Appendix C: Traffic & Safety Analysis

US 401 Corridor Study
Wake and Harnett Counties

Traffic Analysis
July 2021

Prepared for:
Capital Area Metropolitan Planning Organization (CAMPO)

Prepared by:
WSP USA Inc - License # F-0165
434 Fayetteville Street Suite 1500, Raleigh, NC 27601

Introduction

WSP USA, Inc. (hereafter referred to as WSP) was contracted by the Capital Area Metropolitan Planning Organization (CAMPO) to perform a corridor study for the US 401 from US 421 near the Town of Lillington in Harnett County north to Banks Road in Wake County. This includes a future US 401 on a new location southeast of the Town of Fuquay-Varina. As part of this project, analysis was performed at intersection level for the study area intersections along the existing section of US 401 and at planning level to determine the configurations at the new crossing locations along Future US 401.

The following intersections are included in the study area:

Signalized:

1. US 401 at N Main Street/US 421
2. US 401 at Pine State Street
3. US 401 at Brightwater Drive/McKinney Parkway
4. US 401/S Main Street at Judd Parkway (South)
5. US 401/S Main Street at Vance Street
6. US 401/S Main Street at NC 42/SR 1107 (Academy Street)
7. US 401/NC 42/N Main Street at Wake Chapel Road
8. US 401/NC 42/N Main Street at N Ennis Street
9. US 401/NC 42/N Main Street at SR 1107 (Judd Parkway NE)
10. US 401/NC 42/NC 55/N Main Street at Shopping Center/Zaxby's Driveway
11. US 401/NC 42/NC 55/ N Main Street at Purefoy Road/Sunset Lake Road
12. US 401/NC 42/NC 55 at Lakestone Commons Avenue
13. US 401 at NC 55/NC 42 – being studied as part of the NCDOT STIP U-5751 project
14. US 401 at Mill Creek Drive/Ideal Lane
15. US 401 at Dwight Rowland Road
16. US 401 at SR 1375 (Lake Wheeler Road)
17. US 401 at SR 1393 (Hilltop Needmore Road)/Hilltop Road/Air Park Road
18. US 401 at SR 2724 (Banks Road)

Unsignalized:

1. US 401 at SR 1412 (Christian Light Road)
2. US 401 at Ballard Road
3. US 401 at SR 2215 (Harnett Central Road)
4. US 401 at SR 1403 (Kipling Road)
5. US 401 at Lafayette Road
6. US 401 at Lafayette School Road
7. US 401 at Chalybeate Road (South)
8. US 401 at Chalybeate Road (North)
9. US 401 at SR 1441 (East Williams Street)
10. US 401 at Spence Mill Road
11. US 401 at Rawls Church Road
12. US 401 at SR 1414 (Piney Grove Rawls Road)
13. US 401/S Main Street at Wagstaff Road

New Intersections along Future US 401

1. Future US 401 at Existing US 401/N Main Street
2. Future US 401 at NC 42

3. Future US 401 at Kennebec Road
4. Future US 401 at NC 55
5. Future US 401 at Purefoy Road
6. Future US 401 at US 401
7. US 401 at NC 55/NC 42 – being studied as part of the NCDOT STIP U-5751 project

Existing Conditions

The existing sections of US 401 within the study area has multiple configurations. Table 1 summarizes these conditions.

Table 1: Summary of Conditions along Existing US 401

Extents along US 401	Corridor Type	Cross-section	Speed Limit	2019 AADT[3]
Banks Road to NC 55/42	Principal Arterial	Four-lane Divided	55 mph[2]	31,000 North of Banks Road
				27,500 South of Banks Road
				23,500 South of Hilltop Needmore Road
NC 55/42 to Ennis Street	Principal Arterial	Five-lane with TWLTL[1]	35 mph	32,500 West of NC 55/42
				39,500 West of Sunset Lake Road/Purfoy Road
				21,000 West of Judd Parkway NE
				19,000 East of Ennis Street
Ennis Street to Vance Street	Principal Arterial	Three-lane with TWLTL	35 mph	12,000 West of Ennis Street
				18,000 North of Academy Street
				12,000 South of Academy Street
Vance Street to Arnold Lane	Principal Arterial	Two-lane	25/35 mph	9,000 South of Vance Street
Arnold Lane to Judd Parkway SE	Principal Arterial	Three-lane with TWLTL	35 mph	9,000 North of Judd Parkway SE
Judd Parkway SE to Wagstaff Road	Principal Arterial	Two-lane	35 mph	12,000 North of Wagstaff Road
Wagstaff Road to Harnett Co. Line	Principal Arterial	Two-lane	45 mph	8,900 North of Harnett Co. Line
Harnett Co. Line to Piney Grove Rawls Road	Principal Arterial	Two-lane	55 mph	7,200 North of Piney Grove Rawls Road
Piney Grove Rawls Road to Rawls Church Road	Principal Arterial	Three-lane with TWLTL	55 mph	7,200 North of Piney Grove Rawls Road
Rawls Church Road to Chalybeate Springs Road	Principal Arterial	Two-lane	55 mph	7,200 North of Piney Grove Rawls Road
				10,000 South of Chalybeate Springs Road
Chalybeate Springs Road to Lafayette Road	Principal Arterial	Two-lane	45 mph	10,000 North of Chalybeate Road (S)
Lafayette Road to Matthews Road	Principal Arterial	Two-lane	55 mph	9,800 North of Ballard Road
				12,000 West of Matthews Road
Matthews Road to NC 210/US 421	Principal Arterial	Four-lane Divided	35 mph	10,500 West of NC 210

