MEMORANDUM

November 30, 2022

TO: City of Crest Hill

ATTN: Ron Wiedeman, PE – City Engineer

FROM: Christopher B. Burke Engineering, Ltd.

SUBJECT: Traffic Analysis Report – Theodore Street & Gaylord Road/ Cedarwood Drive
Crest Hill, Illinois
(CBBEL Project No.: 22-0585)

1. Introduction

Christopher B. Burke Engineering, Ltd. (CBBEL) was retained by the City of Crest Hill to perform a traffic analysis at the intersection of Theodore Street at Gaylord Road/Cedarwood Drive to evaluate the intersection and confirm the City's proposed striping improvement will not have undesirable effects on the traffic operations. CBBEL analyzed the existing conditions and two (2) alternatives proposed by the city for the intersection.

2. Existing conditions

Theodore Street at Gaylord Road/Cedarwood Drive is a signalized intersection, located in the City of Crest Hill. Theodore Street runs east-west within the study limits, with a speed limit of 30 mph, and is under the jurisdiction of the City of Crest Hill. Gaylord Road/Cedarwood Drive runs north-south, with a speed limit of 30 mph, and is under the jurisdiction of the City of Crest Hill. See Exhibit 1 for the location map.

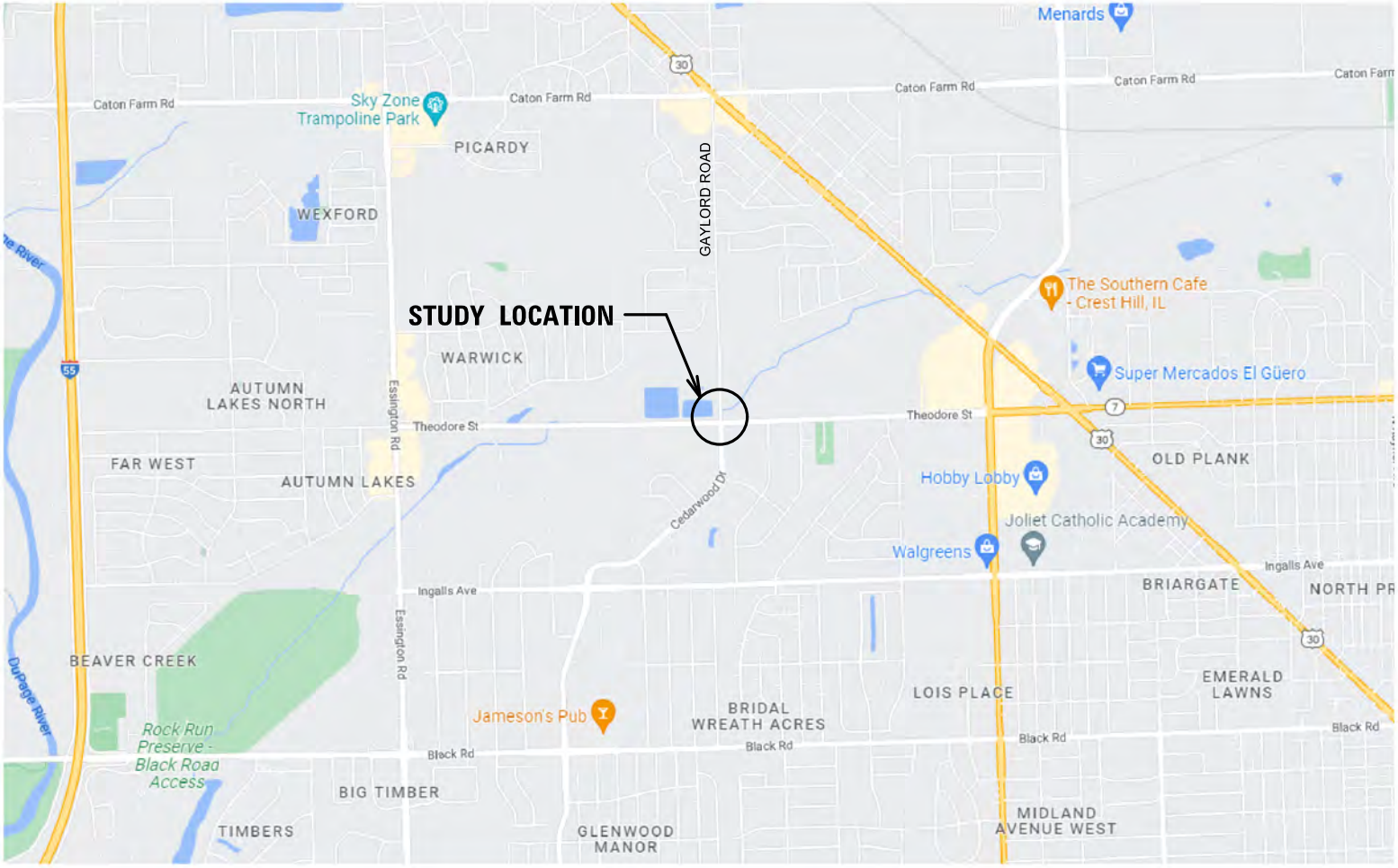
The current intersection geometry consists of one shared through/left turn lane and one shared through/right turn lane per direction along Theodore Street; and one left turn lane and one shared through/right turn lane per direction along Gaylord Road/Cedarwood Drive. There is existing combination curb and gutter along all four approaches.

The existing signal phasing consists of protected-permitted left turns for the northbound, southbound, and westbound directions; and permitted left turn in the eastbound direction. In addition, there are existing pedestrian signals and crosswalks across all four (4) approaches, with countdown pedestrian signals only across the westbound direction of the north leg.

Traffic counts were conducted on October 27, 2022 and utilized for the existing capacity analysis models. The 2050 traffic projections were developed, coordinated with CMAP, and utilized for the proposed conditions of the traffic analysis. See Exhibit 2 and Exhibit 3.

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W Higgins Road, Suite 600 Rosemont, Illinois 60018-4920 Tel (847) 823-0500 Fax (847) 823-0520

N.T.S.



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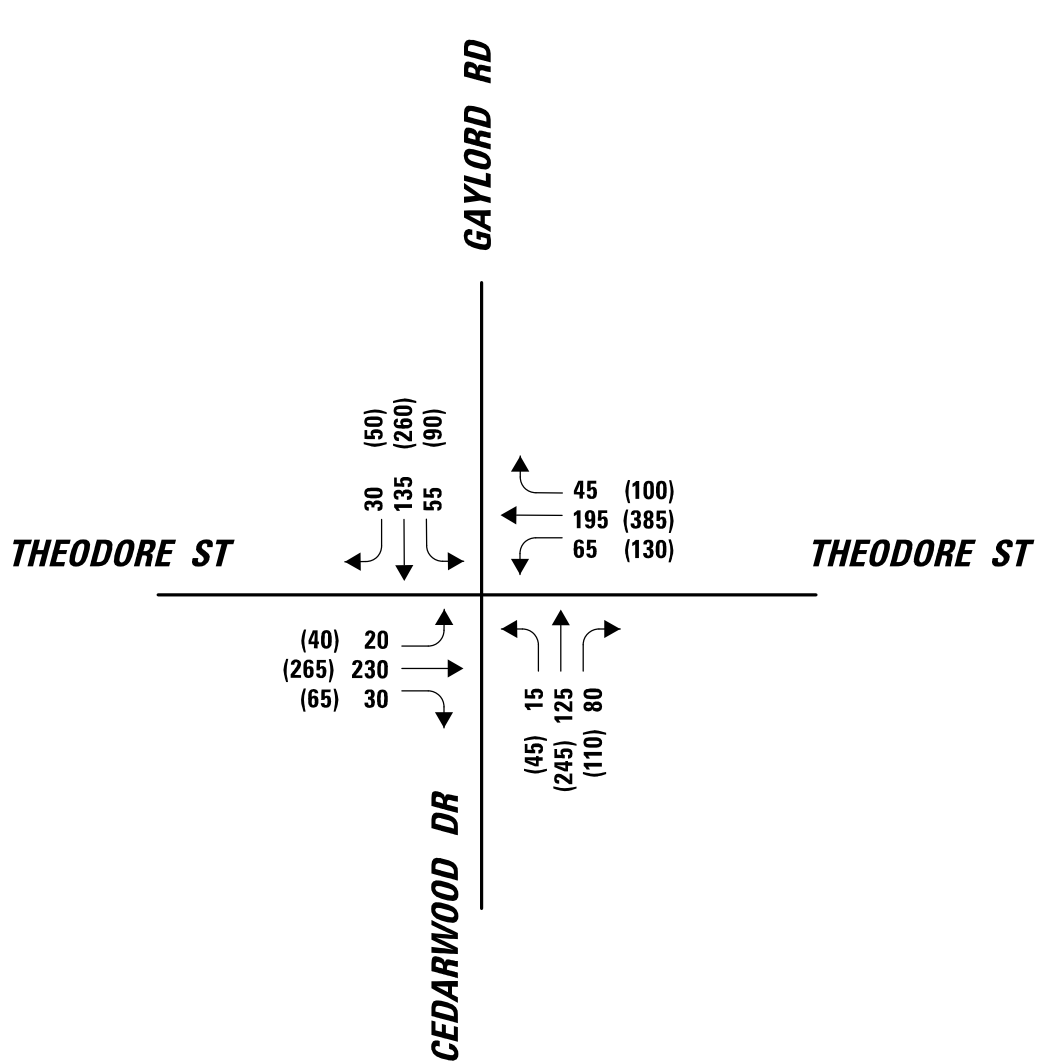
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT: **CITY OF CREST HILL, WILL COUNTY**

