-	-	720	-
HCM Lane V/C Ratio	0.052	0.022	-	-	0.01	-
HCM Control Delay (s)	23.9	12.7	-	-	10	-
HCM Lane LOS	C	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	4.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	353	61	69	414	46	133
Future Vol, veh/h	353	61	69	414	46	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	410	71	80	481	53	155
Major/Minor						
Major1	Major2		Minor1			
	0	0	481	0	1087	446
Conflicting Flow All	-	-	-	-	446	-
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	5.45	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1066	-	236	606
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	519	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1066	-	212	606
Mov Cap-2 Maneuver	-	-	-	-	212	-
Stage 1	-	-	-	-	639	-
Stage 2	-	-	-	-	466	-
Approach						
EB	WB		NB			
	0	1.2	22.5			
HCM LOS			C			
Minor Lane/Major Mvmt						
NBLn1	EBT	EBR	WBL	WBT		
	410	-	-	1066		
Capacity (veh/h)	410	-	-	1066		
HCM Lane V/C Ratio	0.508	-	-	0.075		
HCM Control Delay (s)	22.5	-	-	8.7	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	2.8	-	-	0.2	-	

Queues

2022 Phase I PM

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	292	100	143	13	1028	192	193	805	38
v/c Ratio	0.21	0.42	0.85	0.27	0.31	0.03	0.69	0.24	0.58	0.40	0.04
Control Delay	23.4	32.6	48.5	29.9	4.3	8.2	21.9	2.0	16.3	10.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	32.6	48.5	29.9	4.3	8.2	21.9	2.0	16.3	10.9	0.1
Queue Length 50th (ft)	18	30	125	45	0	2	219	0	40	101	0
Queue Length 95th (ft)	40	69	#213	84	23	10	293	18	83	191	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	228	420	344	550	594	386	1496	802	352	2022	979
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.85	0.18	0.24	0.03	0.69	0.24	0.55	0.40	0.04

Intersection Summary

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

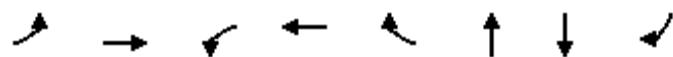
Queue shown is maximum after two cycles.

Queues

2022 Phase I PM

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	177	364	3	300	391	29	224	324
v/c Ratio	0.81	0.71	0.02	0.58	0.54	0.03	0.30	0.32
Control Delay	49.6	29.0	16.0	24.8	5.2	6.3	10.1	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	29.0	16.0	24.8	5.2	6.3	10.1	2.2
Queue Length 50th (ft)	66	131	1	104	0	3	40	0
Queue Length 95th (ft)	127	197	6	160	43	15	105	32
Internal Link Dist (ft)	3893		1270		729		1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	490	1157	378	1157	1124	945	743	1027
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.31	0.01	0.26	0.35	0.03	0.30	0.32

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase I
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	253	66	99	10	767	207	272	862	44
Future Volume (veh/h)	46	57	24	253	66	99	10	767	207	272	862	44
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00			1.00	1.00		1.00		1.00
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	294	77	115	12	892	241	316	1002	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	271	101	43	358	303	257	302	1451	647	426	1846	823
Arrive On Green	0.04	0.08	0.08	0.13	0.17	0.17	0.01	0.42	0.42	0.13	0.53	0.53
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	294	77	115	12	892	241	316	1002	51
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.0	0.0	3.9	9.5	2.7	5.0	0.3	15.0	8.0	7.0	14.1	1.2
Cycle Q Clear(g_c), s	2.0	0.0	3.9	9.5	2.7	5.0	0.3	15.0	8.0	7.0	14.1	1.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	271	0	144	358	303	257	302	1451	647	426	1846	823
V/C Ratio(X)	0.20	0.00	0.65	0.82	0.25	0.45	0.04	0.61	0.37	0.74	0.54	0.06
Avail Cap(c_a), veh/h	313	0	420	358	551	467	393	1451	647	584	1846	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	33.0	27.2	27.0	27.9	12.2	16.9	14.9	12.9	11.4	8.4
Incr Delay (d2), s/veh	0.3	0.0	5.0	14.2	0.4	1.2	0.1	2.0	1.6	3.3	1.2	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	5.6	1.1	1.7	0.1	5.2	2.6	2.2	4.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	0.0	38.0	41.4	27.4	29.1	12.3	18.9	16.5	16.2	12.6	8.6
LnGrp LOS	C	A	D	D	C	C	B	B	B	B	B	A
Approach Vol, veh/h						486			1145			1369
Approach Delay, s/veh						36.3			18.3			13.3
Approach LOS						D			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	14.0	35.5	14.0	10.7	5.6	44.0	7.8	16.8				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.3	28.2	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	9.0	17.0	11.5	5.9	2.3	16.1	4.0	7.0				
Green Ext Time (p_c), s	0.5	4.7	0.0	0.3	0.0	6.7	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay				19.7								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	530	6	6	408	9	9
Future Vol, veh/h	530	6	6	408	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	67	67
Mvmt Flow	616	7	7	474	10	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	623	0	1104	616
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	488	-
Critical Hdwy	-	-	5.1	-	7.07	6.87
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	-	-	3.1	-	4.103	3.903
Pot Cap-1 Maneuver	-	-	621	-	176	390
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	502	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	621	-	174	390
Mov Cap-2 Maneuver	-	-	-	-	174	-
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	496	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.2	20.8			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	174	390	-	-	621	-
HCM Lane V/C Ratio	0.06	0.027	-	-	0.011	-
HCM Control Delay (s)	27	14.5	-	-	10.9	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	464	75	116	344	38	121
Future Vol, veh/h	464	75	116	344	38	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	540	87	135	400	44	141
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	627	0	1254	584
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	670	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	940	-	187	506
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	940	-	152	506
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	410	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.4	29.7			
HCM LOS			D			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	325	-	-	940	-	
HCM Lane V/C Ratio	0.569	-	-	0.143	-	
HCM Control Delay (s)	29.7	-	-	9.5	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	3.3	-	-	0.5	-	

Queues

2027 Phase I

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	294	77	115	12	892	241	316	1002	51
v/c Ratio	0.22	0.44	0.89	0.22	0.26	0.04	0.69	0.33	0.72	0.49	0.05
Control Delay	23.8	33.5	56.0	29.7	2.5	9.0	25.5	4.4	22.2	11.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.8	33.5	56.0	29.7	2.5	9.0	25.5	4.4	22.2	11.7	0.1
Queue Length 50th (ft)	20	35	128	34	0	2	204	0	73	133	0
Queue Length 95th (ft)	44	75	#233	68	7	9	275	41	161	248	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	238	428	330	538	584	307	1286	726	491	2033	961
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.22	0.89	0.14	0.20	0.04	0.69	0.33	0.64	0.49	0.05

Intersection Summary

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

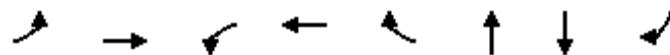
Queue shown is maximum after two cycles.

Queues

2027 Phase I

AM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	210	433	21	457	451	31	445	271
v/c Ratio	1.02	0.63	0.09	0.66	0.52	0.03	0.68	0.30
Control Delay	95.2	24.5	16.3	25.5	4.0	0.1	24.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.2	24.5	16.3	25.5	4.0	0.1	24.6	2.8
Queue Length 50th (ft)	106	175	7	189	0	0	192	0
Queue Length 95th (ft)	#229	249	20	267	43	0	303	35
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	259	871	282	873	975	940	652	913
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.50	0.07	0.52	0.46	0.03	0.68	0.30

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase I PM
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	274	94	134	12	974	179	180	762	37
Future Volume (veh/h)	46	57	24	274	94	134	12	974	179	180	762	37
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00			1.00	1.00		1.00		1.00
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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	319	109	156	14	1133	208	209	886	43
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	261	100	42	349	297	252	348	1640	732	327	1873	835
Arrive On Green	0.04	0.08	0.08	0.12	0.16	0.16	0.02	0.47	0.47	0.08	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	319	109	156	14	1133	208	209	886	43
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.1	0.0	4.0	9.5	4.0	7.1	0.3	19.5	6.2	4.3	12.0	1.0
Cycle Q Clear(g_c), s	2.1	0.0	4.0	9.5	4.0	7.1	0.3	19.5	6.2	4.3	12.0	1.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	0	142	349	297	252	348	1640	732	327	1873	835
V/C Ratio(X)	0.20	0.00	0.66	0.91	0.37	0.62	0.04	0.69	0.28	0.64	0.47	0.05
Avail Cap(c_a), veh/h	300	0	410	349	537	455	433	1640	732	375	1873	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	33.9	29.1	28.4	29.7	10.3	15.7	12.2	13.6	10.8	8.3
Incr Delay (d2), s/veh	0.4	0.0	5.1	27.6	0.8	2.5	0.0	2.4	1.0	2.9	0.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.8	3.6	1.7	2.6	0.1	6.6	2.0	1.4	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.3	0.0	39.0	56.7	29.1	32.2	10.4	18.1	13.2	16.5	11.7	8.4
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h		147			584			1355			1138	
Approach Delay, s/veh		35.9			45.0			17.3			12.5	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	10.9	40.5	14.0	10.8	5.8	45.6	7.9	16.9				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	36.0	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	6.3	21.5	11.5	6.0	2.3	14.0	4.1	9.1				
Green Ext Time (p_c), s	0.1	6.7	0.0	0.3	0.0	5.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	440	6	6	494	9	9
Future Vol, veh/h	440	6	6	494	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	67	67
Mvmt Flow	512	7	7	574	10	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	519	0	1100	512
Stage 1	-	-	-	-	512	-
Stage 2	-	-	-	-	588	-
Critical Hdwy	-	-	5.1	-	7.07	6.87
Critical Hdwy Stg 1	-	-	-	-	6.07	-
Critical Hdwy Stg 2	-	-	-	-	6.07	-
Follow-up Hdwy	-	-	3.1	-	4.103	3.903
Pot Cap-1 Maneuver	-	-	690	-	177	452
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	447	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	690	-	175	452
Mov Cap-2 Maneuver	-	-	-	-	175	-
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	443	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.1	20			
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	175	452	-	-	690	-
HCM Lane V/C Ratio	0.06	0.023	-	-	0.01	-
HCM Control Delay (s)	26.9	13.2	-	-	10.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	388	61	69	455	47	135
Future Vol, veh/h	388	61	69	455	47	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	451	71	80	529	55	157