[1]TWLTL – Two-way Left-Turn Lane
[2]mph – miles per hour
[3]AADT – Annual Average Daily Traffic

Volume Development

Given the current coronavirus-related challenges with collecting new and reliable data, previously collected turning movement counts, annual average daily traffic (AADT) data,

historical growth rates, and regional model data were used to develop existing and future traffic volume estimates for the intersections in the study area. Additionally, WSP used the Streetlight data provided by CAMPO.

The 2019 base year no-build traffic volumes for the study area intersections were developed using the available previously collected turning movement counts from other studies and the peak period and peak hour traffic volumes from the Streetlight data. While some adjustments were made to develop reasonable traffic volumes for each location, volumes were not balanced between intersections. The 2019 No-Build peak hour traffic volumes are shown in Figures 1A-1C. All figures referenced in this report are included in Appendix.

Historical AADT and model data were used to determine the appropriate annual growth rates for the roadways in the study area. Table 1 shows the historic AADT, model data and calculated as well applied growth rates for various roadways within the study area. The 2040 No-Build peak hour traffic volumes are shown in Figures 2A-2C.

To develop the traffic volumes for the existing study area intersections under the 2045 Build scenario, diversion percentages extracted from the model data were applied to the 2045 No-Build traffic volumes. The model data showed diversion of traffic at the intersections between the two ends of the bypass as well as at some intersections outside the limits. Additionally, some volumes were adjusted to maintain the volume imbalances from no-build were deemed appropriate. These applied traffic diversion percentages are shown in Figures 3A-3C. For the new location intersections along the Future US 401 corridor, the turning movement volumes were directly extracted from the model data. The 2045 Build traffic volumes are shown in Figure 4A-4C.

Planned Projects

The future year scenarios include the fiscally constrained projects in the study area as listed in the 2045 CAMPO Metropolitan Transportation Plan. The projects that impact the current study are listed in Table 2.

Table 2: Fiscally Constrained Projects in the Study Area

Horizon Year	Project ID	Roadway	Type of Improvement	Extents
2045	A539	Banks Road	Add a Center Turn Lane	From US 401 to Fanny Brown Road
2035	A619a	US 401/Fayetteville Road	Widen from 4 to 6 Lanes	Future NC 540 to Future US 401
2035	A619b	US 401/N Main Street	Widen from 4 to 6 Lanes	Future NC 401 to NC 55/42
2045	A224b	Johnson Pond Road (shows connection to US 401)	Add a Center Turn Lane	From US 401 to Hilltop Needmore Road
2035	A617a	Future US 401	New Roadway	From US 401/N Main Street/Fayetteville Road to Piney Grove Wilbon Road
2045	A664a	US 401/N Main Street	Superstreet Configuration	Lake Wheeler Road to Hilltop Needmore Road
2035	A664	Hilltop Road	Relocate	From Hilltop Needmore Road to Lake Wheeler Road
2045	A136d	Lake Wheeler Road	Widen from 2 to 4 Lanes	From Hilltop Needmore Road to US 401
2035	A679a	NC 55	Grade Separation	At US 401
2025	A619c	US 401/N Main Street	Median Installation	NC 55/42 to Judd Parkway
2035	A193a	Sunset Lake Road	Widen from 2 to 4 Lanes	US 401 to Hilltop Needmore Road
2035	A531a	Purfoy Road	Widen from 2 to 4 Lanes	US 401 to Holland Road
2025	A207a3	Judd Pkwy NE (Project Completed)	Widen from 2 to 4 Lanes	From Old Honeycutt Road to Products Road
2045	A207d	Judd Pkwy NE (Two Lanes; Superseded by A207a3?)	Add a Center Turn Lane	From US 401/N Main Street/Fayatteville Road to US 401/S Main Street
2035	A534b	US 401/S Main Street	Widen from 2 to 4 Lanes	From Judd Parkway SE to Fuquay Varina (Eastern) Parkway/Future US 401
2045	A157a1	US 401	New Intersection	At Future US 401
2045	Hrnt5	US 401 - Fuquay Varina to Lillington UPD	Widen from 2 to 4 Lanes	From Future US 401/Eastern Parkway to Matthews Road (Lillington PUD)
2045	A628	Piney Grove Rawls Road	Widen from 2 to 4 Lanes	From US 401 to Piney Grove Wilbon Road/Future US 401
2045	A302c	Rawls Church Road	Widen from 2 to 4 Lanes	From US 401 to Rawls Church Road Extension
2045	A631	Chalybeate Springs Road	Widen from 2 to 4 Lanes	From US 401 to Angier Western Bypass
2025	A650	Harnett Central Road (Project Completed)	New Roadway (2 lane)	From Porch Swing Road to US 401
2045	Hrnt7	Harnett Central Road	Widen from 2 to 4 Lanes	From US 401 to Matthews Mill Pond (Montague Road in MTP)