TITLE: **THEODORE STREET & GAYLORD ROAD/CEDARWOOD DRIVE LOCATION MAP**

PROJECT NO. 220585
DATE: 11/10/2022
SHEET NO. **EXHIBIT – 1**

N:\CRESTHILL\220585\Traffic\Exhibits\EXH2_VOL_Theodore_Gaylord.dgn



LEGEND:
= A.M. PEAK HOUR VOLUMES (7:00–8:00 AM)
(##) = P.M. PEAK HOUR VOLUMES (4:30–5:30 PM)

DATE OF COUNTS: OCTOBER 27, 2022

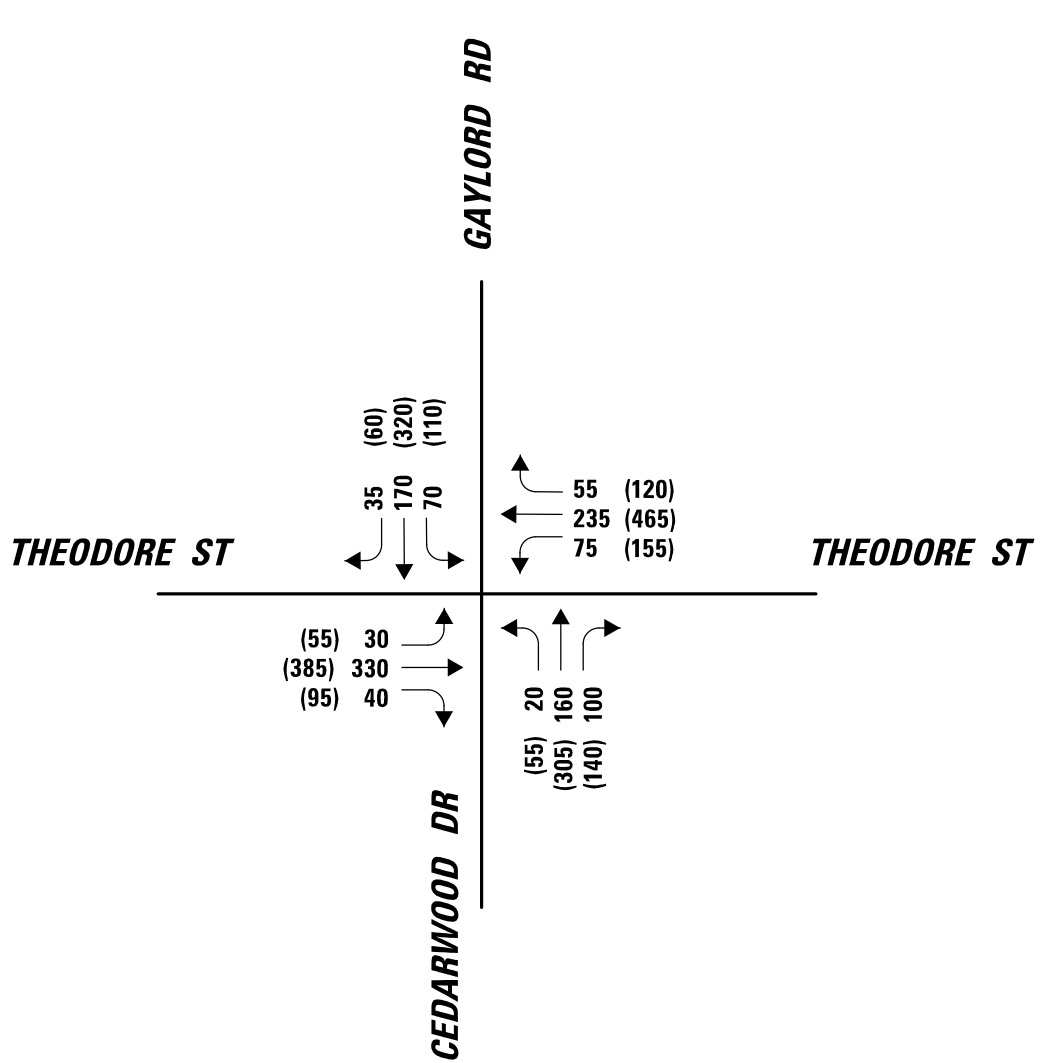
CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT: **CITY OF CREST HILL, WILL COUNTY**

TITLE: **THEODORE STREET & GAYLORD ROAD/CEDARWOOD DRIVE EXISTING TRAFFIC VOLUMES**

PROJECT NO. 220585
DATE: 11/10/2022
SHEET NO. **EXHIBIT – 2**

N:\CRESTHILL\220585\Traffic\Exhibits\EXH2_VOL_Theodore_Gaylord.dgn



LEGEND:
= A.M. PEAK HOUR VOLUMES (7:00–8:00 AM)
(##) = P.M. PEAK HOUR VOLUMES (4:30–5:30 PM)

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Rosemont, Illinois 60018
(847) 823-0500

CLIENT: **CITY OF CREST HILL, WILL COUNTY**

TITLE: **THEODORE STREET & GAYLORD ROAD/CEDARWOOD DRIVE 2050 TRAFFIC VOLUMES**

PROJECT NO. 220585
DATE: 11/15/2022
SHEET NO. **EXHIBIT – 3**

N:\CRESTHILL\220585\Traffic\Exhibits\EXH3_2050 VOL_Theodore_Gaylord.dgn

According to 2019 IDOT data, the existing Theodore Street west approach ADT was 5,850 vehicles per day (vpd), and 11,500 vpd on the east approach of the intersection. The existing 2019 IDOT ADT along Gaylord Road/Cedarwood Drive is 7,300 vpd on the north and south approaches of the intersection.

3. Capacity Analysis

CBBEL utilized existing and 2050 projected volumes from the traffic counts to perform the capacity analysis of existing and proposed conditions at Theodore Street at Gaylord Road/Cedarwood Drive. See Exhibits 4-6 for the existing and proposed layouts.

The proposed conditions include two (2) alternatives:

1. Split phase eastbound/westbound with existing geometry.
2. Proposed 150-foot left turn lane striping with a single shared through/right turn lane eastbound/westbound and protected-permitted left turn phasing all four (4) directions.

Table 1 & Table 2 illustrate the results of the capacity analysis for existing and proposed conditions.

Table 1 – Existing Level of Service and Delay (secs/veh)

Delay in Seconds/Vehicle	**Existing** *Existing Geometry Existing Volumes*		**No-Build** Existing Phasing *Existing Geometry 2050 Volumes*	
	AM	PM	AM	PM
Eastbound Approach	D – 48.8	D – 35.6	D – 44.5	C – 29.7
LT Movement LOS	--	--	--	--
Thru/LT Movement LOS	D	D	D	C
Thru/RT Movement LOS	D	C	D	C
Westbound Approach	E – 56.1	D – 44.0	D – 50.5	C – 36.5
LT Movement LOS	--	--	--	--
Thru/LT Movement LOS	E	D	E	D
Thru/RT Movement LOS	D	D	D	C
Northbound Approach	A – 7.8	B – 18.6	B – 11.3	D – 32.1
LT Movement LOS	A	B	A	C
Thru/RT Movement LOS	A	B	B	C
Southbound Approach	A – 7.2	B – 16.6	B – 10.2	C – 26.7
LT Movement LOS	A	B	A	C
Thru/RT Movement LOS	A	B	B	C
Intersection LOS & Delay (secs/veh)	**C – 33.2**	**C – 30.4**	**C – 32.0**	**C – 31.8**

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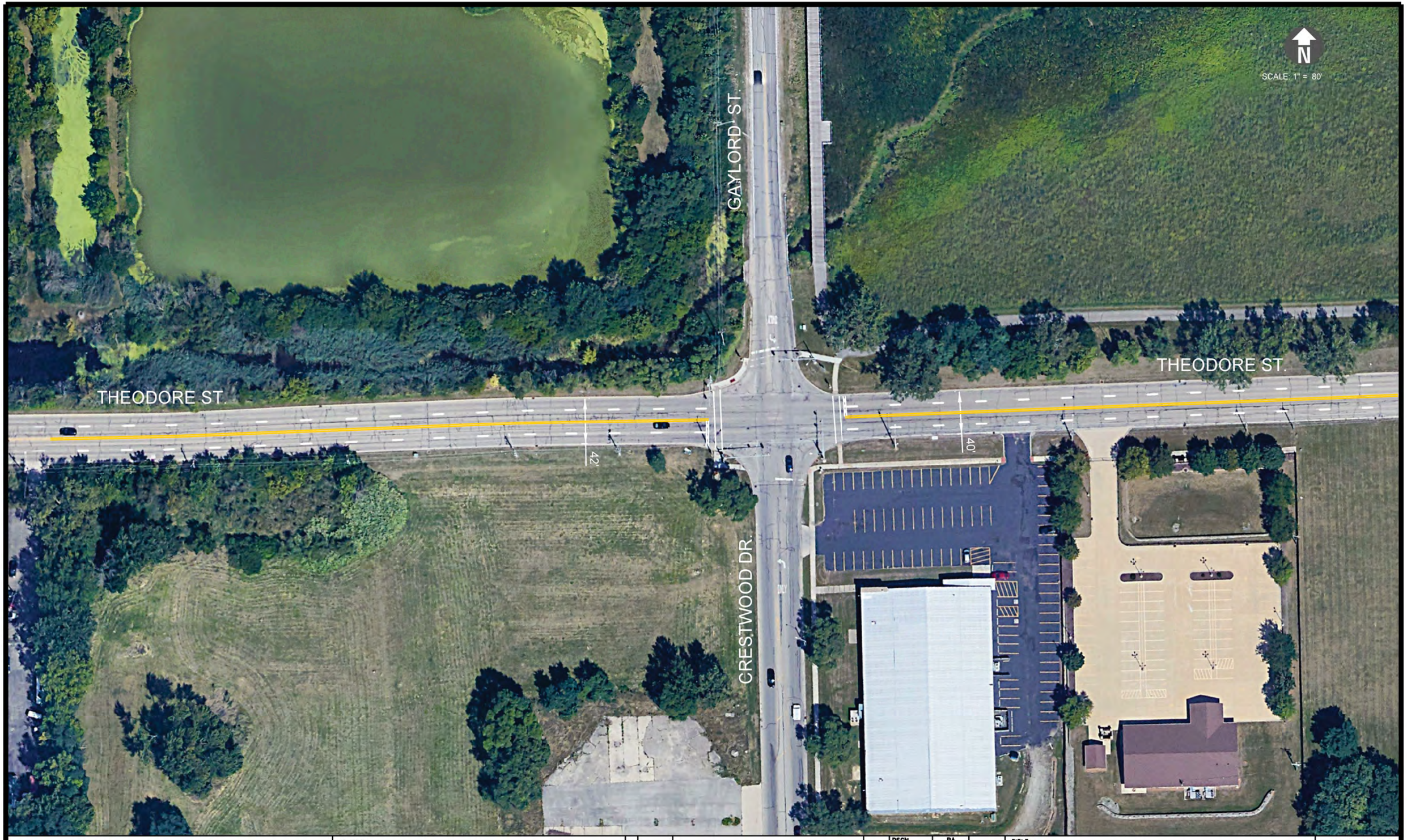