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	522	0	1176 487
Stage 1	-	-	-	-	487 -
Stage 2	-	-	-	-	689 -
Critical Hdwy	-	-	4.15	-	6.45 6.25
Critical Hdwy Stg 1	-	-	-	-	5.45 -
Critical Hdwy Stg 2	-	-	-	-	5.45 -
Follow-up Hdwy	-	-	2.245	-	3.545 3.345
Pot Cap-1 Maneuver	-	-	1029	-	208 574
Stage 1	-	-	-	-	612 -
Stage 2	-	-	-	-	493 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1029	-	185 574
Mov Cap-2 Maneuver	-	-	-	-	185 -
Stage 1	-	-	-	-	612 -
Stage 2	-	-	-	-	439 -

Approach	EB	WB	NB		
HCM Control Delay, s	0	1.2	26.7		
HCM LOS			D		
<hr/>					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	372	-	-	1029	-
HCM Lane V/C Ratio	0.569	-	-	0.078	-
HCM Control Delay (s)	26.7	-	-	8.8	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	3.4	-	-	0.3	-

Queues

2027 Phase I PM

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	319	109	156	14	1133	208	209	886	43
v/c Ratio	0.23	0.45	0.99	0.32	0.37	0.04	0.72	0.25	0.69	0.43	0.04
Control Delay	24.2	33.9	78.2	31.4	8.1	7.8	21.5	3.2	24.6	10.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	33.9	78.2	31.4	8.1	7.8	21.5	3.2	24.6	10.9	0.1
Queue Length 50th (ft)	20	35	142	50	0	3	240	0	43	112	0
Queue Length 95th (ft)	44	75	#197	91	42	10	320	33	#132	212	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	230	413	321	517	551	371	1579	818	304	2070	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	0.99	0.21	0.28	0.04	0.72	0.25	0.69	0.43	0.04

Intersection Summary

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

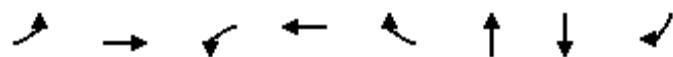
Queue shown is maximum after two cycles.

Queues

2027 Phase I PM

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	190	392	3	326	430	32	247	353
v/c Ratio	0.85	0.71	0.02	0.59	0.56	0.03	0.35	0.35
Control Delay	54.3	27.9	15.0	24.0	4.9	7.1	11.7	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	27.9	15.0	24.0	4.9	7.1	11.7	2.5
Queue Length 50th (ft)	72	141	1	112	0	3	49	0
Queue Length 95th (ft)	139	208	6	169	43	18	126	35
Internal Link Dist (ft)	3893		1270		729		1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	474	1175	365	1175	1149	915	713	1016
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.33	0.01	0.28	0.37	0.03	0.35	0.35

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022Phase II
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Future Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	283	74	109	10	809	240	314	909	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	264	95	41	375	315	267	326	1425	636	445	1831	817
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.01	0.41	0.41	0.13	0.53	0.53
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	283	74	109	10	809	240	314	909	47
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Cycle Q Clear(g_c), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	264	0	136	375	315	267	326	1425	636	445	1831	817
V/C Ratio(X)	0.19	0.00	0.63	0.76	0.24	0.41	0.03	0.57	0.38	0.71	0.50	0.06
Avail Cap(c_a), veh/h	310	0	423	375	570	483	422	1425	636	613	1831	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	32.9	25.9	26.3	27.2	12.4	16.7	15.1	12.2	11.1	8.5
Incr Delay (d2), s/veh	0.3	0.0	4.8	8.5	0.4	1.0	0.0	1.6	1.7	2.2	1.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.5	4.8	1.0	1.6	0.1	4.6	2.6	2.1	3.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.6	0.0	37.8	34.4	26.7	28.2	12.5	18.3	16.8	14.4	12.1	8.6
LnGrp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h						466			1059			1270
Approach Delay, s/veh						31.7			17.9			12.5
Approach LOS				C		C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	14.1	34.8	14.6	10.3	5.4	43.4	7.7	17.2				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.7	27.2	10.1	18.0	5.0	38.9	5.1	23.0				
Max Q Clear Time (g_c+l1), s	9.0	15.2	12.1	5.5	2.2	14.4	3.9	6.6				
Green Ext Time (p_c), s	0.5	4.5	0.0	0.2	0.0	6.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay				18.6								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	514	14	14	384	17	17
Future Vol, veh/h	514	14	14	384	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	82	82
Mvmt Flow	598	16	16	447	20	20
Major/Minor						
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	614	0	1077	598
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	479	-
Critical Hdwy	-	-	5.1	-	7.22	7.02
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	3.1	-	4.238	4.038
Pot Cap-1 Maneuver	-	-	627	-	173	381
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	627	-	169	381
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	473	-
Approach						
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	22.1			
HCM LOS			C			
Minor Lane/Major Mvmt						
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	169	381	-	-	627	-
HCM Lane V/C Ratio	0.117	0.052	-	-	0.026	-
HCM Control Delay (s)	29.1	15	-	-	10.9	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	7.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	430	101	136	321	48	149
Future Vol, veh/h	430	101	136	321	48	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	500	117	158	373	56	173
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	617	0	1248	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	949	-	189	523
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	949	-	149	523
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	389	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.8	38.7			
HCM LOS			E			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	325	-	-	949	-	
HCM Lane V/C Ratio	0.705	-	-	0.167	-	
HCM Control Delay (s)	38.7	-	-	9.6	0	
HCM Lane LOS	E	-	-	A	A	
HCM 95th %tile Q(veh)	5	-	-	0.6	-	

Queues

2022Phase II

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	283	74	109	10	809	240	314	909	47
v/c Ratio	0.21	0.41	0.82	0.20	0.24	0.03	0.64	0.34	0.68	0.45	0.05
Control Delay	23.2	31.9	45.4	29.0	2.0	9.1	24.5	4.5	18.3	11.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	31.9	45.4	29.0	2.0	9.1	24.5	4.5	18.3	11.4	0.1
Queue Length 50th (ft)	17	30	117	32	0	2	176	0	69	117	0
Queue Length 95th (ft)	41	69	#208	66	3	8	247	42	142	220	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	236	435	345	559	601	323	1257	714	522	2004	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.82	0.13	0.18	0.03	0.64	0.34	0.60	0.45	0.05

Intersection Summary

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

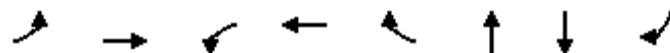
Queue shown is maximum after two cycles.

Queues

2022Phase II

AM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	209	432	20	438	409	29	405	269
v/c Ratio	0.98	0.63	0.09	0.64	0.49	0.03	0.61	0.29
Control Delay	88.4	27.3	19.0	27.5	4.2	0.1	20.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.4	27.3	19.0	27.5	4.2	0.1	20.2	3.0
Queue Length 50th (ft)	114	193	7	197	0	0	155	5
Queue Length 95th (ft)	#239	274	22	280	46	0	236	37
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	220	709	224	710	852	939	669	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.61	0.09	0.62	0.48	0.03	0.61	0.29

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022 Phase II PM
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Future Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	306	105	149	13	1028	208	209	805	38
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	258	95	41	378	319	270	367	1565	698	347	1815	810
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.02	0.45	0.45	0.09	0.52	0.52
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	306	105	149	13	1028	208	209	805	38
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Cycle Q Clear(g_c), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	0	136	378	319	270	367	1565	698	347	1815	810
V/C Ratio(X)	0.19	0.00	0.63	0.81	0.33	0.55	0.04	0.66	0.30	0.60	0.44	0.05
Avail Cap(c_a), veh/h	303	0	421	378	573	485	457	1565	698	455	1815	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	33.1	26.6	26.7	27.9	10.8	15.8	12.9	12.6	10.9	8.6
Incr Delay (d2), s/veh	0.4	0.0	4.8	12.4	0.6	1.8	0.0	2.2	1.1	1.7	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.6	5.7	1.5	2.3	0.1	5.8	2.0	1.3	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	0.0	37.9	39.0	27.3	29.6	10.8	18.0	14.0	14.3	11.7	8.7
LnGrp LOS	C	A	D	D	C	C	B	B	B	B	B	A
Approach Vol, veh/h						560						1052
Approach Delay, s/veh						34.3						12.1
Approach LOS						C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.0	37.9	14.8	10.3	5.7	43.2	7.7	17.4				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.1	32.6	10.3	18.0	5.0	38.7	5.1	23.2				
Max Q Clear Time (g_c+l1), s	6.4	19.1	12.3	5.6	2.3	12.7	3.9	8.5				
Green Ext Time (p_c), s	0.2	5.9	0.0	0.2	0.0	5.2	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				19.4								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	425	14	14	466	17	17
Future Vol, veh/h	425	14	14	466	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	82	82
Mvmt Flow	494	16	16	542	20	20
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	510	0	1068	494
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	574	-
Critical Hdwy	-	-	5.1	-	7.22	7.02
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	3.1	-	4.238	4.038
Pot Cap-1 Maneuver	-	-	697	-	175	443
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	697	-	171	443
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	423	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	0.3		21.2		
HCM LOS				C		
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)		171	443	-	-	697
HCM Lane V/C Ratio	0.116	0.045	-	-	0.023	-
HCM Control Delay (s)	28.8	13.5	-	-	10.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	7.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	361	81	91	422	60	172
Future Vol, veh/h	361	81	91	422	60	172
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	420	94	106	491	70	200
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	514	0	1170	467
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1036	-	210	590
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1036	-	180	590
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	417	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.6	36.6			
HCM LOS			E			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	371	-	-	1036	-	
HCM Lane V/C Ratio	0.727	-	-	0.102	-	
HCM Control Delay (s)	36.6	-	-	8.9	0	
HCM Lane LOS	E	-	-	A	A	
HCM 95th %tile Q(veh)	5.6	-	-	0.3	-	