Capacity Analysis

Intersection level capacity analysis was completed for the following scenarios:

- Base Year 2019
- Future Year 2045 No-Build
- Future Year 2045 Build

The Base Year 2019 and Future Year 2045 No-Build analysis was performed for the current US 401 section in the study area. All the fiscally constrained projects listed in Table 2 were assumed to be constructed in the Future Year scenarios. The Future Year 2045 Build analysis includes the existing as well as the Future US 401 section in the southeast of Fuquay-Varina. For the locations that Future US 401 crosses, Cap-X analyses were performed to determine appropriate future configurations. The results of the Cap-X analysis are shown in Table 3. Detailed outputs from the Cap-X analysis are included in Appendix B.

Table 3: Cap-X Analysis Results Summary

Crossing Roadway	Intersection/Interchange Configuration based on Cap-X				v/C for Conventional At-Grade Configuration
	Type	Option 1 (v/C)	Option 2 (v/C)	Option 3 (v/C)	
US 401/N Main St*+	At-grade/ Grade separated	Partial Cloverleaf (0.14)	Continuous Green-T (0.69)	Partial Median U-Turn (0.89)	0.91
NC 42	At-grade	Displaced Left Turn (0.57)	Partial Displaced Left Turn (0.61)	Quadrant (0.63)	0.83
Kennebec Road	At-grade	Quadrant (0.36)	Displaced Left Turn (0.52)	Partial Displaced Left Turn (0.52)	0.59
NC 55	At-grade	Displaced Left Turn (0.57)	Quadrant (0.59)	Partial Displaced Left Turn (0.63)	0.65
Purfoy Road	At-grade	Displaced Left Turn (0.41)	Quadrant (0.43)	MUT (0.50)	0.52
Angier Road	At-grade	Displaced Left Turn (0.27)	Partial Displaced Left Turn (0.34)	Quadrant (0.34)	0.36
Bowling Rd*	At-grade	Reduced Conflict (0.21)	Conventional (0.27)	Quadrant (0.27)	0.27
US 401/S Main St	At-grade	Displaced Left Turn (0.27)	Quadrant (0.27)	Partial Displaced Left Turn (0.29)	0.41

*For 3-legged intersections, Displaced and Partial Displaced Left-Turn configurations are not presented in the above table even if they scored better
+This location has both at-grade and grade-separated options
v/C - Volume-to-Capacity Ratio

The capacity for the existing signalized and unsignalized intersections in the study area was performed using Synchro, Version 9. The traffic analysis was completed in accordance with the NCDOT Congestion Management Capacity Analysis Guidelines, dated July 1, 2015. For the base year 2019 scenario, existing roadway network was modeled in Synchro to contain existing lane configuration and traffic control. Existing signal timings and phasing were obtained from the signal plan obtained from NCDOT.

Base Year 2019

The analysis for this scenario is based on 2019 No-Build peak hour traffic volumes as well as existing lane configuration and traffic control at the intersections in the study area. Based on the analysis, 12 of the 16 signalized intersections are projected to operate at acceptable overall LOS (LOS D or better) in both the AM and PM peak hours. Four (4) intersections are projected to operate at LOS E or F during at least one peak hour.

Of the 14 unsignalized intersections, stop-controlled approaches at six (6) of the intersections are projected to operate at LOS E or F during at least one of the peak hours.

Future Year 2045 No-Build

In addition to the existing conditions, this scenario includes traffic due to ambient growth. Roadway improvements associated with the planned projects in the study area (shown in Table 2) are included in this scenario. Additionally, turn lanes and signals were assumed at locations deemed appropriate. Based on the analysis, 22 of the 26 signalized intersections are projected to continue operating at acceptable overall LOS in both peak hours. Four (4) intersections are projected to operate at LOS E or F during at least one of the peak hours.

Of the 10 unsignalized intersections, stop-controlled approaches at nine (9) of the intersections are projected to operate at LOS E or F during at least one of the peak hours.

Future Year 2045 Build

This scenario assumes the Future US 401 in place and hence the diversion of traffic from the existing current US 401 corridor onto it. Under this scenario, 24 of the 28 signalized intersections are projected to continue operating at acceptable overall LOS in both peak hours. Four (4) intersections are projected to operate at LOS E or F during at least one of the peak hours.

Of the 10 unsignalized intersections, stop-controlled approaches at nine (9) of the intersections are projected to operate at LOS E or F during at least one of the peak hours.

A summary of intersection analysis results across all scenarios are shown in Table 4. The Synchro Analysis reports are included in Appendix C.

Network Analysis

Travel times were calculated across all the analysis scenarios along the existing alignment of US 401 corridor for the section between the two terminals of Future US 401 (south of Banks Road in the northeast and north of Piney Grove Rawls Road in the south), approximately 8.5 miles. Table 5 and Table 6 provide the summaries of travel times across the three analysis scenarios for the southbound and northbound directions, respectively.