CHRISTOPHER B. BURKE ENGINEERING, LTD.
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Rosemont, Illinois 60018
(847) 823-0500

CLIENT:

CITY OF CRESTHILL
1610 PLAINFIELD ROAD
CRESTHILL, ILLINOIS

NO.	DATE	NATURE OF REVISION	CHKD.

FILE NAME: N:\CRESTHILL\220585\Traffic\Exhibits\EXH-220585_EXISTING.dgn

DSGN.	PA
DWN.	FPB
CHKD.	GMZ
SCALE:	1" = 80'
PLOT DATE:	11/30/2022
CAD USER:	fbarlso
MODEL:	Default

TITLE:

EXISTING CONDITION
THEODORE ST. AND CRESTWOOD DR./GAYLORD ST.
CRESTHILL, ILLINOIS

PROJ. NO.	220585
DATE:	11/30/2022
SHEET	1 OF 3
DRAWING NO.	EXH 4

CHRISTOPHER B. BURKE ENGINEERING, LTD.
9575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

CLIENT:

CITY OF CRESTHILL
1610 PLAINFIELD ROAD
CRESTHILL, ILLINOIS

NO.	DATE	NATURE OF REVISION	CHKD.
FILE NAME	N:\CRESTHILL\220585\Traffic\Exhibits\EXH-220585_ALT-04.dgn		

DSGN.	PA
DWN.	FPB
CHKD.	GMZ
SCALE:	1" = 80'
PLOT DATE:	11/30/2022
CAD USER:	tbarlso
MODEL:	Default

TITLE:

ALTERNATIVE 1 – SPLIT PHASE EB / WB
THEODORE ST. AND CRESTWOOD DR./GAYLORD ST.
CRESTHILL, ILLINOIS

PROJ. NO.	220585
DATE:	11/30/2022
SHEET	2 OF 3
DRAWING NO.	EXH 5

N

SCALE: 1" = 80'

WHITE ARROW AND ONLY SYMBOL

DIAGONALS SPACED AT 50 FT. (5 MIN.)

4" (WHITE) SKIP-DASH 2' LINE 6' SPACE

2-4" 11"C-C (YELLOW)

GAYLORD ST.

THEODORE ST.

100' 50' 75' 50' 180'

THEODORE ST.

180' 100' 75' 50'

4" WHITE LINE

CRESTWOOD DR.

2-4" 11"C-C (YELLOW)

4" WHITE LINE

4" (WHITE) SKIP-DASH 2' LINE 6' SPACE

DIAGONALS SPACED AT 50 FT. (5 MIN.)

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Rosemont, Illinois 60018
(847) 823-0500

CLIENT:

CITY OF CRESTHILL
1610 PLAINFIELD ROAD
CRESTHILL, ILLINOIS

NO.	DATE	NATURE OF REVISION	CHKD.
FILE NAME	N:\CRESTHILL\220585\Traffic\Exhibits\EXH-220585_ALT-02.dgn		

DSGN.	PA
DWN.	FPB
CHKD.	GMZ
SCALE:	1" = 80'
PLOT DATE:	11/30/2022
CAD USER:	fbarlso
MODEL:	Default

TITLE:

ALTERNATIVE 2 – PROPOSED STRIPING PLAN
THEODORE ST. AND CRESTWOOD DR./GAYLORD ST.
CRESTHILL, ILLINOIS

PROJ. NO.	220585
DATE:	11/30/2022
SHEET	3 OF 3
DRAWING NO.	EXH 6

Table 2 – Proposed Level of Service and Delay (secs/veh)

Delay in Seconds/Vehicle	**Alternative 1:** Proposed Split Phase EB/WB *Existing Geometry Existing Volumes*		**Alternative 1:** Proposed Split Phase EB/WB *Existing Geometry 2050 Volumes*		**Alternative 2:** Proposed EB/WB LTLs + LT Phasing *Proposed Geometry Existing Volumes*		**Alternative 2:** Proposed EB/WB LTLs + LT Phasing *Proposed Geometry 2050 Volumes*	
	AM	PM	AM	PM	AM	PM	AM	PM
Eastbound Approach	E – 58.4	E – 55.5	D – 54.6	D – 50.9	D – 51.5	D – 37.6	D – 46.1	D – 35.8
LT Movement LOS	--	--	--	--	D	C	C	C
Thru/LT Movement LOS	E	E	E	D	--	--	--	--
Thru/RT Movement LOS	E	D	D	D	D	D	D	D
Westbound Approach	E – 57.3	D – 48.0	E – 55.4	D – 44.9	D – 43.9	D – 39.7	D – 38.0	D – 37.0
LT Movement LOS	--	--	--	--	D	C	C	C
Thru/LT Movement LOS	E	D	E	D	--	--	--	--
Thru/RT Movement LOS	E	D	D	D	D	D	D	D
Northbound Approach	B – 14.7	C – 29.6	C – 20.5	E – 62.8	B – 13.8	C – 27.2	B – 20.0	D – 43.8
LT Movement LOS	B	C	B	C	B	B	B	C
Thru/RT Movement LOS	B	C	C	E	B	C	C	D
Southbound Approach	B – 13.7	C – 25.9	B – 18.3	D – 41.9	B – 12.8	C – 24.0	B – 17.9	C – 34.3
LT Movement LOS	B	C	B	C	B	B	B	C
Thru/RT Movement LOS	B	C	B	D	B	C	B	D
Intersection LOS & Delay (secs/veh)	**D – 39.1**	**D – 40.5**	**D – 40.0**	**D – 49.6**	**C – 32.8**	**C – 32.9**	**C – 32.4**	**D – 37.6**

4. Conclusion

CBBEL analyzed the intersection of Theodore Street at Gaylord Road/Cedarwood for existing conditions and with proposed alternatives. Based on the HCS capacity analysis, it is recommended to provide exclusive left turn lanes eastbound and westbound with protected-permitted left turn phasing for all four (4) directions. It is not recommended to change the phasing to eastbound/westbound split phase (Alternative 1), as Alternative 2 results in the least increased delay by 12 seconds with proposed 2050 volume during the PM peak period.

The field photos, peak hour turning movement counts, CMAP concurrence letter, and existing and proposed capacity analyses are attached.

N:\CRESTHILL\220585\Traffic\Docs\Memo_Theodore & Gaylord_Cedarwood_11302022.docx

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THEODORE ST & GAYLORD RD/CEDARWOOD DR– PHOTO LOG

(PICTURES TAKEN 10-26-22 & 11-07-22 BY CBBEL Staff)

Photo 1 – Looking southeast at the intersection of Theodore St and Gaylord Rd/Cedarwood Dr

Photo 2 – Looking west at the intersection of Theodore St and Gaylord Rd/Cedarwood Dr

THEODORE ST & GAYLORD RD/CEDARWOOD DR– PHOTO LOG

(PICTURES TAKEN 10-26-22 & 11-07-22 BY CBBEL Staff)

Photo 3 – Looking east at the intersection of Theodore St and Gaylord Rd/Cedarwood Dr

Photo 4 – Looking north at the intersection of Theodore St and Gaylord Rd/Cedarwood Dr

THEODORE ST & GAYLORD RD/CEDARWOOD DR– PHOTO LOG

(PICTURES TAKEN 10-26-22 & 11-07-22 BY CBBEL Staff)

Photo 5 – Looking north at the intersection of Theodore St and Gaylord Rd/Cedarwood Dr