Queues

2022 Phase II PM

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	306	105	149	13	1028	208	209	805	38
v/c Ratio	0.21	0.42	0.89	0.29	0.33	0.03	0.70	0.26	0.61	0.40	0.04
Control Delay	23.5	32.4	55.5	30.3	5.0	8.3	22.7	2.7	17.6	10.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	32.4	55.5	30.3	5.0	8.3	22.7	2.7	17.6	10.8	0.1
Queue Length 50th (ft)	18	30	132	47	0	2	222	0	43	101	0
Queue Length 95th (ft)	41	69	#239	87	26	10	299	25	97	190	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	228	423	342	549	593	380	1465	790	371	2024	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.89	0.19	0.25	0.03	0.70	0.26	0.56	0.40	0.04

Intersection Summary

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

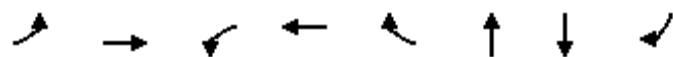
Queue shown is maximum after two cycles.

Queues

2022 Phase II PM

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	194	400	3	317	391	29	224	342
v/c Ratio	0.83	0.72	0.02	0.57	0.53	0.03	0.31	0.34
Control Delay	50.2	28.1	14.7	23.2	4.7	7.0	11.3	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	28.1	14.7	23.2	4.7	7.0	11.3	2.5
Queue Length 50th (ft)	73	143	1	107	0	3	44	0
Queue Length 95th (ft)	138	212	6	164	41	17	112	35
Internal Link Dist (ft)	3893			1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	499	1192	361	1192	1146	909	712	1007
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.34	0.01	0.27	0.34	0.03	0.31	0.34

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Future Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	316	83	123	12	892	272	356	1002	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	270	101	43	339	284	240	309	1443	643	444	1883	840
Arrive On Green	0.04	0.08	0.08	0.12	0.16	0.16	0.01	0.42	0.42	0.14	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	316	83	123	12	892	272	356	1002	51
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Cycle Q Clear(g_c), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	270	0	144	339	284	240	309	1443	643	444	1883	840
V/C Ratio(X)	0.20	0.00	0.65	0.93	0.29	0.51	0.04	0.62	0.42	0.80	0.53	0.06
Avail Cap(c_a), veh/h	312	0	420	339	531	450	401	1443	643	584	1883	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	33.0	28.9	27.8	28.8	12.3	17.1	15.4	13.1	10.9	8.0
Incr Delay (d2), s/veh	0.4	0.0	5.0	31.7	0.6	1.7	0.1	2.0	2.0	6.0	1.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	4.1	1.2	1.9	0.1	5.2	3.1	2.8	4.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	0.0	38.0	60.7	28.3	30.5	12.3	19.1	17.4	19.1	12.0	8.2
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h						522						1409
Approach Delay, s/veh						48.4						13.6
Approach LOS			C			D			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	15.0	35.4	13.2	10.7	5.6	44.8	7.8	16.0				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	28.8	8.7	18.0	5.0	40.3	5.1	21.6				
Max Q Clear Time (g_c+l1), s	9.9	17.0	10.7	5.9	2.3	15.8	4.0	7.4				
Green Ext Time (p_c), s	0.6	4.9	0.0	0.3	0.0	6.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	581	17	17	429	20	20
Future Vol, veh/h	581	17	17	429	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	85	85
Mvmt Flow	676	20	20	499	23	23
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	696	0	1215	676
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	-	-	5.1	-	7.25	7.05
Critical Hdwy Stg 1	-	-	-	-	6.25	-
Critical Hdwy Stg 2	-	-	-	-	6.25	-
Follow-up Hdwy	-	-	3.1	-	4.265	4.065
Pot Cap-1 Maneuver	-	-	576	-	138	337
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	576	-	133	337
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	432	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	27.1			
HCM LOS			D			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	133	337	-	-	576	-
HCM Lane V/C Ratio	0.175	0.069	-	-	0.034	-
HCM Control Delay (s)	37.7	16.5	-	-	11.5	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	23.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔		
Traffic Vol, veh/h	475	126	165	355	59	184
Future Vol, veh/h	475	126	165	355	59	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	552	147	192	413	69	214
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	699	0	1423	626
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	797	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	884	-	147	479
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	884	-	106	479
Mov Cap-2 Maneuver	-	-	-	-	106	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	315	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	3.2	126			
HCM LOS			F			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	258	-	-	884	-	
HCM Lane V/C Ratio	1.095	-	-	0.217	-	
HCM Control Delay (s)	126	-	-	10.2	0	
HCM Lane LOS	F	-	-	B	A	
HCM 95th %tile Q(veh)	11.9	-	-	0.8	-	

Queues

2027 Phase II

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	316	83	123	12	892	272	356	1002	51
v/c Ratio	0.23	0.44	1.04	0.25	0.29	0.04	0.69	0.36	0.76	0.48	0.05
Control Delay	24.6	33.9	93.4	31.1	3.3	8.7	25.4	4.3	25.3	11.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	33.9	93.4	31.1	3.3	8.7	25.4	4.3	25.3	11.1	0.1
Queue Length 50th (ft)	20	35	~146	38	0	2	202	0	94	129	0
Queue Length 95th (ft)	44	75	#211	74	12	9	273	43	#215	243	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	235	421	303	509	563	306	1289	746	494	2089	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	1.04	0.16	0.22	0.04	0.69	0.36	0.72	0.48	0.05

Intersection Summary

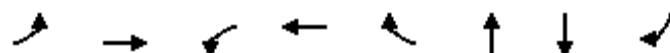
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

2027 Phase II

AM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	238	491	21	492	451	31	445	306
v/c Ratio	1.01	0.63	0.09	0.63	0.49	0.04	0.74	0.36
Control Delay	91.3	24.3	16.5	24.4	3.7	0.1	28.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	24.3	16.5	24.4	3.7	0.1	28.6	4.8
Queue Length 50th (ft)	~135	211	7	212	0	0	198	18
Queue Length 95th (ft)	#269	296	21	297	43	0	299	57
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	235	781	235	782	920	865	602	850
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.63	0.09	0.63	0.49	0.04	0.74	0.36

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.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II PM
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Future Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00	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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	343	117	167	14	1133	238	240	886	43
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	260	100	43	351	298	253	347	1594	711	337	1865	832
Arrive On Green	0.04	0.08	0.08	0.13	0.16	0.16	0.02	0.46	0.46	0.10	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	343	117	167	14	1133	238	240	886	43
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Cycle Q Clear(g_c), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	143	351	298	253	347	1594	711	337	1865	832
V/C Ratio(X)	0.20	0.00	0.66	0.98	0.39	0.66	0.04	0.71	0.33	0.71	0.47	0.05
Avail Cap(c_a), veh/h	300	0	412	351	540	458	433	1594	711	394	1865	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	33.7	29.5	28.3	29.7	10.7	16.4	13.1	14.3	10.9	8.3
Incr Delay (d2), s/veh	0.4	0.0	5.1	41.8	0.8	2.9	0.0	2.7	1.3	4.9	0.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	5.4	1.8	2.8	0.1	6.8	2.4	1.8	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	0.0	38.8	71.3	29.2	32.6	10.8	19.1	14.3	19.2	11.7	8.4
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h												
Approach Delay, s/veh	147				627			1385			1169	
Approach LOS	35.7				53.1			18.2			13.2	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.7	39.3	14.0	10.7	5.8	45.2	7.9	16.9				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	34.8	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	7.1	21.9	11.5	6.0	2.3	14.0	4.1	9.7				
Green Ext Time (p_c), s	0.2	6.4	0.0	0.3	0.0	5.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				23.8								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	481	17	17	522	20	20
Future Vol, veh/h	481	17	17	522	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	85	85
Mvmt Flow	559	20	20	607	23	23
Major/Minor						
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	579	0	1206	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	647	-
Critical Hdwy	-	-	5.1	-	7.25	7.05
Critical Hdwy Stg 1	-	-	-	-	6.25	-
Critical Hdwy Stg 2	-	-	-	-	6.25	-
Follow-up Hdwy	-	-	3.1	-	4.265	4.065
Pot Cap-1 Maneuver	-	-	649	-	140	400
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	393	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	649	-	136	400
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	381	-
Approach						
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.3	25.8			
HCM LOS			D			
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)		136	400	-	-	649
HCM Lane V/C Ratio		0.171	0.058	-	-	0.03
HCM Control Delay (s)		36.9	14.6	-	-	10.7
HCM Lane LOS		E	B	-	-	B
HCM 95th %tile Q(veh)		0.6	0.2	-	-	0.1