Based on the summary, the 2045 Future Year Build scenario travel time is projected to be 10% (118 seconds) lower in the PM peak in the southbound direction and 7% (80 seconds) lower in the AM peak in the northbound direction compared to the respective travel times under the 2045 Future Year No-Build scenarios. If the Future US 401 intersection at the northeast end is grade-separated, the 2045 Future Year Build scenario travel time is projected to be 11% (122 seconds) lower in the AM peak in the northbound direction.

Table 4: Summary of Intersection Analysis Results

Intersection	Traffic Control	2019 Base Year				Future Year 2045 No-Build				Future Year 2045 Build			
		LOS		Delay		LOS		Delay		LOS		Delay	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US 401 & Driveway/Banks Road	Signalized	E	B	69.5	17.9	E	C	57.3	20.4	E	B	66.5	17.2
US 401 & Hilltop Road & Hilltop Needmore Road/Air Park Road^	Signalized	F	F	153.0	90.8	B	C	11.6	25.8	B	B	16.1	16.6
US 401 & Lake Wheeler Road^	Unsignalized*	F	F	2105.8	2166.2	B	D	12.8	37.6	B	C	13.4	27.8
US 401 & Dwight Rowland Road	Unsignalized*	F	F	935.0	626.7	E	B	62.8	15.1	C	B	24.4	11.2
US 401 & Mill Creek Drive	Signalized	B	C	10.5	26.7	B	C	11.5	28.5	A	C	10	26.4
US 401 & NC 55/Driveway	Signalized	E	D	61.2	41.9	F	F	226.1	138.1	F	F	142.4	100.6
US 401 & Lakestone Commons Avenue	Signalized	A	B	8.7	13.1	A	B	9.5	10.6	B	B	12.4	12.2
US 401 & Purfoy Road/ Sunset Lake Road	Signalized	C	D	30.3	53.4	C	D	27.8	46.9	C	D	27.3	38.5
US 401 & Driveway/Zaxby's Driveway	Signalized	A	A	4.6	7.3	A	A	5.4	7.0	A	A	5.2	9.4
US 401 & Judd Pkwy NE	Signalized	C	C	24.2	33.9	C	D	28.0	49.4	C	D	26	38.4
US 401 & N Ennis Street	Signalized	C	E	26.2	57.5	C	E	29.2	79.8	C	E	30.6	61.9
US 401 & Wake Chapel Rd	Signalized	B	C	16.7	24.5	B	C	15.9	33.6	B	C	16.2	26.3
US 401 & Academy Street	Signalized	B	C	19.5	26.6	C	C	25.0	34.5	C	C	24.5	32.9
US 401 & Vance Street	Signalized	C	B	20.2	13.1	C	B	21.1	10.5	B	B	16.2	11.0
US 401 & Judd Pkwy S	Signalized	D	C	35.4	32.1	C	D	33.2	39.2	C	C	29.4	31.0
US 401 & Wagstaff Road	Unsignalized	C	D	20.2	32.0	F	F	54.3	255.3	D	E	27.1	45.5
US 401 & Piney Grove Rawls Rd	Unsignalized*	D	F	30.4	71.4	C	C	22.6	26.1	B	B	12.3	14.4
US 401 & Rawls Church Road	Unsignalized*	F	F	103.9	185.3	C	F	16.3	59.5	B	B	16.7	14.0
US 401 & Spence Mill Road	Unsignalized	B	C	13.7	24.6	C	F	16.3	59.5	C	F	16.8	59.5
US 401 & East Williams Street (SR 1441)	Unsignalized	D	F	32.5	69.8	F	F	52.9	511.9	F	F	76.7	737.9
US 401 & Chalybeate Road N	Unsignalized	C	E	22.9	35.2	E	F	44.5	304.1	F	F	94.2	674.2
US 401 & Chalybeate Road S	Unsignalized	C	C	16.1	21.0	D	F	25.1	55.4	D	F	31.0	80.9
US 401 & Lafayette Road	Unsignalized	C	D	20.7	29.6	F	F	63.7	150.8	F	F	67.2	176.3