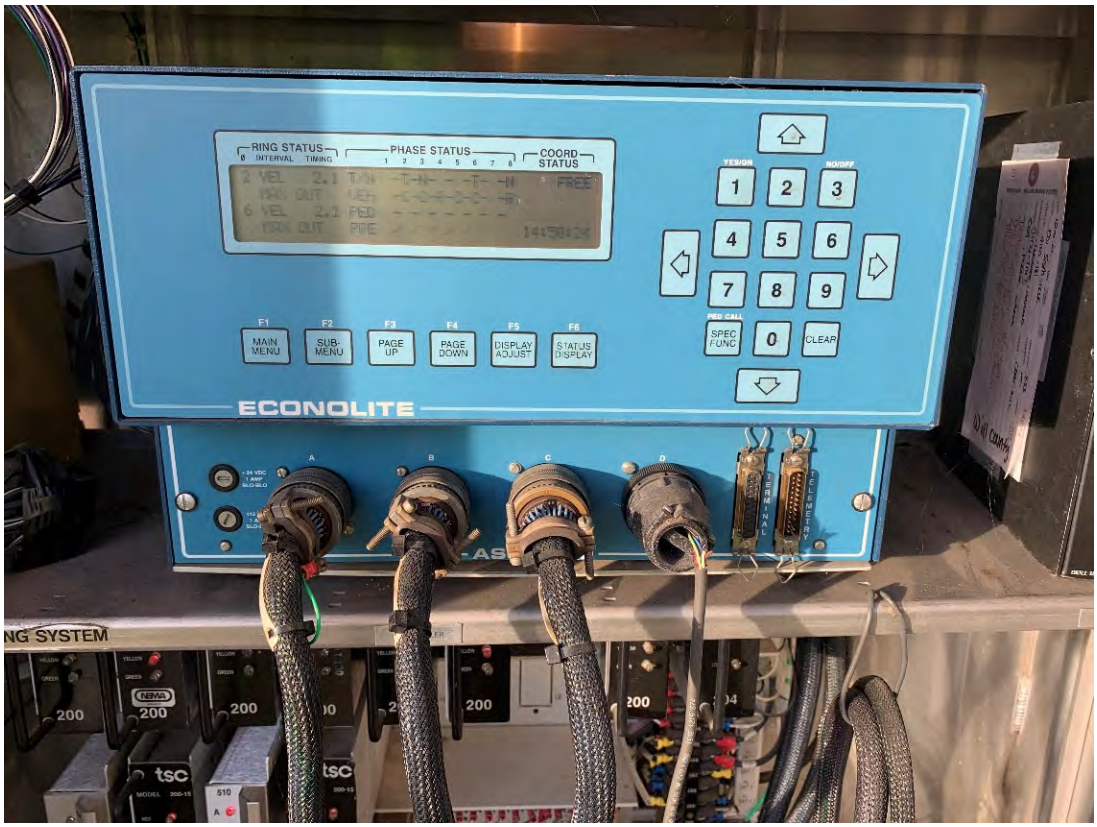


Photo 6 – Controller

THEODORE ST & GAYLORD RD/CEDARWOOD DR– PHOTO LOG

(PICTURES TAKEN 10-26-22 & 11-07-22 BY CBBEL Staff)

Photo 7 – Controller Cabinet

Photo 8 – Controller Cabinet

Theodore St & Gaylord Rd/Cedarwood Dr
Crest Hill Illinois
Thursday, October 27, 2022

Time	Southbound Gaylord Rd						Westbound Theodore St						Northbound Cedarwood Dr						Eastbound Theodore St						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
6:00 AM	0	11	5	4	0	*20*	0	2	16	14	0	*32*	0	1	27	8	0	*36*	0	4	25	2	0	*31*	**119**
6:15 AM	0	5	10	3	0	*18*	0	6	26	7	0	*39*	0	1	30	4	0	*35*	0	4	29	2	0	*35*	**127**
6:30 AM	0	4	20	6	0	*30*	0	12	21	13	0	*46*	0	6	38	12	0	*56*	0	6	42	4	0	*52*	**184**
6:45 AM	0	7	23	4	0	*34*	0	13	18	16	0	*47*	0	1	24	16	0	*41*	0	4	38	3	0	*45*	**167**
Hourly Total	0	27	58	17	0	*102*	0	33	81	50	0	*164*	0	9	119	40	0	*168*	0	18	134	11	0	*163*	**597**
7:00 AM	0	8	17	5	0	*30*	0	11	24	8	0	*43*	0	6	23	16	0	*45*	0	2	33	5	0	*40*	**158**
7:15 AM	0	18	33	4	0	*55*	0	14	37	12	1	*63*	0	4	31	22	0	*57*	0	3	51	5	0	*59*	**234**
7:30 AM	0	15	41	10	0	*66*	0	22	69	14	0	*105*	0	1	41	20	0	*62*	0	6	83	9	0	*98*	**331**
7:45 AM	0	16	44	10	0	*70*	0	16	66	11	0	*93*	0	4	32	22	0	*58*	0	8	61	9	0	*78*	**299**
Hourly Total	0	57	135	29	0	*221*	0	63	196	45	1	*304*	0	15	127	80	0	*222*	0	19	228	28	0	*275*	**1022**
4:00 PM	0	21	48	15	0	*84*	0	26	91	19	0	*136*	0	7	59	30	0	*96*	0	8	77	10	0	*95*	**411**
4:15 PM	0	15	65	16	0	*96*	0	27	81	31	0	*139*	0	13	73	28	0	*114*	0	5	55	13	0	*73*	**422**
4:30 PM	0	16	64	16	0	*96*	0	32	75	15	0	*122*	0	14	64	26	0	*104*	0	10	70	14	0	*94*	**416**
4:45 PM	0	24	67	7	0	*98*	0	37	111	28	0	*176*	0	4	51	29	0	*84*	0	13	61	17	0	*91*	**449**
Hourly Total	0	76	244	54	0	*374*	0	122	358	93	0	*573*	0	38	247	113	0	*398*	0	36	263	54	0	*353*	**1698**
5:00 PM	0	33	64	13	0	*110*	0	27	96	32	0	*155*	0	13	69	34	0	*116*	0	7	65	17	0	*89*	**470**
5:15 PM	0	16	63	13	0	*92*	0	34	104	23	0	*161*	0	15	63	22	0	*100*	0	9	69	18	0	*96*	**449**
5:30 PM	0	27	68	7	0	*102*	0	36	68	26	0	*130*	0	8	56	30	0	*94*	0	8	54	11	0	*73*	**399**
5:45 PM	0	27	64	13	0	*104*	0	24	85	28	0	*137*	0	13	50	25	0	*88*	0	9	68	5	0	*82*	**411**
Hourly Total	0	103	259	46	0	*408*	0	121	353	109	0	*583*	0	49	238	111	0	*398*	0	33	256	51	0	*340*	**1729**
DAILY TOTAL	**0**	**263**	**696**	**146**	**0**	***1105***	**0**	**339**	**988**	**297**	**1**	***1624***	**0**	**111**	**731**	**344**	**0**	***1186***	**0**	**106**	**881**	**144**	**0**	***1131***	**5046**
Cars	0	262	692	144	0	*1098*	0	335	952	296	1	*1583*	0	110	727	340	0	*1177*	0	104	848	143	0	*1095*	**4953**
Heavy Vehicles	0	1	4	2	0	*7*	0	4	36	1	0	*41*	0	1	4	4	0	*9*	0	2	33	1	0	*36*	**93**
Heavy Vehicle %	0.00%	0.38%	0.57%	1.37%	0.00%	*0.63%*	0.00%	1.18%	3.64%	0.34%	0.00%	*2.52%*	0.00%	0.90%	0.55%	1.16%	0.00%	*0.76%*	0.00%	1.89%	3.75%	0.69%	0.00%	*3.18%*	**1.84%**

Theodore St & Gaylord Rd/Cedarwood Dr
Crest Hill Illinois
Thursday, October 27, 2022

AM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
7:00 AM	0	8	17	5	0	*30*	0	11	24	8	0	*43*	0	6	23	16	0	*45*	0	2	33	5	0	*40*	**158**
7:15 AM	0	18	33	4	0	*55*	0	14	37	12	1	*63*	0	4	31	22	0	*57*	0	3	51	5	0	*59*	**234**
7:30 AM	0	15	41	10	0	*66*	0	22	69	14	0	*105*	0	1	41	20	0	*62*	0	6	83	9	0	*98*	**331**
7:45 AM	0	16	44	10	0	*70*	0	16	66	11	0	*93*	0	4	32	22	0	*58*	0	8	61	9	0	*78*	**299**
Peak Hour Total	0	57	135	29	0	*221*	0	63	196	45	1	*304*	0	15	127	80	0	*222*	0	19	228	28	0	*275*	**1022**
PHF	0.000	0.792	0.767	0.725	0.000	*0.789*	0.000	0.716	0.710	0.804	0.250	*0.724*	0.000	0.625	0.774	0.909	0.000	*0.895*	0.000	0.594	0.687	0.778	0.000	*0.702*	**0.772**

PM Peak Hour

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	*Vehicle Approach Total*	
4:30 PM	0	16	64	16	0	*96*	0	32	75	15	0	*122*	0	14	64	26	0	*104*	0	10	70	14	0	*94*	**416**
4:45 PM	0	24	67	7	0	*98*	0	37	111	28	0	*176*	0	4	51	29	0	*84*	0	13	61	17	0	*91*	**449**
5:00 PM	0	33	64	13	0	*110*	0	27	96	32	0	*155*	0	13	69	34	0	*116*	0	7	65	17	0	*89*	**470**
5:15 PM	0	16	63	13	0	*92*	0	34	104	23	0	*161*	0	15	63	22	0	*100*	0	9	69	18	0	*96*	**449**
Peak Hour Total	0	89	258	49	0	*396*	0	130	386	98	0	*614*	0	46	247	111	0	*404*	0	39	265	66	0	*370*	**1784**
PHF	0.000	0.674	0.963	0.766	0.000	*0.900*	0.000	0.878	0.869	0.766	0.000	*0.872*	0.000	0.767	0.895	0.816	0.000	*0.871*	0.000	0.750	0.946	0.917	0.000	*0.964*	**0.949**