Intersection						
Int Delay, s/veh	24.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	399	102	113	466	75	212
Future Vol, veh/h	399	102	113	466	75	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	464	119	131	542	87	247
Major/Minor						
Major1	Major2		Minor1			
	0	0	583	0	1328	524
Conflicting Flow All	-	-	-	-	524	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	977	-	169	547
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	977	-	137	547
Mov Cap-2 Maneuver	-	-	-	-	137	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	351	-
Approach						
EB	WB		NB			
	0	1.8	114.5			
HCM Control Delay, s			F			
Minor Lane/Major Mvmt						
NBLn1	EBT	EBR	WBL	WBT		
	307	-	-	977	-	
Capacity (veh/h)	1.087	-	-	0.134	-	
HCM Lane V/C Ratio	114.5	-	-	9.3	0	
HCM Control Delay (s)						
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	13	-	-	0.5	-	

Queues

2027 Phase II PM

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	343	117	167	14	1133	238	240	886	43
V/c Ratio	0.23	0.45	1.07	0.34	0.38	0.04	0.74	0.29	0.75	0.43	0.04
Control Delay	24.2	33.9	98.4	31.7	6.8	7.9	23.0	3.4	30.0	10.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	33.9	98.4	31.7	6.8	7.9	23.0	3.4	30.0	10.9	0.1
Queue Length 50th (ft)	20	35	~160	54	0	3	247	0	57	112	0
Queue Length 95th (ft)	44	75	#227	96	37	10	329	36	#167	212	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	229	413	321	517	569	367	1526	815	321	2070	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	1.07	0.23	0.29	0.04	0.74	0.29	0.75	0.43	0.04

Intersection Summary

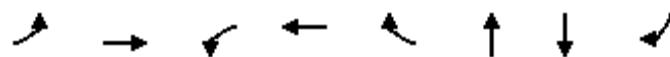
- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

2027 Phase II PM

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	222	460	3	358	430	32	247	385
v/c Ratio	0.88	0.73	0.02	0.57	0.53	0.04	0.38	0.39
Control Delay	53.6	25.8	12.7	20.8	4.1	8.9	14.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	25.8	12.7	20.8	4.1	8.9	14.6	3.0
Queue Length 50th (ft)	84	161	1	116	0	3	54	0
Queue Length 95th (ft)	158	232	5	172	38	20	147	41
Internal Link Dist (ft)	3893		1270		729		1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	501	1257	346	1257	1199	842	656	978
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.37	0.01	0.28	0.36	0.04	0.38	0.39

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022Phase II-Build Alt 1
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Future Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	283	74	109	10	809	240	314	909	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	264	95	41	375	315	267	326	1425	636	445	1831	817
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.01	0.41	0.41	0.13	0.53	0.53
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	283	74	109	10	809	240	314	909	47
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Cycle Q Clear(g_c), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	264	0	136	375	315	267	326	1425	636	445	1831	817
V/C Ratio(X)	0.19	0.00	0.63	0.76	0.24	0.41	0.03	0.57	0.38	0.71	0.50	0.06
Avail Cap(c_a), veh/h	310	0	423	375	570	483	422	1425	636	613	1831	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	32.9	25.9	26.3	27.2	12.4	16.7	15.1	12.2	11.1	8.5
Incr Delay (d2), s/veh	0.3	0.0	4.8	8.5	0.4	1.0	0.0	1.6	1.7	2.2	1.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.5	4.8	1.0	1.6	0.1	4.6	2.6	2.1	3.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.6	0.0	37.8	34.4	26.7	28.2	12.5	18.3	16.8	14.4	12.1	8.6
LnGrp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h						466			1059			1270
Approach Delay, s/veh						31.7			17.9			12.5
Approach LOS						C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	14.1	34.8	14.6	10.3	5.4	43.4	7.7	17.2				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.7	27.2	10.1	18.0	5.0	38.9	5.1	23.0				
Max Q Clear Time (g_c+l1), s	9.0	15.2	12.1	5.5	2.2	14.4	3.9	6.6				
Green Ext Time (p_c), s	0.5	4.5	0.0	0.2	0.0	6.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay				18.6								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	514	14	14	384	17	17
Future Vol, veh/h	514	14	14	384	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	82	82
Mvmt Flow	598	16	16	447	20	20
Major/Minor						
Major1		Major2		Minor1		
Conflicting Flow All	0	0	614	0	1077	598
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	479	-
Critical Hdwy	-	-	5.1	-	7.22	7.02
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	3.1	-	4.238	4.038
Pot Cap-1 Maneuver	-	-	627	-	173	381
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	486	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	627	-	169	381
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	421	-
Stage 2	-	-	-	-	473	-
Approach						
EB		WB		NB		
HCM Control Delay, s	0	0.4	22.1			
HCM LOS			C			
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)	169	381	-	-	627	-
HCM Lane V/C Ratio	0.117	0.052	-	-	0.026	-
HCM Control Delay (s)	29.1	15	-	-	10.9	-
HCM Lane LOS	D	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	430	101	136	321	48	149
Future Vol, veh/h	430	101	136	321	48	149
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	500	117	158	373	56	173
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	617	0	1248	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	949	-	189	523
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	493	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	949	-	158	523
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	411	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	2.8		21.2		
HCM LOS		C				
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)		158	523	-	-	949
HCM Lane V/C Ratio	0.353	0.331	-	-	0.167	-
HCM Control Delay (s)	39.7	15.3	-	-	9.6	-
HCM Lane LOS	E	C	-	-	A	-
HCM 95th %tile Q(veh)	1.5	1.4	-	-	0.6	-

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022 Phase II - Build Alt 1
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Future Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	306	105	149	13	1028	208	209	805	38
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	258	95	41	378	319	270	367	1565	698	347	1815	810
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.02	0.45	0.45	0.09	0.52	0.52
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	306	105	149	13	1028	208	209	805	38
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Cycle Q Clear(g_c), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	0	136	378	319	270	367	1565	698	347	1815	810
V/C Ratio(X)	0.19	0.00	0.63	0.81	0.33	0.55	0.04	0.66	0.30	0.60	0.44	0.05
Avail Cap(c_a), veh/h	303	0	421	378	573	485	457	1565	698	455	1815	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	33.1	26.6	26.7	27.9	10.8	15.8	12.9	12.6	10.9	8.6
Incr Delay (d2), s/veh	0.4	0.0	4.8	12.4	0.6	1.8	0.0	2.2	1.1	1.7	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.6	5.7	1.5	2.3	0.1	5.8	2.0	1.3	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	0.0	37.9	39.0	27.3	29.6	10.8	18.0	14.0	14.3	11.7	8.7
LnGrp LOS	C	A	D	D	C	C	B	B	B	B	B	A
Approach Vol, veh/h						560						1052
Approach Delay, s/veh						34.3						12.1
Approach LOS						C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.0	37.9	14.8	10.3	5.7	43.2	7.7	17.4				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.1	32.6	10.3	18.0	5.0	38.7	5.1	23.2				
Max Q Clear Time (g_c+l1), s	6.4	19.1	12.3	5.6	2.3	12.7	3.9	8.5				
Green Ext Time (p_c), s	0.2	5.9	0.0	0.2	0.0	5.2	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				19.4								
HCM 6th LOS				B								

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	425	14	14	466	17	17
Future Vol, veh/h	425	14	14	466	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	82	82
Mvmt Flow	494	16	16	542	20	20
Major/Minor						
Conflicting Flow All	Major1	Major2		Minor1		
	0	0	510	0	1068	494
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	574	-
Critical Hdwy	-	-	5.1	-	7.22	7.02
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	3.1	-	4.238	4.038
Pot Cap-1 Maneuver	-	-	697	-	175	443
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	697	-	171	443
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	423	-
Approach						
HCM Control Delay, s	EB	WB		NB		
	0	0.3		21.2		
HCM LOS				C		
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)		171	443	-	-	697
HCM Lane V/C Ratio	0.116	0.045	-	-	0.023	-
HCM Control Delay (s)	28.8	13.5	-	-	10.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑ ↘	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗
Traffic Vol, veh/h	361	81	91	422	60	172
Future Vol, veh/h	361	81	91	422	60	172
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	420	94	106	491	70	200
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	514	0	1170	467
Stage 1	-	-	-	-	467	-
Stage 2	-	-	-	-	703	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	1036	-	210	590
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1036	-	189	590
Mov Cap-2 Maneuver	-	-	-	-	189	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	436	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.6	19.5			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	189	590	-	-	1036	-
HCM Lane V/C Ratio	0.369	0.339	-	-	0.102	-
HCM Control Delay (s)	34.8	14.2	-	-	8.9	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	1.6	1.5	-	-	0.3	-