Intersection	Traffic Control	2019 Base Year				Future Year 2045 No-Build				Future Year 2045 Build			
		LOS		Delay		LOS		Delay		LOS		Delay	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
US 401 & Kipling Road (SR 1403)	Unsignalized	C	C	17.7	20.3	E	E	38.2	47.1	E	F	41.6	144.7
US 401 & Harnett Central Rd	Unsignalized	B	C	14.6	16.9	D	E	25.8	43.7	D	F	29.8	51.1
US 401 & Ballard Road	Unsignalized	C	C	17.0	24.5	E	F	41.8	108.0	E	F	41.8	108.0
US 401 & Christian Light Road (SR 1412)	Unsignalized	B	C	13.8	17.0	C	D	17.6	30.8	D	D	26.3	32.3
McKinney Pkwy/Brightwater Drive & US 401	Signalized	C	C	22.6	28.9	C	C	27.6	32.6	C	C	30.3	32.8
Driveway/Pine State Street & US 401	Signalized	B	B	14.1	13.7	B	B	11.3	10.1	B	B	14.4	10.1
US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27	Signalized	D	D	42.5	45.1	D	D	50.7	54.8	E	D	65.8	54.5
US 401 & U-Turn North of Hilltop Needmore Road	Signalized	-	-	-	-	B	B	10.3	15.4	A	A	5.2	5.2
US 401 & U-Turn South of Lake Wheeler Road	Signalized	-	-	-	-	A	A	7.7	8.3	B	B	14.3	15.0
US 401 & U-Turn North of Lake Wheeler Road	Signalized	-	-	-	-	A	A	9.1	8.2	A	A	8.0	4.3
US 401 & U-Turn South of Hilltop Needmore Road	Signalized	-	-	-	-	C	B	23.0	10.1	A	A	8.2	8.1
US 401 & Air Park Road^	Signalized	-	-	-	-	B	A	10.3	7.0	A	A	4.9	4.1
US 401 & Realigned Hilltop Road^	Signalized	-	-	-	-	B	B	17.9	12.7	B	B	10.9	12.2
US 401 & Future US 401 (North End)	Signalized	-	-	-	-	-	-	-	-	D	C	50.4	31.6
US 401 & Future US 401 (South End)	Signalized	-	-	-	-	-	-	-	-	B	C	15.2	31.4

BOLD/ITALIC – Intersection that has LOS E or F
Unsignalized* - Unsignalized in 2019, Signalized in 2045
$ - Queues are too long for Synchro to give results
^Superstreet Configuration in Future Year

Table 5: Travel Time Summary in the Southbound Direction

Segment along US 401/Main Street (Southbound)		Distance (miles)	Speed Limit (mph)	Travel Time (seconds)	Control Delay (seconds per vehicle)						Total Travel Time in seconds (minutes)					
					2019 No-Build		2045 No-Build		2045 Build		2019 No-Build		2045 No-Build		2045 Build	
From	To				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Future US 401 (N)*	Mill Creek Drive	2.9	55	188	44.2	158.1	43.5	99.2	43.1	79.9	845 (14.1)	1,064 (17.7)	871 (14.5)	1,172 (19.5)	867 (14.5)	1,054 (17.6)
Mill Creek Drive	Lakestone Commons Avenue	0.9	45	70	22.3	22.6	27	42.2	23.5	22.6						
Lakestone Commons Avenue	Wake Chapel Road	2.0	35	201	46.9	122	63.7	238.9	55.1	154.6						
Wake Chapel Road	Vance Street	0.5	25	71	15.9	28.7	19.3	37.4	12.7	37.8						
Vance Street	Wagstaff Road	0.9	35	97	3.0	19.9	4.9	41.7	10.8	17.5						
Wagstaff Road	Future US 401 (S)*	1.3	55	86	-	-	-	-	9.8	28.8						

*This location does not have any control delay under the no-build conditions. For the Future US 401 intersection, control delay does not exist as the southbound movement is free-flowing under the continuous green-t configuration.

Table 6: Travel Time Summary in the Northbound Direction

Segment along US 401/Main Street (Northbound)		Distance (miles)	Speed Limit (mph)	Travel Time (seconds)	Control Delay (seconds per vehicle)						Total Travel Time (in seconds)					
					2019 No-Build		2045 No-Build		2045 Build		2019 No-Build		2045 No-Build		2045 Build	
From	To				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Future US 401 (S)*	Wagstaff Road	1.3	55	86	-	-	-	-	5.9	22.4	1,065 (17.7)	1,000 (16.7)	1,129 (18.8)	1,118 (18.6)	1,050 (17.5)	1,076 (17.9)
Wagstaff Road	Vance Street	0.9	35	97	14.5	33.7	22.6	29.8	20.3	29.8						
Vance Street	Wake Chapel Road	0.5	25	71	15.5	17.7	25.5	29.5	15.4	25.5						
Wake Chapel Road	Lakestone Commons Avenue	2.0	35	201	65.2	132.1	72.2	186.6	70.2	106.0						
Lakestone Commons Avenue	Mill Creek Drive	0.9	45	70	57.7	54.7	195.7	103.9	135.9	111.1						
Mill Creek Drive	Future US 401 (N)*	2.9	55	188	199.1	48.7	100.4	55.7	89.1	68.7						

*This location does not have any control delay under the no-build conditions. If the Future US 401 intersection at the northeast end is grade-separated, the travel times under the build scenarios are projected to be 1,007 (16.8) and 1,042 (17.4) seconds (minutes) in the AM and PM, respectively.

Conclusions and Recommendations

Based on the projected traffic volumes, the Future US 401 corridor is anticipated to be a four-lane divided corridor. As shown in the Cap-X analysis results summary, all the new intersections along Future US 401 are anticipated to be at grade. However, given the potential for growth, it is recommended to provide partial or full grade separation for intersections with major roadways such as NC 55 and NC 42.