Total Vehicles On Leg			2239		
Vehicles Entering Intersection 1105			Vehicles Exiting Intersection 1134		
Southbound					
Cars	144	692	262	0	0
Heavy	2	4	1	0	0
Total	**146**	**696**	**263**	**0**	**0**

Total Vehicles on Leg 2376	Vehicles Entering Intersection 1131	**Eastbound**	Cars	Heavy	**Total**
			0	0	**0**
			0	0	**0**
	Vehicles Exiting Intersection 1245		104	2	**106**
			848	33	**881**
			143	1	**144**

Daily Volumes

Cars	Heavy	**Total**	**Westbound**	Vehicles Entering Intersection 1624	Total Vehicles on Leg 3112
296	1	**297**			
952	36	**988**			
335	4	**339**		Vehicles Exiting Intersection 1488	
0	0	**0**			
1	0	**1**			

Cars	0	0	110	727	340
Heavy	0	0	1	4	4
Total	**0**	**0**	**111**	**731**	**344**
Northbound					
Vehicles Entering Intersection 1186			Vehicles Exiting Intersection 1179		
Total Vehicles On Leg			2365		

Chicago Metropolitan Agency for Planning

433 West Van Buren Street
Suite 450
Chicago, IL 60607

312-454-0400
cmap.illinois.gov

November 15, 2022

Hon. Ray Soliman
Mayor
City of Crest Hill
1610 Plainfield Road
Crest Hill, IL 60403

Subject: ***Theodore Street @ Gaylord Road / Cedarwood Drive***
City of Crest Hill

Dear Mayor Soliman:

In response to a request made on your behalf and dated November 14, 2022, we have reviewed and concur with your consultant's year 2050 average daily traffic (ADT) projections for the subject location.

Traffic projections are developed using existing ADT data provided in the request letter and the results from the October 2022 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area.

If you have any questions, please call me at (312) 386-8806.

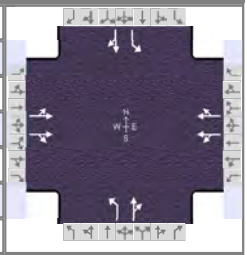
Sincerely,

Jose Rodriguez, PTP, AICP
Senior Planner, Research & Analysis

cc: Andrews (CBBEL)
2022_ForecastTraffic\CrestHill\wi-42-22\wi-42-22.docx

HCS Signalized Intersection Results Summary

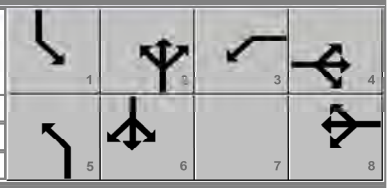
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - Existing_AM.xus		
Project Description	Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	230	30	65	195	45	15	125	80	55	135	30

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	80.1	19.9	0.0	0.0	0.0
Yellow	3.5	4.0	4.0	0.0	0.0	0.0
Red	0.5	2.0	2.0	0.0	0.0	0.0



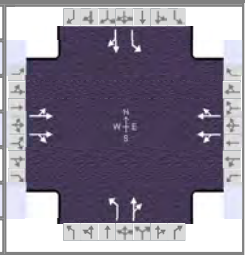
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		8.3	0.0	14.2	1.1	4.0	1.1	4.0
Phase Duration, s		25.9	0.0	25.9	8.0	86.1	8.0	86.1
Change Period, (*Y+R c*), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.2	0.0	5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (*g s*), s		15.8		14.3	2.3		3.2	
Green Extension Time (*g e*), s		4.0	0.0	4.0	0.0	0.0	0.1	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	147		147	151		170	16	216		58	174	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1345		1561	876		1556	1711	1761		1810	1825	
Queue Service Time (*g s*), s	1.4		10.4	6.0		12.3	0.3	5.6		1.2	4.2	
Cycle Queue Clearance Time (*g c*), s	13.8		10.4	12.0		12.3	0.3	5.6		1.2	4.2	
Green Ratio (*g/C*)	0.17		0.17	0.17		0.17	0.70	0.67		0.70	0.67	
Capacity (*c*), veh/h	258		260	189		259	852	1174		835	1217	
Volume-to-Capacity Ratio (*X*)	0.570		0.567	0.796		0.657	0.019	0.184		0.069	0.143	
Back of Queue (*Q*), ft/ln (95 th percentile)	195.8		191	221.6		218.4	5.4	96.7		19.3	75.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	7.8		7.6	8.7		8.7	0.2	3.8		0.8	3.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.05	0.00		0.48	0.00	
Uniform Delay (*d 1*), s/veh	45.9		46.0	51.9		46.8	5.5	7.6		5.8	7.4	
Incremental Delay (*d 2*), s/veh	2.8		2.8	10.3		4.0	0.0	0.3		0.0	0.2	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	48.7		48.8	62.2		50.8	5.5	7.9		5.9	7.6	
Level of Service (LOS)	D		D	E		D	A	A		A	A	
Approach Delay, s/veh / LOS	48.8		D	56.1		E	7.8		A	7.2		A
Intersection Delay, s/veh / LOS	33.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.95	B	2.06	B	2.06	B
Bicycle LOS Score / LOS	0.73	A	0.75	A	0.87	A	0.87	A

HCS Signalized Intersection Results Summary

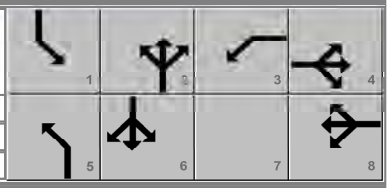
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - Existing_PM.xus		
Project Description	Existing				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	265	65	130	385	100	45	245	110	90	260	50

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	1.2	61.8	37.0	0.0	0.0
Yellow	3.5	0.0	4.0	4.0	0.0	0.0
Red	0.5	0.0	2.0	2.0	0.0	0.0



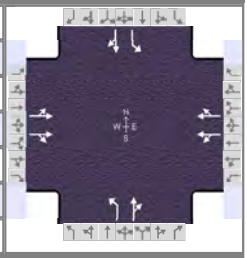
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		8.3	0.0	14.2	1.1	4.0	1.1	4.0
Phase Duration, s		43.0	0.0	43.0	8.0	67.8	9.2	69.0
Change Period, (*Y+R c*), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.3	0.0	5.3	3.7	0.0	3.7	0.0
Queue Clearance Time (*g s*), s		28.8		26.5	3.5		4.9	
Green Extension Time (*g e*), s		8.1	0.0	8.1	0.1	0.0	0.2	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.01		0.01	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	183		207	308		339	47	374		95	326	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	958		1619	1067		1612	1810	1800		1810	1846	
Queue Service Time (*g s*), s	5.0		12.1	6.0		22.1	1.5	15.3		2.9	12.3	
Cycle Queue Clearance Time (*g c*), s	26.8		12.1	24.5		22.1	1.5	15.3		2.9	12.3	
Green Ratio (*g/C*)	0.31		0.31	0.31		0.31	0.55	0.52		0.56	0.53	
Capacity (*c*), veh/h	333		501	373		499	551	925		531	967	
Volume-to-Capacity Ratio (*X*)	0.547		0.413	0.825		0.680	0.086	0.404		0.178	0.337	
Back of Queue (*Q*), ft/ln (95 th percentile)	221.8		212.7	367.4		347.3	26.9	270.9		54	230.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	8.9		8.5	14.6		13.9	1.1	10.8		2.2	9.2	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.23	0.00		1.35	0.00	
Uniform Delay (*d 1*), s/veh	35.9		32.8	43.5		36.2	13.4	17.9		13.5	16.5	
Incremental Delay (*d 2*), s/veh	2.0		0.8	6.5		2.3	0.0	1.3		0.1	0.9	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	37.8		33.6	50.0		38.6	13.5	19.2		13.7	17.5	
Level of Service (LOS)	D		C	D		D	B	B		B	B	
Approach Delay, s/veh / LOS	35.6		D	44.0		D	18.6		B	16.6		B
Intersection Delay, s/veh / LOS	30.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	2.09	B	2.09	B
Bicycle LOS Score / LOS	0.81	A	1.02	A	1.18	A	1.18	A

HCS Signalized Intersection Results Summary

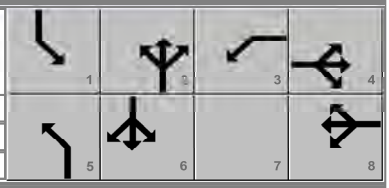
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 No Build_AM.xus		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	330	40	75	235	55	20	160	100	70	170	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	72.9	27.0	0.0	0.0	0.0
Yellow	3.5	4.0	4.0	0.0	0.0	0.0
Red	0.5	2.0	2.0	0.0	0.0	0.0