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II-Build Alt 1
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Future Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	316	83	123	12	892	272	356	1002	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	270	101	43	339	284	240	309	1443	643	444	1883	840
Arrive On Green	0.04	0.08	0.08	0.12	0.16	0.16	0.01	0.42	0.42	0.14	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	316	83	123	12	892	272	356	1002	51
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Cycle Q Clear(g_c), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	270	0	144	339	284	240	309	1443	643	444	1883	840
V/C Ratio(X)	0.20	0.00	0.65	0.93	0.29	0.51	0.04	0.62	0.42	0.80	0.53	0.06
Avail Cap(c_a), veh/h	312	0	420	339	531	450	401	1443	643	584	1883	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	33.0	28.9	27.8	28.8	12.3	17.1	15.4	13.1	10.9	8.0
Incr Delay (d2), s/veh	0.4	0.0	5.0	31.7	0.6	1.7	0.1	2.0	2.0	6.0	1.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	4.1	1.2	1.9	0.1	5.2	3.1	2.8	4.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	0.0	38.0	60.7	28.3	30.5	12.3	19.1	17.4	19.1	12.0	8.2
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h						522						1409
Approach Delay, s/veh						48.4						13.6
Approach LOS			C			D		B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	15.0	35.4	13.2	10.7	5.6	44.8	7.8	16.0				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	28.8	8.7	18.0	5.0	40.3	5.1	21.6				
Max Q Clear Time (g_c+l1), s	9.9	17.0	10.7	5.9	2.3	15.8	4.0	7.4				
Green Ext Time (p_c), s	0.6	4.9	0.0	0.3	0.0	6.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	581	17	17	429	20	20
Future Vol, veh/h	581	17	17	429	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	85	85
Mvmt Flow	676	20	20	499	23	23
Major/Minor						
Major1	Major2		Minor1			
	0	0	696	0	1215	676
Conflicting Flow All	-	-	-	-	676	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	6.25	-
Critical Hdwy	-	-	5.1	-	7.25	7.05
Critical Hdwy Stg 1	-	-	-	-	6.25	-
Critical Hdwy Stg 2	-	-	-	-	6.25	-
Follow-up Hdwy	-	-	3.1	-	4.265	4.065
Pot Cap-1 Maneuver	-	-	576	-	138	337
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	576	-	133	337
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	432	-
Approach						
EB	WB		NB			
	0	0.4	27.1			
HCM Control Delay, s			D			
Minor Lane/Major Mvmt						
Capacity (veh/h)	NBLn1		NBLn2	EBT	EBR	WBL
	133	337	-	-	576	-
HCM Lane V/C Ratio	0.175	0.069	-	-	0.034	-
HCM Control Delay (s)	37.7	16.5	-	-	11.5	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗
Traffic Vol, veh/h	475	126	165	355	59	184
Future Vol, veh/h	475	126	165	355	59	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	552	147	192	413	69	214
Major/Minor						
Major1		Major2		Minor1		
Conflicting Flow All	0	0	699	0	1423	626
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	797	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	884	-	147	479
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	884	-	115	479
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	344	-
Approach						
EB		WB		NB		
HCM Control Delay, s	0	3.2	32			
HCM LOS			D			
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)	115	479	-	-	884	-
HCM Lane V/C Ratio	0.597	0.447	-	-	0.217	-
HCM Control Delay (s)	74.5	18.4	-	-	10.2	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	2.9	2.3	-	-	0.8	-

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II Build Alt 1
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Future Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00	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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	343	117	167	14	1133	238	240	886	43
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	260	100	43	351	298	253	347	1594	711	337	1865	832
Arrive On Green	0.04	0.08	0.08	0.13	0.16	0.16	0.02	0.46	0.46	0.10	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	343	117	167	14	1133	238	240	886	43
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Cycle Q Clear(g_c), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	143	351	298	253	347	1594	711	337	1865	832
V/C Ratio(X)	0.20	0.00	0.66	0.98	0.39	0.66	0.04	0.71	0.33	0.71	0.47	0.05
Avail Cap(c_a), veh/h	300	0	412	351	540	458	433	1594	711	394	1865	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	33.7	29.5	28.3	29.7	10.7	16.4	13.1	14.3	10.9	8.3
Incr Delay (d2), s/veh	0.4	0.0	5.1	41.8	0.8	2.9	0.0	2.7	1.3	4.9	0.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	5.4	1.8	2.8	0.1	6.8	2.4	1.8	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	0.0	38.8	71.3	29.2	32.6	10.8	19.1	14.3	19.2	11.7	8.4
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h		147			627			1385			1169	
Approach Delay, s/veh		35.7			53.1			18.2			13.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.7	39.3	14.0	10.7	5.8	45.2	7.9	16.9				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	34.8	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	7.1	21.9	11.5	6.0	2.3	14.0	4.1	9.7				
Green Ext Time (p_c), s	0.2	6.4	0.0	0.3	0.0	5.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			23.8									
HCM 6th LOS			C									

Intersection							
Int Delay, s/veh	1.1						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	↗	↖	↑	↖	↗	
Traffic Vol, veh/h	481	17	17	522	20	20	
Future Vol, veh/h	481	17	17	522	20	20	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	275	200	-	0	50	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	86	86	86	86	86	86	
Heavy Vehicles, %	5	100	100	5	85	85	
Mvmt Flow	559	20	20	607	23	23	
Major/Minor							
Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	579	0	1206	559	
Stage 1	-	-	-	-	559	-	
Stage 2	-	-	-	-	647	-	
Critical Hdwy	-	-	5.1	-	7.25	7.05	
Critical Hdwy Stg 1	-	-	-	-	6.25	-	
Critical Hdwy Stg 2	-	-	-	-	6.25	-	
Follow-up Hdwy	-	-	3.1	-	4.265	4.065	
Pot Cap-1 Maneuver	-	-	649	-	140	400	
Stage 1	-	-	-	-	437	-	
Stage 2	-	-	-	-	393	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	649	-	136	400	
Mov Cap-2 Maneuver	-	-	-	-	136	-	
Stage 1	-	-	-	-	437	-	
Stage 2	-	-	-	-	381	-	
Approach							
Approach	EB	WB	NB				
HCM Control Delay, s	0	0.3	25.8				
HCM LOS			D				
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)		136	400	-	-	649	-
HCM Lane V/C Ratio		0.171	0.058	-	-	0.03	-
HCM Control Delay (s)		36.9	14.6	-	-	10.7	-
HCM Lane LOS		E	B	-	-	B	-
HCM 95th %tile Q(veh)		0.6	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	6.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗
Traffic Vol, veh/h	399	102	113	466	75	212
Future Vol, veh/h	399	102	113	466	75	212
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	350	-	350	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	464	119	131	542	87	247
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	583	0	1328	524
Stage 1	-	-	-	-	524	-
Stage 2	-	-	-	-	804	-
Critical Hdwy	-	-	4.15	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	-	-	2.245	-	3.545	3.345
Pot Cap-1 Maneuver	-	-	977	-	169	547
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	435	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	977	-	146	547
Mov Cap-2 Maneuver	-	-	-	-	146	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	377	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.8	28.4			
HCM LOS			D			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	146	547	-	-	977	-
HCM Lane V/C Ratio	0.597	0.451	-	-	0.134	-
HCM Control Delay (s)	60.9	16.9	-	-	9.3	-
HCM Lane LOS	F	C	-	-	A	-
HCM 95th %tile Q(veh)	3.1	2.3	-	-	0.5	-

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022Phase II-Build Alt 2
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Future Volume (veh/h)	42	52	22	243	64	94	9	696	206	270	782	40
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	283	74	109	10	809	240	314	909	47
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	264	95	41	375	315	267	326	1425	636	445	1831	817
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.01	0.41	0.41	0.13	0.53	0.53
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	283	74	109	10	809	240	314	909	47
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Cycle Q Clear(g_c), s	1.9	0.0	3.5	10.1	2.6	4.6	0.2	13.2	8.0	7.0	12.4	1.1
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	264	0	136	375	315	267	326	1425	636	445	1831	817
V/C Ratio(X)	0.19	0.00	0.63	0.76	0.24	0.41	0.03	0.57	0.38	0.71	0.50	0.06
Avail Cap(c_a), veh/h	310	0	423	375	570	483	422	1425	636	613	1831	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	32.9	25.9	26.3	27.2	12.4	16.7	15.1	12.2	11.1	8.5
Incr Delay (d2), s/veh	0.3	0.0	4.8	8.5	0.4	1.0	0.0	1.6	1.7	2.2	1.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.5	4.8	1.0	1.6	0.1	4.6	2.6	2.1	3.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.6	0.0	37.8	34.4	26.7	28.2	12.5	18.3	16.8	14.4	12.1	8.6
LnGrp LOS	C	A	D	C	C	C	B	B	B	B	B	A
Approach Vol, veh/h						466			1059			1270
Approach Delay, s/veh						31.7			17.9			12.5
Approach LOS						C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	14.1	34.8	14.6	10.3	5.4	43.4	7.7	17.2				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.7	27.2	10.1	18.0	5.0	38.9	5.1	23.0				
Max Q Clear Time (g_c+l1), s	9.0	15.2	12.1	5.5	2.2	14.4	3.9	6.6				
Green Ext Time (p_c), s	0.5	4.5	0.0	0.2	0.0	6.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay				18.6								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
3: Kidron Rd & Drane Field Rd