Based on the intersection analysis, multiple intersections along the corridor operate at high levels of delay under the existing conditions. Under the future year no-build conditions, several existing unsignalized intersections are anticipated to be signalized due to high side-street delays. Two signalized intersections, US 401 at Banks Road and NC 55/42, are projected to operate at LOS F during both the AM and PM peak hours. Additionally, several approaches at unsignalized intersections are projected to operate at poor LOS. However, it is not uncommon for such approaches on to a major roadway display high delays. The queues at these locations are anticipated to be manageable.

With the Future US 401, traffic volumes are anticipated to be reduced along the existing section of US 401 between Hilltop Needmore Road and Judd Parkway SE. The two signalized intersections of US 401 at Banks Road and NC 55/42 are projected to continue operating at LOS F during at least one peak hour. Additionally, several approaches at unsignalized intersections are projected to operate at poor LOS. The queues at these locations are anticipated to be manageable.

The following improvements are recommended to intersections in the study area in addition to the planned projects:

US 401 at Banks Road

- Provide an additional westbound lane with appropriate storage and taper on Banks Road

US 401 at Future US 401 (NE)

- This intersection was analyzed as a Continuous Green-T under the build conditions. However, it is recommended that a grade-separation be considered for this location to further reduce delay.
- Provide triple left-turn lanes with appropriate storage and taper on southbound US 401 approach. A flyover can be considered for the left-turn with a grade-separation configuration.
- Provide the westbound Future US 401 approach with one-left turn and three right-turn lanes. A free right-turn lane can be considered if it can be accommodated with the design.

US 401 at NC 55/42

- A CAMPO study (project ID A679a; NCDOT STIP U-5517) is currently under way for this location and is anticipated to provide recommendations for this location. Therefore, none are provided as part of this study. The project teams have been coordinating throughout the process to share updates.

US 401 at Wagstaff Road

- Provide an exclusive northbound left-turn lane with appropriate storage and taper on US 401

- Provide an exclusive southbound right-turn lane with appropriate storage and taper on US 401

US 401 at Piney Grove Rawls Road

- Monitor for signalization and install a signal on meeting warrants.
- Provide an additional exclusive northbound left turn lane to provide dual left-turn lanes with appropriate storage and taper on US 401

US 401 at Rawls Church Road

- Monitor for signalization and install a signal on meeting warrants.

US 401 at Chalybeate Springs Road (East Williams Street)

- Provide an exclusive southbound left-turn lane with appropriate storage and taper on US 401

US 401 at Chalybeate Road (N)

- Provide an exclusive northbound left-turn lane with appropriate storage and taper on US 401

US 401 at Lafayette Road

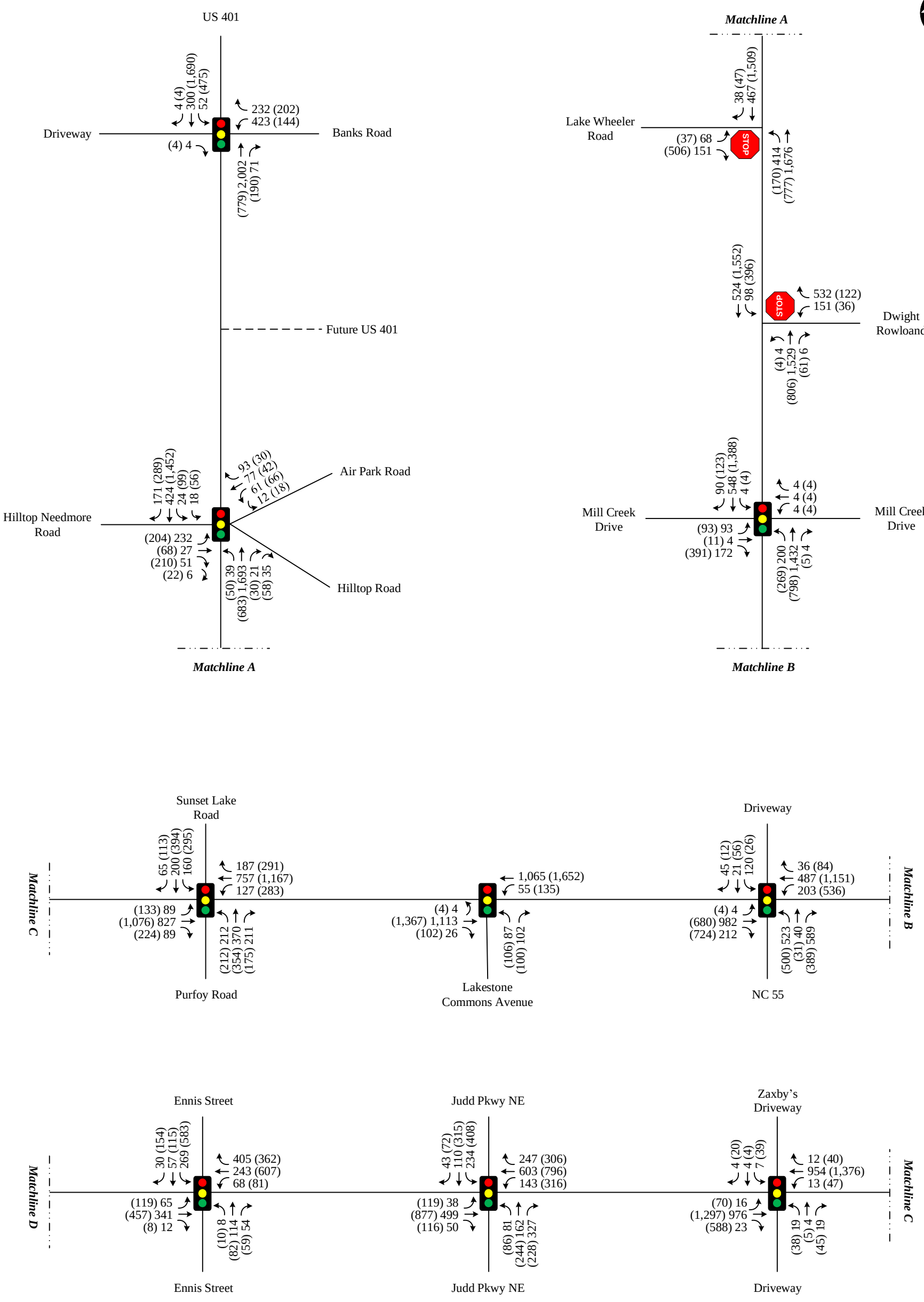
- Provide an exclusive southbound left-turn lane with appropriate storage and taper on US 401