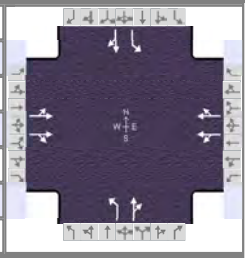
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		8.3	0.0	14.2	1.1	4.0	1.1	4.0
Phase Duration, s		33.0	0.0	33.0	8.0	78.9	8.0	79.0
Change Period, (*Y+R c*), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.3	0.0	5.3	3.7	0.0	3.7	0.0
Queue Clearance Time (*g s*), s		21.4		19.7	2.5		3.8	
Green Extension Time (*g e*), s		5.7	0.0	5.7	0.0	0.0	0.2	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	213		208	175		209	21	274		74	216	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1338		1564	780		1556	1711	1763		1810	1829	
Queue Service Time (*g s*), s	5.1		14.3	6.0		14.4	0.5	8.7		1.8	6.3	
Cycle Queue Clearance Time (*g c*), s	19.4		14.3	17.7		14.4	0.5	8.7		1.8	6.3	
Green Ratio (*g/C*)	0.23		0.23	0.23		0.23	0.64	0.61		0.64	0.61	
Capacity (*c*), veh/h	336		353	220		351	719	1071		720	1112	
Volume-to-Capacity Ratio (*X*)	0.632		0.591	0.798		0.595	0.029	0.256		0.102	0.194	
Back of Queue (*Q*), ft/ln (95 th percentile)	256.5		241.7	246		242.4	9.3	157.4		31.5	118.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	10.3		9.7	9.7		9.7	0.4	6.2		1.3	4.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.08	0.00		0.79	0.00	
Uniform Delay (*d 1*), s/veh	42.5		41.5	49.3		41.6	8.1	10.9		8.4	10.5	
Incremental Delay (*d 2*), s/veh	2.8		2.2	9.1		2.3	0.0	0.6		0.0	0.4	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	45.3		43.8	58.4		43.8	8.1	11.5		8.5	10.9	
Level of Service (LOS)	D		D	E		D	A	B		A	B	
Approach Delay, s/veh / LOS	44.5		D	50.5		D	11.3		B	10.2		B
Intersection Delay, s/veh / LOS	32.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	2.08	B	2.08	B
Bicycle LOS Score / LOS	0.83	A	0.80	A	0.97	A	0.97	A

HCS Signalized Intersection Results Summary

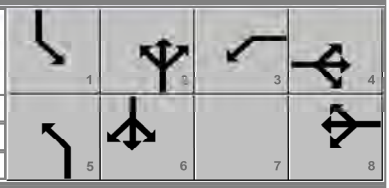
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 No Build_PM.xus		
Project Description	2050 No Build				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	385	95	155	465	120	55	305	140	110	320	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.4	2.4	48.2	49.1	0.0	0.0
Yellow	3.5	0.0	4.0	4.0	0.0	0.0
Red	0.5	0.0	2.0	2.0	0.0	0.0



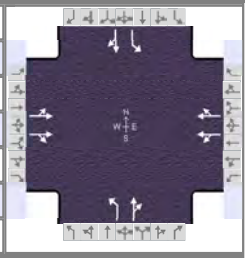
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4	3	8	5	2	1	6
Case Number		8.3	0.0	14.2	1.1	4.0	1.1	4.0
Phase Duration, s		55.1	0.0	55.1	8.4	54.2	10.7	56.6
Change Period, (*Y+R c*), s		6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.4	0.0	5.4	3.7	0.0	3.7	0.0
Queue Clearance Time (*g s*), s		37.6		34.5	4.2		6.4	
Green Extension Time (*g e*), s		11.5	0.0	11.7	0.1	0.0	0.3	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.13		0.11	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	270		293	350		429	58	468		116	400	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	990		1616	937		1617	1810	1798		1810	1847	
Queue Service Time (*g s*), s	10.2		15.7	6.0		25.6	2.2	25.3		4.4	19.2	
Cycle Queue Clearance Time (*g c*), s	35.6		15.7	32.5		25.6	2.2	25.3		4.4	19.2	
Green Ratio (*g/C*)	0.41		0.41	0.41		0.41	0.44	0.40		0.46	0.42	
Capacity (*c*), veh/h	441		661	427		661	369	723		339	779	
Volume-to-Capacity Ratio (*X*)	0.612		0.444	0.820		0.649	0.157	0.648		0.341	0.514	
Back of Queue (*Q*), ft/ln (95 th percentile)	292.2		255.6	397.4		382.7	43.2	432.6		85.7	344.8	
Back of Queue (*Q*), veh/ln (95 th percentile)	11.7		10.2	15.8		15.3	1.7	17.3		3.4	13.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.38	0.00		2.14	0.00	
Uniform Delay (*d 1*), s/veh	31.4		25.6	38.6		28.6	21.2	29.0		21.8	25.6	
Incremental Delay (*d 2*), s/veh	2.0		0.7	5.8		1.5	0.1	4.5		0.4	2.4	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	33.3		26.3	44.4		30.1	21.3	33.5		22.2	28.0	
Level of Service (LOS)	C		C	D		C	C	C		C	C	
Approach Delay, s/veh / LOS	29.7		C	36.5		D	32.1		C	26.7		C
Intersection Delay, s/veh / LOS	31.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.92	B	2.11	B	2.11	B
Bicycle LOS Score / LOS	0.95	A	1.13	A	1.36	A	1.34	A

HCS Signalized Intersection Results Summary

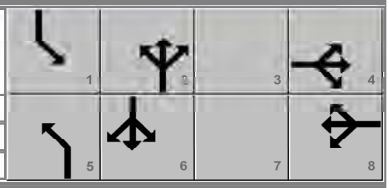
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Split Phase_AM_exist…		
Project Description	2050 Split Phase - Existing Volume				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	230	30	65	195	45	15	125	80	55	135	30

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	64.9	13.9	15.1	0.0	0.0
Yellow	3.5	4.0	4.0	4.0	0.0	0.0
Red	0.5	2.0	2.0	2.0	0.0	0.0



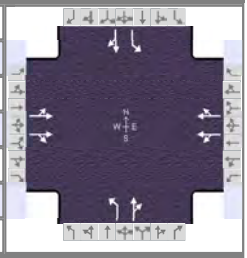
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		19.9		21.1	8.0	70.9	8.0	70.9
Change Period, ($Y+R_c$), s		6.0		6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.1		5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s		12.2		13.2	2.5		3.7	
Green Extension Time (g_e), s		1.7		2.0	0.0	0.0	0.1	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	156		139	170		151	16	216		58	174	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1769		1712	1761		1700	1711	1761		1810	1825	
Queue Service Time (g_s), s	10.2		9.4	11.2		10.2	0.5	7.7		1.7	5.8	
Cycle Queue Clearance Time (g_c), s	10.2		9.4	11.2		10.2	0.5	7.7		1.7	5.8	
Green Ratio (*g/C*)	0.12		0.12	0.13		0.13	0.57	0.54		0.57	0.54	
Capacity (*c*), veh/h	205		198	222		215	688	953		668	988	
Volume-to-Capacity Ratio (*X*)	0.758		0.701	0.764		0.706	0.023	0.226		0.087	0.176	
Back of Queue (*Q*), ft/ln (95 th percentile)	216.1		194.9	233.6		206.9	8.6	145		30.7	112.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	8.6		7.8	9.2		8.3	0.3	5.8		1.2	4.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.07	0.00		0.77	0.00	
Uniform Delay (d_1), s/veh	51.4		51.0	50.7		50.3	11.1	14.4		11.6	14.0	
Incremental Delay (d_2), s/veh	7.9		6.3	7.5		5.9	0.0	0.6		0.0	0.4	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	59.3		57.3	58.2		56.2	11.1	14.9		11.7	14.3	
Level of Service (LOS)	E		E	E		E	B	B		B	B	
Approach Delay, s/veh / LOS	58.4		E	57.3		E	14.7		B	13.7		B
Intersection Delay, s/veh / LOS	39.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.96	B	2.09	B	2.09	B
Bicycle LOS Score / LOS	0.73	A	0.75	A	0.87	A	0.87	A

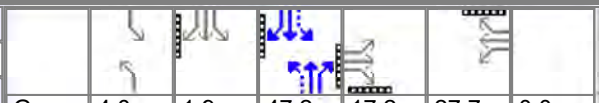
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Split Phase_PM_exist…		
Project Description	2050 Split Phase - Existing Volume				

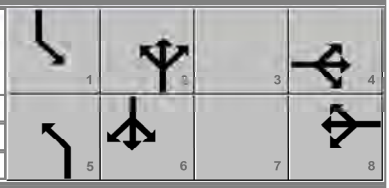


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	265	65	130	385	100	45	245	110	90	260	50

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.0	1.9	47.2	17.2	27.7	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	2.0	2.0	2.0	0.0



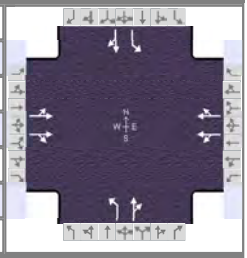
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		23.2		33.7	8.0	53.2	9.9	55.2
Change Period, ($Y+R_c$), s		6.0		6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.2		5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s		14.9		23.4	3.8		5.7	
Green Extension Time (g_e), s		2.3		4.3	0.1	0.0	0.2	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	207		182	345		303	47	374		95	326	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1866		1766	1834		1760	1810	1800		1810	1846	
Queue Service Time (g_s), s	12.9		11.8	21.4		19.2	1.8	19.1		3.7	15.2	
Cycle Queue Clearance Time (g_c), s	12.9		11.8	21.4		19.2	1.8	19.1		3.7	15.2	
Green Ratio (*g/C*)	0.14		0.14	0.23		0.23	0.43	0.39		0.44	0.41	
Capacity (*c*), veh/h	267		252	423		406	405	708		390	756	
Volume-to-Capacity Ratio (*X*)	0.777		0.721	0.815		0.745	0.117	0.528		0.243	0.431	
Back of Queue (*Q*), ft/ln (95 th percentile)	266.9		236.9	392.3		340.2	35.8	339.1		71.5	284.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	10.7		9.5	15.6		13.6	1.4	13.6		2.9	11.4	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.31	0.00		1.79	0.00	
Uniform Delay (d_1), s/veh	49.6		49.1	43.7		42.9	21.3	27.8		21.3	25.4	
Incremental Delay (d_2), s/veh	6.8		5.4	5.4		3.9	0.1	2.8		0.2	1.8	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	56.4		54.6	49.1		46.7	21.3	30.6		21.6	27.2	
Level of Service (LOS)	E		D	D		D	C	C		C	C	
Approach Delay, s/veh / LOS	55.5	E		48.0	D		29.6	C		25.9	C	
Intersection Delay, s/veh / LOS	40.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.96	B	2.11	B	2.11	B
Bicycle LOS Score / LOS	0.81	A	1.02	A	1.18	A	1.18	A