2022Phase II-Build Alt 2
AM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↓	↖	↑	↖	↖
Traffic Volume (veh/h)	430	101	136	321	48	149
Future Volume (veh/h)	430	101	136	321	48	149
Initial Q (Q _b), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No	No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	500	117	158	373	56	173
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	625	146	435	1158	285	253
Arrive On Green	0.44	0.44	0.10	0.63	0.16	0.16
Sat Flow, veh/h	1431	335	1739	1826	1739	1547
Grp Volume(v), veh/h	0	617	158	373	56	173
Grp Sat Flow(s), veh/h/ln	0	1766	1739	1826	1739	1547
Q Serve(g_s), s	0.0	13.5	1.9	4.2	1.2	4.7
Cycle Q Clear(g_c), s	0.0	13.5	1.9	4.2	1.2	4.7
Prop In Lane		0.19	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	771	435	1158	285	253
V/C Ratio(X)	0.00	0.80	0.36	0.32	0.20	0.68
Avail Cap(c_a), veh/h	0	1805	677	2481	801	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.9	7.7	3.7	16.1	17.5
Incr Delay (d2), s/veh	0.0	2.0	0.5	0.2	0.3	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.0	3.4	0.3	0.4	0.5	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	12.8	8.2	3.9	16.4	20.8
LnGrp LOS	A	B	A	A	B	C
Approach Vol, veh/h	617			531	229	
Approach Delay, s/veh	12.8			5.2	19.7	
Approach LOS	B			A	B	
Timer - Assigned Phs	2	3	4			8
Phs Duration (G+Y+R _c), s	11.8	8.8	23.9			32.7
Change Period (Y+R _c), s	4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s	20.5	10.5	45.5			60.5
Max Q Clear Time (g_c+l1), s	6.7	3.9	15.5			6.2
Green Ext Time (p_c), s	0.6	0.2	4.0			2.1
Intersection Summary						
HCM 6th Ctrl Delay			11.0			
HCM 6th LOS			B			

Intersection							
Int Delay, s/veh	0.9						
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑	↗	↖	↑	↖	↗	
Traffic Vol, veh/h	514	14	14	384	17	17	
Future Vol, veh/h	514	14	14	384	17	17	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-	275	200	-	0	50	
Veh in Median Storage, #	0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	86	86	86	86	86	86	
Heavy Vehicles, %	5	100	100	5	82	82	
Mvmt Flow	598	16	16	447	20	20	
Major/Minor							
Major/Minor	Major1	Major2	Minor1				
Conflicting Flow All	0	0	614	0	1077	598	
Stage 1	-	-	-	-	598	-	
Stage 2	-	-	-	-	479	-	
Critical Hdwy	-	-	5.1	-	7.22	7.02	
Critical Hdwy Stg 1	-	-	-	-	6.22	-	
Critical Hdwy Stg 2	-	-	-	-	6.22	-	
Follow-up Hdwy	-	-	3.1	-	4.238	4.038	
Pot Cap-1 Maneuver	-	-	627	-	173	381	
Stage 1	-	-	-	-	421	-	
Stage 2	-	-	-	-	486	-	
Platoon blocked, %	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	627	-	169	381	
Mov Cap-2 Maneuver	-	-	-	-	169	-	
Stage 1	-	-	-	-	421	-	
Stage 2	-	-	-	-	473	-	
Approach							
Approach	EB	WB	NB				
HCM Control Delay, s	0	0.4	22.1				
HCM LOS			C				
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)		169	381	-	-	627	-
HCM Lane V/C Ratio		0.117	0.052	-	-	0.026	-
HCM Control Delay (s)		29.1	15	-	-	10.9	-
HCM Lane LOS		D	C	-	-	B	-
HCM 95th %tile Q(veh)		0.4	0.2	-	-	0.1	-

Queues

2022Phase II-Build Alt 2

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	283	74	109	10	809	240	314	909	47
v/c Ratio	0.21	0.41	0.82	0.20	0.24	0.03	0.64	0.34	0.68	0.45	0.05
Control Delay	23.2	31.9	45.4	29.0	2.0	9.1	24.5	4.5	18.3	11.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	31.9	45.4	29.0	2.0	9.1	24.5	4.5	18.3	11.4	0.1
Queue Length 50th (ft)	17	30	117	32	0	2	176	0	69	117	0
Queue Length 95th (ft)	41	69	#208	66	3	8	247	42	142	220	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	236	435	345	559	601	323	1257	714	522	2004	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.82	0.13	0.18	0.03	0.64	0.34	0.60	0.45	0.05

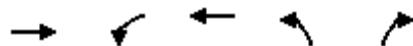
Intersection Summary

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

Queue shown is maximum after two cycles.

Queues
3: Kidron Rd & Drane Field Rd

2022Phase II-Build Alt 2
AM Peak



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	617	158	373	56	173
v/c Ratio	0.74	0.35	0.32	0.21	0.45
Control Delay	17.5	5.2	4.4	25.1	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	5.2	4.4	25.1	9.2
Queue Length 50th (ft)	139	12	34	15	0
Queue Length 95th (ft)	264	31	73	51	44
Internal Link Dist (ft)	2130		3893	1523	
Turn Bay Length (ft)		350		350	
Base Capacity (vph)	1526	556	1750	771	785
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	0.40	0.28	0.21	0.07	0.22

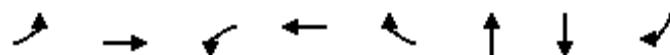
Intersection Summary

Queues

4: Airfield Ct W/Airport Rd & Drane Field Rd

2022Phase II-Build Alt 2

AM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	209	432	20	438	409	29	405	269
v/c Ratio	0.98	0.63	0.09	0.64	0.49	0.03	0.61	0.29
Control Delay	88.4	27.3	19.0	27.5	4.2	0.1	20.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.4	27.3	19.0	27.5	4.2	0.1	20.2	3.0
Queue Length 50th (ft)	114	193	7	197	0	0	155	5
Queue Length 95th (ft)	#239	274	22	280	46	0	236	37
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	220	709	224	710	852	939	669	918
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.61	0.09	0.62	0.48	0.03	0.61	0.29

Intersection Summary

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

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2022 Phase II - Build Alt 2
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Future Volume (veh/h)	42	52	22	263	90	128	11	884	179	180	692	33
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	49	60	26	306	105	149	13	1028	208	209	805	38
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	258	95	41	378	319	270	367	1565	698	347	1815	810
Arrive On Green	0.04	0.08	0.08	0.14	0.17	0.17	0.02	0.45	0.45	0.09	0.52	0.52
Sat Flow, veh/h	1739	1208	524	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	49	0	86	306	105	149	13	1028	208	209	805	38
Grp Sat Flow(s), veh/h/ln	1739	0	1732	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Cycle Q Clear(g_c), s	1.9	0.0	3.6	10.3	3.7	6.5	0.3	17.1	6.3	4.4	10.7	0.9
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	0	136	378	319	270	367	1565	698	347	1815	810
V/C Ratio(X)	0.19	0.00	0.63	0.81	0.33	0.55	0.04	0.66	0.30	0.60	0.44	0.05
Avail Cap(c_a), veh/h	303	0	421	378	573	485	457	1565	698	455	1815	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	33.1	26.6	26.7	27.9	10.8	15.8	12.9	12.6	10.9	8.6
Incr Delay (d2), s/veh	0.4	0.0	4.8	12.4	0.6	1.8	0.0	2.2	1.1	1.7	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	0.0	1.6	5.7	1.5	2.3	0.1	5.8	2.0	1.3	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.7	0.0	37.9	39.0	27.3	29.6	10.8	18.0	14.0	14.3	11.7	8.7
LnGrp LOS	C	A	D	D	C	C	B	B	B	B	B	A
Approach Vol, veh/h						560						1052
Approach Delay, s/veh						34.3						12.1
Approach LOS						C			B			B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.0	37.9	14.8	10.3	5.7	43.2	7.7	17.4				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	11.1	32.6	10.3	18.0	5.0	38.7	5.1	23.2				
Max Q Clear Time (g_c+l1), s	6.4	19.1	12.3	5.6	2.3	12.7	3.9	8.5				
Green Ext Time (p_c), s	0.2	5.9	0.0	0.2	0.0	5.2	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay				19.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Summary
3: Kidron Rd & Drane Field Rd

2022 Phase II - Build Alt 2
PM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑ ↗	↗	↖	↑ ↘	↖	↖
Traffic Volume (veh/h)	361	81	91	422	60	172
Future Volume (veh/h)	361	81	91	422	60	172
Initial Q (Q _b), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No	No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	420	94	106	491	70	200
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	553	124	445	1064	331	295
Arrive On Green	0.38	0.38	0.09	0.58	0.19	0.19
Sat Flow, veh/h	1444	323	1739	1826	1739	1547
Grp Volume(v), veh/h	0	514	106	491	70	200
Grp Sat Flow(s), veh/h/ln	0	1768	1739	1826	1739	1547
Q Serve(g_s), s	0.0	10.0	1.2	6.1	1.3	4.8
Cycle Q Clear(g_c), s	0.0	10.0	1.2	6.1	1.3	4.8
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	677	445	1064	331	295
V/C Ratio(X)	0.00	0.76	0.24	0.46	0.21	0.68
Avail Cap(c_a), veh/h	0	2026	622	2644	1029	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.7	7.0	4.7	13.6	14.9
Incr Delay (d2), s/veh	0.0	1.8	0.3	0.3	0.3	2.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.0	2.5	0.2	0.6	0.5	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	12.5	7.2	5.0	13.9	17.7
LnGrp LOS	A	B	A	A	B	B
Approach Vol, veh/h	514			597	270	
Approach Delay, s/veh	12.5			5.4	16.7	
Approach LOS	B			A	B	
Timer - Assigned Phs	2	3	4			8
Phs Duration (G+Y+R _c), s	12.1	7.9	19.7			27.6
Change Period (Y+R _c), s	4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s	23.5	7.5	45.5			57.5
Max Q Clear Time (g_c+l1), s	6.8	3.2	12.0			8.1
Green Ext Time (p_c), s	0.8	0.1	3.1			3.0
Intersection Summary						
HCM 6th Ctrl Delay			10.2			
HCM 6th LOS			B			