US 401 at Ballard Road

- Provide an exclusive southbound left-turn lane with appropriate storage and taper on US 401

APPENDIX

APPENDIX A
Peak Hour Volume Figures



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

L E G E N D

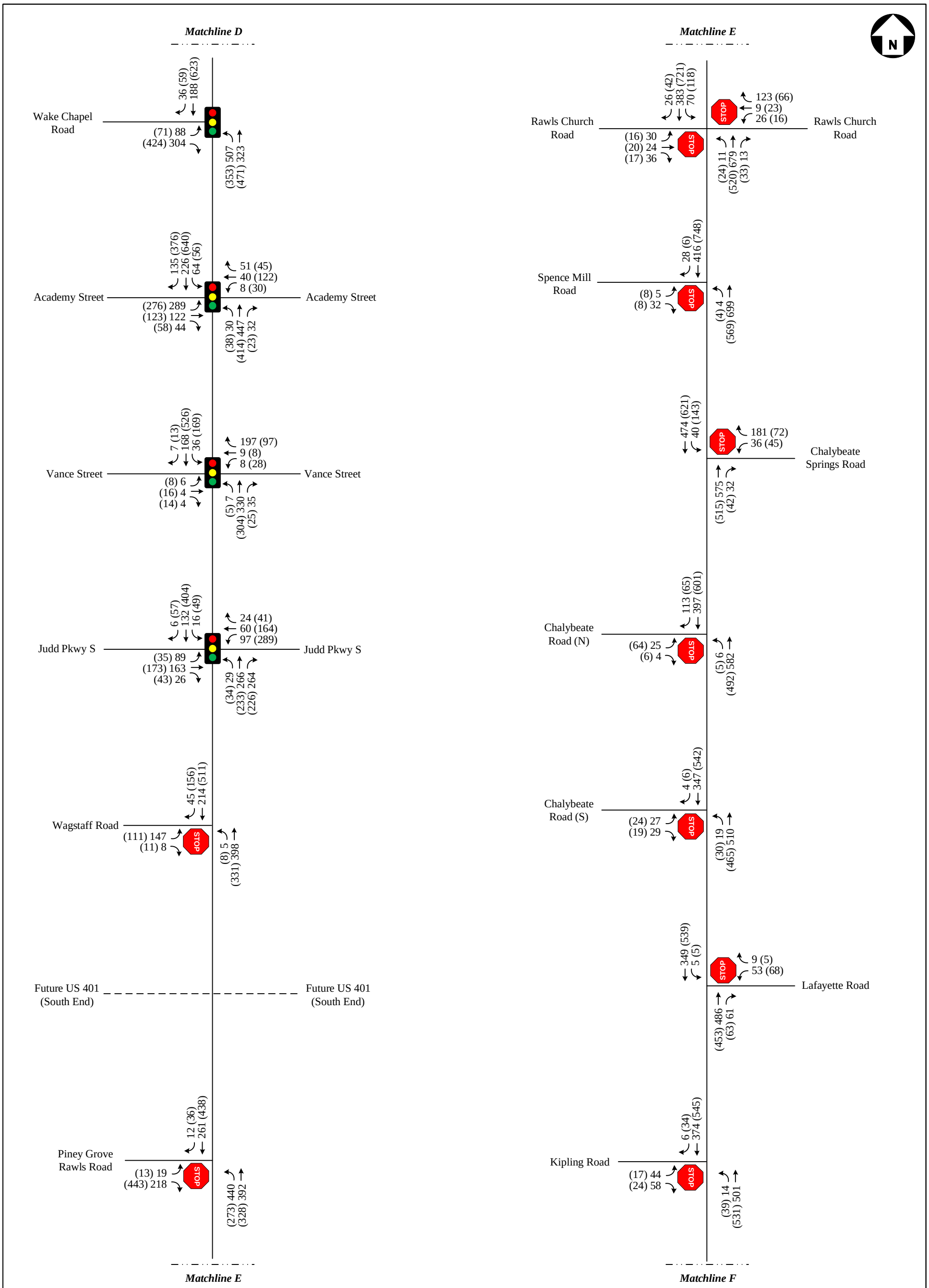
- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