HCS Signalized Intersection Results Summary

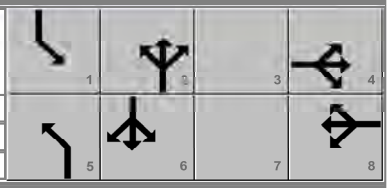
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Split Phase_AM.xus		
Project Description	2050 Split Phase				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	330	40	75	235	55	20	160	100	70	170	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	0.7	56.6	19.0	17.7	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	2.0	2.0	2.0	0.0



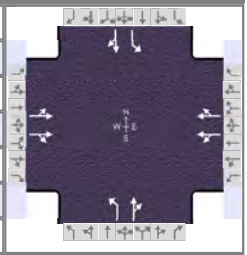
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		25.0		23.7	8.0	62.6	8.7	63.3
Change Period, ($Y+R_c$), s		6.0		6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.1		5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s		16.5		15.3	2.7		4.5	
Green Extension Time (g_e), s		2.5		2.4	0.0	0.0	0.2	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.00		0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	223		198	203		181	21	274		74	216	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1769		1716	1762		1698	1711	1763		1810	1829	
Queue Service Time (g_s), s	14.5		13.2	13.3		12.2	0.7	11.6		2.5	8.4	
Cycle Queue Clearance Time (g_c), s	14.5		13.2	13.3		12.2	0.7	11.6		2.5	8.4	
Green Ratio (*g/C*)	0.16		0.16	0.15		0.15	0.51	0.47		0.51	0.48	
Capacity (*c*), veh/h	280		272	260		251	554	832		551	873	
Volume-to-Capacity Ratio (*X*)	0.795		0.730	0.782		0.721	0.038	0.329		0.134	0.247	
Back of Queue (*Q*), ft/ln (95 th percentile)	282.4		252.1	267.3		235.1	13.9	218.8		46.8	168.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	11.3		10.1	10.5		9.4	0.5	8.7		1.9	6.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.12	0.00		1.17	0.00	
Uniform Delay (d_1), s/veh	48.6		48.1	49.3		48.8	15.3	19.8		15.6	18.6	
Incremental Delay (d_2), s/veh	7.1		5.3	7.1		5.5	0.0	1.1		0.1	0.7	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	55.7		53.4	56.4		54.3	15.3	20.9		15.7	19.3	
Level of Service (LOS)	E		D	E		D	B	C		B	B	
Approach Delay, s/veh / LOS	54.6		D	55.4		E	20.5		C	18.3		B
Intersection Delay, s/veh / LOS	40.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.96	B	2.10	B	2.10	B
Bicycle LOS Score / LOS	0.83	A	0.80	A	0.97	A	0.97	A

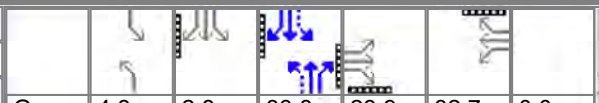
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Split Phase_PM.xus		
Project Description	2050 Split Phase				

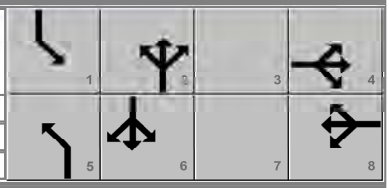


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	385	95	155	465	120	55	305	140	110	320	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.8	2.8	33.8	23.9	32.7	0.0
Yellow	3.5	0.0	4.0	4.0	4.0	0.0
Red	0.5	0.0	2.0	2.0	2.0	0.0



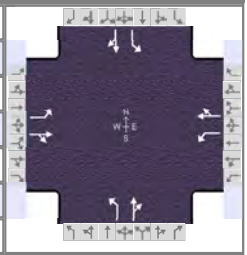
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8	5	2	1	6
Case Number		12.0		12.0	1.1	4.0	1.1	4.0
Phase Duration, s		29.9		38.7	8.8	39.8	11.6	42.6
Change Period, ($Y+R_c$), s		6.0		6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s		5.2		5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s		20.5		27.6	4.7		7.3	
Green Extension Time (g_e), s		3.4		5.1	0.1	0.0	0.3	0.0
Phase Call Probability		1.00		1.00	1.00		1.00	
Max Out Probability		0.01		0.03	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	301		262	416		363	58	468		116	400	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1867		1764	1834		1760	1810	1798		1810	1847	
Queue Service Time (g_s), s	18.5		16.7	25.6		22.7	2.7	30.4		5.3	23.0	
Cycle Queue Clearance Time (g_c), s	18.5		16.7	25.6		22.7	2.7	30.4		5.3	23.0	
Green Ratio (*g/C*)	0.20		0.20	0.27		0.27	0.32	0.28		0.35	0.31	
Capacity (*c*), veh/h	372		351	500		480	229	507		202	564	
Volume-to-Capacity Ratio (*X*)	0.811		0.746	0.831		0.757	0.253	0.924		0.575	0.709	
Back of Queue (*Q*), ft/ln (95 th percentile)	353.9		308	451.5		387.5	54.2	589.4		108.9	426.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	14.2		12.3	17.9		15.5	2.2	23.6		4.4	17.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00		0.00	0.00		0.00	0.47	0.00		2.72	0.00	
Uniform Delay (d_1), s/veh	45.9		45.2	41.0		40.0	30.7	41.8		31.5	37.0	
Incremental Delay (d_2), s/veh	6.0		4.5	5.2		3.5	0.4	24.9		1.9	7.4	
Initial Queue Delay (d_3), s/veh	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	51.9		49.7	46.2		43.5	31.1	66.7		33.4	44.4	
Level of Service (LOS)	D		D	D		D	C	E		C	D	
Approach Delay, s/veh / LOS	50.9		D	44.9		D	62.8		E	41.9		D
Intersection Delay, s/veh / LOS	49.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.96	B	2.13	B	2.12	B
Bicycle LOS Score / LOS	0.95	A	1.13	A	1.36	A	1.34	A

HCS Signalized Intersection Results Summary

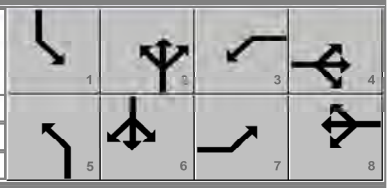
General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Proposed LTL_AM_e…		
Project Description	2050 Proposed LTL - Existing Volume				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	20	230	30	65	195	45	15	125	80	55	135	30

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.0	66.7	3.0	3.0	23.3	0.0
Yellow	3.5	4.0	4.0	0.0	4.0	0.0
Red	0.5	2.0	0.0	0.0	2.0	0.0



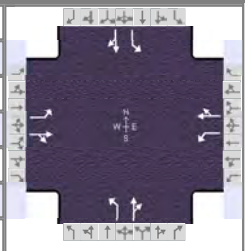
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.0	29.3	10.0	32.3	8.0	72.7	8.0	72.7
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.2	5.1	4.2	5.1	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s	3.1	20.0	5.6	17.9	2.5		3.6	
Green Extension Time (g_e), s	0.0	3.4	0.2	3.4	0.0	0.0	0.1	0.0
Phase Call Probability	0.50	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.00	0.00	0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	21	274		68	253		16	216		58	174	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1745		1781	1738		1711	1761		1810	1825	
Queue Service Time (g_s), s	1.1	18.0		3.6	15.9		0.5	7.4		1.6	5.6	
Cycle Queue Clearance Time (g_c), s	1.1	18.0		3.6	15.9		0.5	7.4		1.6	5.6	
Green Ratio (*g/C*)	0.22	0.19		0.25	0.22		0.59	0.56		0.59	0.56	
Capacity (*c*), veh/h	186	339		198	381		706	978		687	1014	
Volume-to-Capacity Ratio (*X*)	0.113	0.806		0.345	0.663		0.022	0.221		0.084	0.171	
Back of Queue (*Q*), ft/ln (95 th percentile)	22.3	349		74	303.9		8.2	139.6		29.4	108.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	13.1		2.9	11.5		0.3	5.5		1.2	4.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.15	0.00		0.49	0.00		0.07	0.00		0.73	0.00	
Uniform Delay (d_1), s/veh	37.9	46.2		36.4	42.8		10.4	13.5		10.9	13.1	
Incremental Delay (d_2), s/veh	0.1	6.3		1.0	2.8		0.0	0.5		0.0	0.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	38.0	52.5		37.5	45.6		10.4	14.0		10.9	13.5	
Level of Service (LOS)	D	D		D	D		B	B		B	B	
Approach Delay, s/veh / LOS	51.5	D		43.9	D		13.8	B		12.8	B	
Intersection Delay, s/veh / LOS	32.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.94	B	1.90	B	1.90	B
Bicycle LOS Score / LOS	0.97	A	1.02	A	0.87	A	0.87	A