Intersection

Int Delay, s/veh 0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	425	14	14	466	17	17
Future Vol, veh/h	425	14	14	466	17	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	82	82
Mvmt Flow	494	16	16	542	20	20

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	510	0	1068	494
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	574	-
Critical Hdwy	-	-	5.1	-	7.22	7.02
Critical Hdwy Stg 1	-	-	-	-	6.22	-
Critical Hdwy Stg 2	-	-	-	-	6.22	-
Follow-up Hdwy	-	-	3.1	-	4.238	4.038
Pot Cap-1 Maneuver	-	-	697	-	175	443
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	697	-	171	443
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	423	-

Approach EB WB NB

HCM Control Delay, s 0 0.3 21.2

HCM LOS C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	171	443	-	-	697	-
HCM Lane V/C Ratio	0.116	0.045	-	-	0.023	-
HCM Control Delay (s)	28.8	13.5	-	-	10.3	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-

Queues

2022 Phase II - Build Alt 2

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	49	86	306	105	149	13	1028	208	209	805	38
v/c Ratio	0.21	0.42	0.89	0.29	0.33	0.03	0.70	0.26	0.61	0.40	0.04
Control Delay	23.5	32.4	55.5	30.3	5.0	8.3	22.7	2.7	17.6	10.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.5	32.4	55.5	30.3	5.0	8.3	22.7	2.7	17.6	10.8	0.1
Queue Length 50th (ft)	18	30	132	47	0	2	222	0	43	101	0
Queue Length 95th (ft)	41	69	#239	87	26	10	299	25	97	190	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	228	423	342	549	593	380	1465	790	371	2024	980
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.20	0.89	0.19	0.25	0.03	0.70	0.26	0.56	0.40	0.04

Intersection Summary

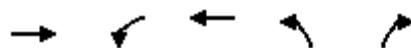
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
3: Kidron Rd & Drane Field Rd

2022 Phase II - Build Alt 2

PM Peak



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	514	106	491	70	200
v/c Ratio	0.70	0.22	0.46	0.23	0.45
Control Delay	17.0	4.5	6.0	21.3	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	4.5	6.0	21.3	7.8
Queue Length 50th (ft)	103	8	49	16	0
Queue Length 95th (ft)	198	23	103	51	42
Internal Link Dist (ft)	2130		3893	1523	
Turn Bay Length (ft)		350		350	
Base Capacity (vph)	1635	509	1789	1007	984
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	0.31	0.21	0.27	0.07	0.20

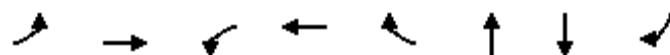
Intersection Summary

Queues

2022 Phase II - Build Alt 2

PM Peak

4: Airfield Ct W/Airport Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	194	400	3	317	391	29	224	342
v/c Ratio	0.83	0.72	0.02	0.57	0.53	0.03	0.31	0.34
Control Delay	50.2	28.1	14.7	23.2	4.7	7.0	11.3	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	28.1	14.7	23.2	4.7	7.0	11.3	2.5
Queue Length 50th (ft)	73	143	1	107	0	3	44	0
Queue Length 95th (ft)	138	212	6	164	41	17	112	35
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	499	1192	361	1192	1146	909	712	1007
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.34	0.01	0.27	0.34	0.03	0.31	0.34

Intersection Summary

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II - Build Alt. 2
AM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Future Volume (veh/h)	46	57	24	272	71	106	10	767	234	306	862	44
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	316	83	123	12	892	272	356	1002	51
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	270	101	43	339	284	240	309	1443	643	444	1883	840
Arrive On Green	0.04	0.08	0.08	0.12	0.16	0.16	0.01	0.42	0.42	0.14	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	316	83	123	12	892	272	356	1002	51
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Cycle Q Clear(g_c), s	2.0	0.0	3.9	8.7	3.0	5.4	0.3	15.0	9.3	7.9	13.8	1.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	270	0	144	339	284	240	309	1443	643	444	1883	840
V/C Ratio(X)	0.20	0.00	0.65	0.93	0.29	0.51	0.04	0.62	0.42	0.80	0.53	0.06
Avail Cap(c_a), veh/h	312	0	420	339	531	450	401	1443	643	584	1883	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	33.0	28.9	27.8	28.8	12.3	17.1	15.4	13.1	10.9	8.0
Incr Delay (d2), s/veh	0.4	0.0	5.0	31.7	0.6	1.7	0.1	2.0	2.0	6.0	1.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	4.1	1.2	1.9	0.1	5.2	3.1	2.8	4.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.5	0.0	38.0	60.7	28.3	30.5	12.3	19.1	17.4	19.1	12.0	8.2
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h						522						1409
Approach Delay, s/veh						48.4						13.6
Approach LOS			C			D		B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	15.0	35.4	13.2	10.7	5.6	44.8	7.8	16.0				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	16.5	28.8	8.7	18.0	5.0	40.3	5.1	21.6				
Max Q Clear Time (g_c+l1), s	9.9	17.0	10.7	5.9	2.3	15.8	4.0	7.4				
Green Ext Time (p_c), s	0.6	4.9	0.0	0.3	0.0	6.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay				22.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Summary
3: Kidron Rd & Drane Field Rd

2027 Phase II - Build Alt. 2
AM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↓	↖	↑	↖	↖
Traffic Volume (veh/h)	475	126	165	355	59	184
Future Volume (veh/h)	475	126	165	355	59	184
Initial Q (Q _b), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No	No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	552	147	192	413	69	214
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	657	175	382	1181	318	283
Arrive On Green	0.47	0.47	0.09	0.65	0.18	0.18
Sat Flow, veh/h	1389	370	1739	1826	1739	1547
Grp Volume(v), veh/h	0	699	192	413	69	214
Grp Sat Flow(s), veh/h/ln	0	1759	1739	1826	1739	1547
Q Serve(g_s), s	0.0	18.4	2.6	5.4	1.8	6.9
Cycle Q Clear(g_c), s	0.0	18.4	2.6	5.4	1.8	6.9
Prop In Lane		0.21	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	831	382	1181	318	283
V/C Ratio(X)	0.00	0.84	0.50	0.35	0.22	0.76
Avail Cap(c_a), veh/h	0	1516	573	2092	675	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	10.1	4.3	18.4	20.5
Incr Delay (d2), s/veh	0.0	2.4	1.0	0.2	0.3	4.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.0	5.2	0.6	0.8	0.7	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	14.6	11.1	4.4	18.7	24.6
LnGrp LOS	A	B	B	A	B	C
Approach Vol, veh/h	699			605	283	
Approach Delay, s/veh	14.6			6.5	23.2	
Approach LOS	B			A	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+R _c), s	14.1	9.2	29.4			38.6
Change Period (Y+R _c), s	4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s	20.5	10.5	45.5			60.5
Max Q Clear Time (g_c+l1), s	8.9	4.6	20.4			7.4
Green Ext Time (p_c), s	0.7	0.2	4.6			2.4
Intersection Summary						
HCM 6th Ctrl Delay			13.0			
HCM 6th LOS			B			

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	581	17	17	429	20	20
Future Vol, veh/h	581	17	17	429	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	85	85
Mvmt Flow	676	20	20	499	23	23
Major/Minor						
Major1	Major2		Minor1			
	0	0	696	0	1215	676
Conflicting Flow All	-	-	-	-	676	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	6.25	-
Critical Hdwy	-	-	5.1	-	7.25	7.05
Critical Hdwy Stg 1	-	-	-	-	6.25	-
Critical Hdwy Stg 2	-	-	-	-	6.25	-
Follow-up Hdwy	-	-	3.1	-	4.265	4.065
Pot Cap-1 Maneuver	-	-	576	-	138	337
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	448	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	576	-	133	337
Mov Cap-2 Maneuver	-	-	-	-	133	-
Stage 1	-	-	-	-	379	-
Stage 2	-	-	-	-	432	-
Approach						
EB	WB		NB			
	0	0.4	27.1			
HCM LOS			D			
Minor Lane/Major Mvmt		NBLn1	NBLn2	EBT	EBR	WBL
Capacity (veh/h)		133	337	-	-	576
HCM Lane V/C Ratio	0.175	0.069	-	-	0.034	-
HCM Control Delay (s)	37.7	16.5	-	-	11.5	-
HCM Lane LOS	E	C	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-

Queues

2027 Phase II - Build Alt. 2

AM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	316	83	123	12	892	272	356	1002	51
v/c Ratio	0.23	0.44	1.04	0.25	0.29	0.04	0.69	0.36	0.76	0.48	0.05
Control Delay	24.6	33.9	93.4	31.1	3.3	8.7	25.4	4.3	25.3	11.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	33.9	93.4	31.1	3.3	8.7	25.4	4.3	25.3	11.1	0.1
Queue Length 50th (ft)	20	35	~146	38	0	2	202	0	94	129	0
Queue Length 95th (ft)	44	75	#211	74	12	9	273	43	#215	243	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	235	421	303	509	563	306	1289	746	494	2089	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.22	1.04	0.16	0.22	0.04	0.69	0.36	0.72	0.48	0.05

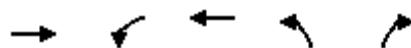
Intersection Summary

- ~ 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
3: Kidron Rd & Drane Field Rd

2027 Phase II - Build Alt. 2

AM Peak



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	699	192	413	69	214
v/c Ratio	0.82	0.47	0.33	0.28	0.53
Control Delay	21.4	7.1	4.3	29.6	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	7.1	4.3	29.6	10.4
Queue Length 50th (ft)	179	17	41	21	0
Queue Length 95th (ft)	333	38	84	66	51
Internal Link Dist (ft)	2130		3893	1523	
Turn Bay Length (ft)		350		350	
Base Capacity (vph)	1402	480	1685	632	701
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	0.50	0.40	0.25	0.11	0.31

Intersection Summary

Queues

2027 Phase II - Build Alt. 2

AM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	238	491	21	492	451	31	445	306
v/c Ratio	1.01	0.63	0.09	0.63	0.49	0.04	0.74	0.36
Control Delay	91.3	24.3	16.5	24.4	3.7	0.1	28.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.3	24.3	16.5	24.4	3.7	0.1	28.6	4.8
Queue Length 50th (ft)	~135	211	7	212	0	0	198	18
Queue Length 95th (ft)	#269	296	21	297	43	0	299	57
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	235	781	235	782	920	865	602	850
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.63	0.09	0.63	0.49	0.04	0.74	0.36

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.