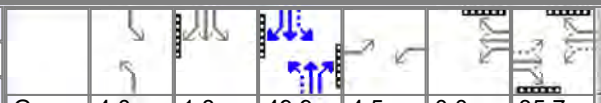
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Proposed LTL_PM_e…		
Project Description	2050 Proposed LTL - Existing Volume				

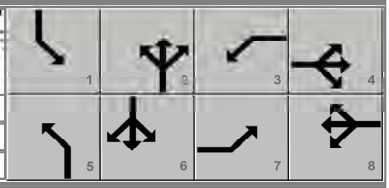


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	40	265	65	130	385	100	45	245	110	90	260	50

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.0	1.8	49.9	4.5	0.0	35.7
Yellow	3.5	0.0	4.0	4.0	3.5	4.0
Red	0.5	0.0	2.0	0.0	0.5	2.0



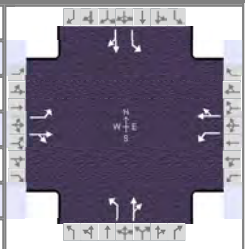
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	8.5	41.7	12.6	45.8	8.0	55.9	9.8	57.7
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.2	5.2	4.2	5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s	3.9	21.9	8.1	33.7	3.8		5.6	
Green Extension Time (g_e), s	0.1	6.3	0.5	6.1	0.1	0.0	0.2	0.0
Phase Call Probability	0.75	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.01	0.00	0.02	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	42	347		137	511		47	374		95	326	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1821		1795	1803		1810	1800		1810	1846	
Queue Service Time (g_s), s	1.9	19.9		6.1	31.7		1.8	18.4		3.6	14.7	
Cycle Queue Clearance Time (g_c), s	1.9	19.9		6.1	31.7		1.8	18.4		3.6	14.7	
Green Ratio (*g/C*)	0.34	0.30		0.39	0.33		0.45	0.42		0.46	0.43	
Capacity (*c*), veh/h	174	542		326	597		433	749		417	796	
Volume-to-Capacity Ratio (*X*)	0.242	0.641		0.420	0.854		0.109	0.499		0.227	0.410	
Back of Queue (*Q*), ft/ln (95 th percentile)	37.8	353.4		121.5	534.1		34.1	325.9		68.2	274.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.5	14.0		4.8	21.0		1.4	13.0		2.7	11.0	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.25	0.00		0.81	0.00		0.30	0.00		1.71	0.00	
Uniform Delay (d_1), s/veh	31.0	36.6		26.8	37.4		19.6	25.8		19.7	23.6	
Incremental Delay (d_2), s/veh	0.3	1.8		0.9	5.5		0.1	2.4		0.2	1.6	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.2	38.4		27.7	42.9		19.7	28.2		19.9	25.2	
Level of Service (LOS)	C	D		C	D		B	C		B	C	
Approach Delay, s/veh / LOS	37.6	D		39.7	D		27.2	C		24.0	C	
Intersection Delay, s/veh / LOS	32.9						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.93	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	1.13	A	1.56	B	1.18	A	1.18	A

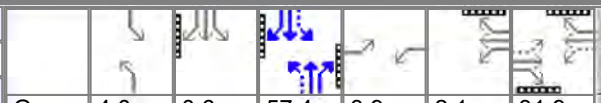
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	AM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Proposed LTL_AM.xus		
Project Description	2050 Proposed LTL				

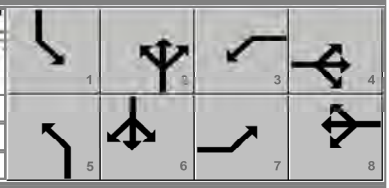


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	30	330	40	75	235	55	20	160	100	70	170	35

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.0	0.6	57.4	3.9	2.1	31.9
Yellow	3.5	0.0	4.0	4.0	0.0	4.0
Red	0.5	0.0	2.0	0.0	0.0	2.0



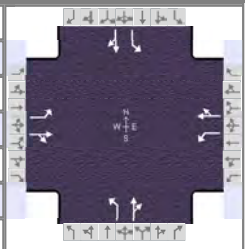
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	7.9	37.9	10.1	40.1	8.0	63.4	8.6	64.0
Change Period, ($Y+R_c$), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.2	5.1	4.2	5.1	3.7	0.0	3.7	0.0
Queue Clearance Time (g_s), s	3.5	27.3	5.8	20.3	2.7		4.5	
Green Extension Time (g_e), s	0.0	4.6	0.3	4.7	0.0	0.0	0.2	0.0
Phase Call Probability	0.65	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.00	0.00	0.00	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	32	389		79	305		21	274		74	216	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1747		1781	1737		1711	1763		1810	1829	
Queue Service Time (g_s), s	1.5	25.3		3.8	18.3		0.7	11.5		2.5	8.3	
Cycle Queue Clearance Time (g_c), s	1.5	25.3		3.8	18.3		0.7	11.5		2.5	8.3	
Green Ratio (*g/C*)	0.30	0.27		0.32	0.28		0.51	0.48		0.52	0.48	
Capacity (*c*), veh/h	244	465		205	493		562	843		559	884	
Volume-to-Capacity Ratio (*X*)	0.130	0.838		0.385	0.619		0.037	0.325		0.132	0.244	
Back of Queue (*Q*), ft/ln (95 th percentile)	29.8	455.4		78	334.5		13.7	216.5		46.1	166.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.2	17.1		3.1	12.7		0.5	8.6		1.8	6.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.20	0.00		0.52	0.00		0.12	0.00		1.15	0.00	
Uniform Delay (d_1), s/veh	31.5	41.6		32.2	37.3		14.9	19.3		15.2	18.1	
Incremental Delay (d_2), s/veh	0.1	5.7		1.2	1.8		0.0	1.0		0.1	0.7	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	31.6	47.3		33.3	39.1		14.9	20.4		15.3	18.8	
Level of Service (LOS)	C	D		C	D		B	C		B	B	
Approach Delay, s/veh / LOS	46.1	D		38.0	D		20.0	B		17.9	B	
Intersection Delay, s/veh / LOS	32.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.94	B	1.93	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	1.18	A	1.12	A	0.97	A	0.97	A

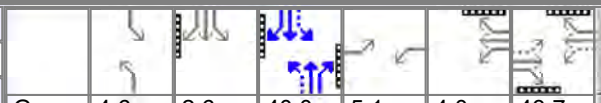
HCS Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	CBBEL			Duration, h	0.250
Analyst	Paula Andrews	Analysis Date	11/11/2022	Area Type	Other
Jurisdiction	Municipality	Time Period	PM	PHF	0.95
Urban Street	Theodore St	Analysis Year	2022	Analysis Period	1> 7:00
Intersection	Theodore St & Gaylord…	File Name	Theodore & Gaylord - 2050 Proposed LTL_PM.xus		
Project Description	2050 Proposed LTL				

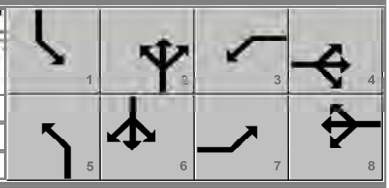


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	55	385	95	155	465	120	55	305	140	110	320	60

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.6	2.6	40.0	5.1	4.0	43.7
Yellow	3.5	0.0	4.0	4.0	0.0	4.0
Red	0.5	0.0	2.0	0.0	0.0	2.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.1	49.7	13.1	53.7	8.6	46.0	11.2	48.6
Change Period, (*Y+R c*), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Allow Headway (*MAH*), s	3.2	5.2	4.2	5.2	3.7	0.0	3.7	0.0
Queue Clearance Time (*g s*), s	4.4	31.3	8.5	39.5	4.5		6.9	
Green Extension Time (*g e*), s	0.1	8.6	0.6	8.2	0.1	0.0	0.3	0.0
Phase Call Probability	0.85	1.00	1.00	1.00	1.00		1.00	
Max Out Probability	0.00	0.10	0.00	0.15	0.00		0.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	58	505		163	616		58	468		116	400	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810	1820		1795	1804		1810	1798		1810	1847	
Queue Service Time (*g s*), s	2.4	29.3		6.5	37.5		2.5	28.2		4.9	21.4	
Cycle Queue Clearance Time (*g c*), s	2.4	29.3		6.5	37.5		2.5	28.2		4.9	21.4	
Green Ratio (*g/C*)	0.41	0.36		0.46	0.40		0.37	0.33		0.40	0.35	
Capacity (*c*), veh/h	193	663		304	717		289	599		261	656	
Volume-to-Capacity Ratio (*X*)	0.300	0.762		0.537	0.859		0.200	0.782		0.444	0.610	
Back of Queue (*Q*), ft/ln (95 th percentile)	46.1	488.4		129.2	617.1		49.4	499.9		98.2	388.3	
Back of Queue (*Q*), veh/ln (95 th percentile)	1.8	19.4		5.1	24.3		2.0	20.0		3.9	15.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.31	0.00		0.86	0.00		0.43	0.00		2.46	0.00	
Uniform Delay (*d 1*), s/veh	27.5	33.6		24.5	33.1		26.4	36.1		27.2	31.9	
Incremental Delay (*d 2*), s/veh	0.3	3.2		1.5	6.8		0.2	9.8		0.9	4.2	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	27.8	36.7		26.0	39.9		26.6	45.9		28.0	36.1	
Level of Service (LOS)	C	D		C	D		C	D		C	D	
Approach Delay, s/veh / LOS	35.8	D		37.0	D		43.8	D		34.3	C	
Intersection Delay, s/veh / LOS	37.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.93	B	1.92	B	1.93	B	1.93	B
Bicycle LOS Score / LOS	1.42	A	1.77	B	1.36	A	1.34	A