HCM 6th Signalized Intersection Summary
1: County Line Rd & Drane Field Rd

2027 Phase II- Build Alt. 2
PM Peak

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑		↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑
Traffic Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Future Volume (veh/h)	46	57	24	295	101	144	12	974	205	206	762	37
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00	1.00	1.00	1.00	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	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	53	66	28	343	117	167	14	1133	238	240	886	43
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5	5	5	5	5	5	5
Cap, veh/h	260	100	43	351	298	253	347	1594	711	337	1865	832
Arrive On Green	0.04	0.08	0.08	0.13	0.16	0.16	0.02	0.46	0.46	0.10	0.54	0.54
Sat Flow, veh/h	1739	1217	516	1739	1826	1547	1739	3469	1547	1739	3469	1547
Grp Volume(v), veh/h	53	0	94	343	117	167	14	1133	238	240	886	43
Grp Sat Flow(s), veh/h/ln	1739	0	1733	1739	1826	1547	1739	1735	1547	1739	1735	1547
Q Serve(g_s), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Cycle Q Clear(g_c), s	2.1	0.0	4.0	9.5	4.3	7.7	0.3	19.9	7.4	5.1	12.0	1.0
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	143	351	298	253	347	1594	711	337	1865	832
V/C Ratio(X)	0.20	0.00	0.66	0.98	0.39	0.66	0.04	0.71	0.33	0.71	0.47	0.05
Avail Cap(c_a), veh/h	300	0	412	351	540	458	433	1594	711	394	1865	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	0.0	33.7	29.5	28.3	29.7	10.7	16.4	13.1	14.3	10.9	8.3
Incr Delay (d2), s/veh	0.4	0.0	5.1	41.8	0.8	2.9	0.0	2.7	1.3	4.9	0.9	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.8	0.0	1.7	5.4	1.8	2.8	0.1	6.8	2.4	1.8	3.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.2	0.0	38.8	71.3	29.2	32.6	10.8	19.1	14.3	19.2	11.7	8.4
LnGrp LOS	C	A	D	E	C	C	B	B	B	B	B	A
Approach Vol, veh/h		147			627			1385			1169	
Approach Delay, s/veh		35.7			53.1			18.2			13.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R _c), s	11.7	39.3	14.0	10.7	5.8	45.2	7.9	16.9				
Change Period (Y+R _c), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.7	34.8	9.5	18.0	5.0	39.5	5.1	22.4				
Max Q Clear Time (g_c+l1), s	7.1	21.9	11.5	6.0	2.3	14.0	4.1	9.7				
Green Ext Time (p_c), s	0.2	6.4	0.0	0.3	0.0	5.9	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			23.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
3: Kidron Rd & Drane Field Rd

2027 Phase II- Build Alt. 2
PM Peak



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑ ↗	↗	↖	↑ ↘	↖	↗
Traffic Volume (veh/h)	399	102	113	466	75	212
Future Volume (veh/h)	399	102	113	466	75	212
Initial Q (Q _b), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No	No		
Adj Sat Flow, veh/h/ln	1826	1826	1826	1826	1826	1826
Adj Flow Rate, veh/h	464	119	131	542	87	247
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	5	5	5	5	5	5
Cap, veh/h	577	148	404	1087	370	329
Arrive On Green	0.41	0.41	0.09	0.60	0.21	0.21
Sat Flow, veh/h	1402	359	1739	1826	1739	1547
Grp Volume(v), veh/h	0	583	131	542	87	247
Grp Sat Flow(s), veh/h/ln	0	1761	1739	1826	1739	1547
Q Serve(g_s), s	0.0	13.6	1.7	8.0	1.9	7.0
Cycle Q Clear(g_c), s	0.0	13.6	1.7	8.0	1.9	7.0
Prop In Lane		0.20	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	0	725	404	1087	370	329
V/C Ratio(X)	0.00	0.80	0.32	0.50	0.24	0.75
Avail Cap(c_a), veh/h	0	1672	567	2240	872	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	12.1	8.4	5.5	15.3	17.3
Incr Delay (d2), s/veh	0.0	2.1	0.5	0.4	0.3	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.0	3.8	0.4	1.2	0.7	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	0.0	14.3	8.9	5.8	15.6	20.7
LnGrp LOS	A	B	A	A	B	C
Approach Vol, veh/h	583			673	334	
Approach Delay, s/veh	14.3			6.4	19.4	
Approach LOS	B			A	B	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+R _c), s	14.5	8.6	23.8			32.4
Change Period (Y+R _c), s	4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s	23.5	8.5	44.5			57.5
Max Q Clear Time (g_c+l1), s	9.0	3.7	15.6			10.0
Green Ext Time (p_c), s	1.0	0.1	3.7			3.4
Intersection Summary						
HCM 6th Ctrl Delay			12.0			
HCM 6th LOS			B			

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	481	17	17	522	20	20
Future Vol, veh/h	481	17	17	522	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	100	100	5	85	85
Mvmt Flow	559	20	20	607	23	23

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	579	0	1206	559
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	647	-
Critical Hdwy	-	-	5.1	-	7.25	7.05
Critical Hdwy Stg 1	-	-	-	-	6.25	-
Critical Hdwy Stg 2	-	-	-	-	6.25	-
Follow-up Hdwy	-	-	3.1	-	4.265	4.065
Pot Cap-1 Maneuver	-	-	649	-	140	400
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	393	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	649	-	136	400
Mov Cap-2 Maneuver	-	-	-	-	136	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	381	-

Approach EB WB NB

HCM Control Delay, s 0 0.3 25.8

HCM LOS D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	136	400	-	-	649	-
HCM Lane V/C Ratio	0.171	0.058	-	-	0.03	-
HCM Control Delay (s)	36.9	14.6	-	-	10.7	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.1	-

Queues

2027 Phase II- Build Alt. 2

PM Peak

1: County Line Rd & Drane Field Rd



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	53	94	343	117	167	14	1133	238	240	886	43
V/c Ratio	0.23	0.45	1.07	0.34	0.38	0.04	0.74	0.29	0.75	0.43	0.04
Control Delay	24.2	33.9	98.4	31.7	6.8	7.9	23.0	3.4	30.0	10.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	33.9	98.4	31.7	6.8	7.9	23.0	3.4	30.0	10.9	0.1
Queue Length 50th (ft)	20	35	~160	54	0	3	247	0	57	112	0
Queue Length 95th (ft)	44	75	#227	96	37	10	329	36	#167	212	0
Internal Link Dist (ft)		1862		5754			1432			1594	
Turn Bay Length (ft)	200		200		200	275		250	350		250
Base Capacity (vph)	229	413	321	517	569	367	1526	815	321	2070	976
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.23	1.07	0.23	0.29	0.04	0.74	0.29	0.75	0.43	0.04

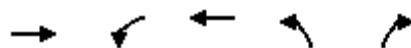
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Queues
3: Kidron Rd & Drane Field Rd

2027 Phase II- Build Alt. 2

PM Peak



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	583	131	542	87	247
v/c Ratio	0.72	0.29	0.48	0.29	0.52
Control Delay	17.6	5.1	6.2	24.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	5.1	6.2	24.7	8.5
Queue Length 50th (ft)	131	11	60	23	0
Queue Length 95th (ft)	252	29	127	68	49
Internal Link Dist (ft)	2130		3893	1523	
Turn Bay Length (ft)		350		350	
Base Capacity (vph)	1509	503	1739	890	916
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	0.39	0.26	0.31	0.10	0.27

Intersection Summary

Queues

2027 Phase II- Build Alt. 2

PM Peak



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT	SBR
Lane Group Flow (vph)	222	460	3	358	430	32	247	385
v/c Ratio	0.88	0.73	0.02	0.57	0.53	0.04	0.38	0.39
Control Delay	53.6	25.8	12.7	20.8	4.1	8.9	14.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	25.8	12.7	20.8	4.1	8.9	14.6	3.0
Queue Length 50th (ft)	84	161	1	116	0	3	54	0
Queue Length 95th (ft)	158	232	5	172	38	20	147	41
Internal Link Dist (ft)		3893		1270		729	1301	
Turn Bay Length (ft)	400		150		300			350
Base Capacity (vph)	501	1257	346	1257	1199	842	656	978
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.37	0.01	0.28	0.36	0.04	0.38	0.39

Intersection Summary