US 401 Corridor Study
Wake & Harnett Counties, NC

2019 No Build
Peak Hour Traffic Volumes

DATE: July 2021

Figure 1A



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

LEGEND

- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

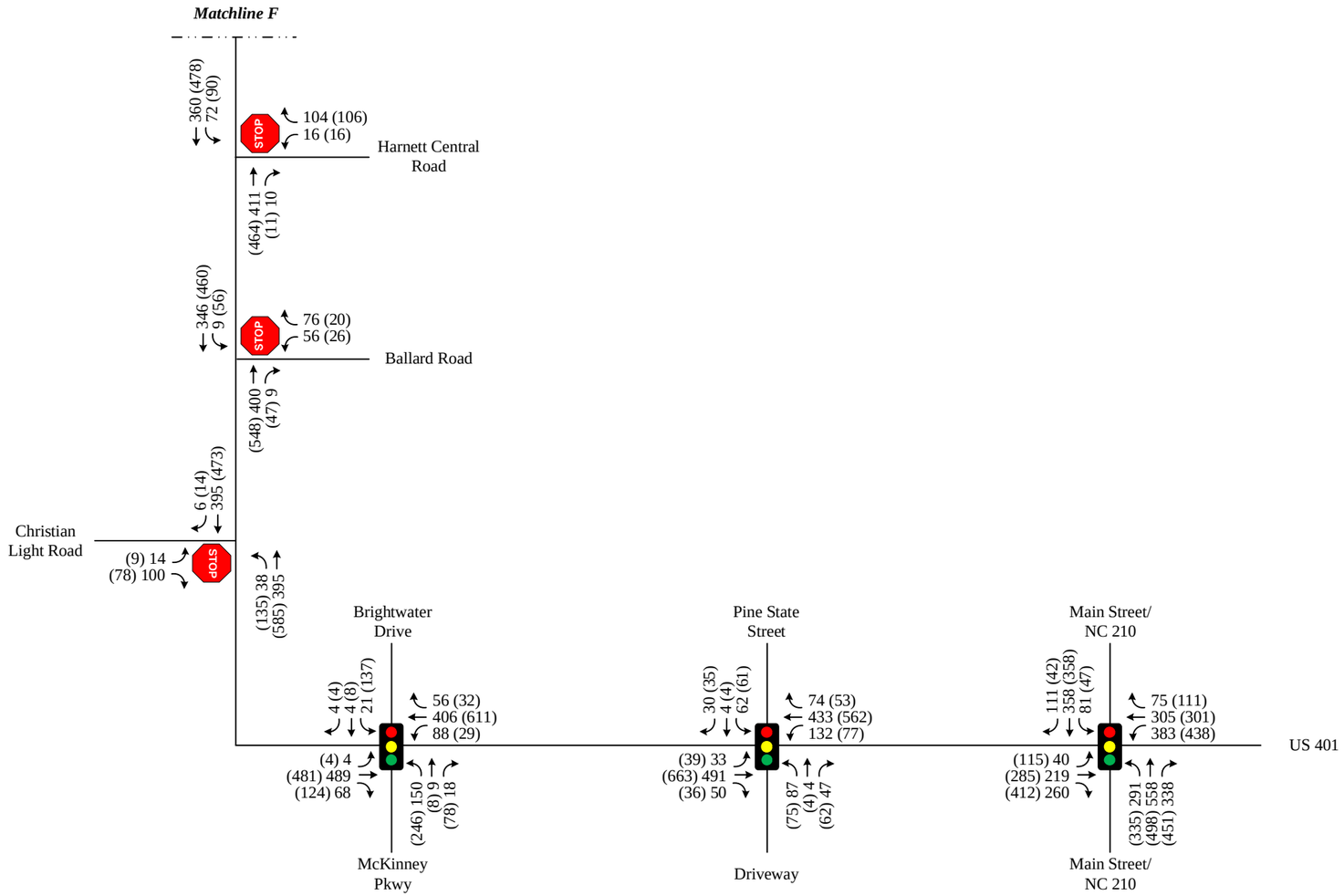
US 401 Corridor Study
Wake & Harnett Counties, NC

2019 No Build
Peak Hour Traffic Volumes

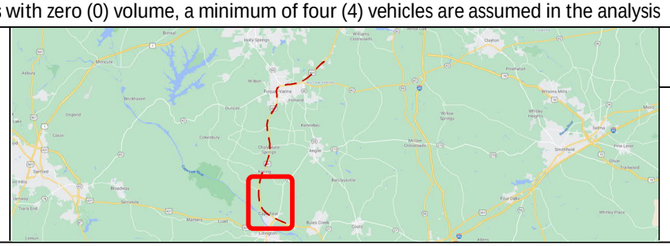
DATE: July 2021

Figure 1B

Not to scale



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis



LEGEND

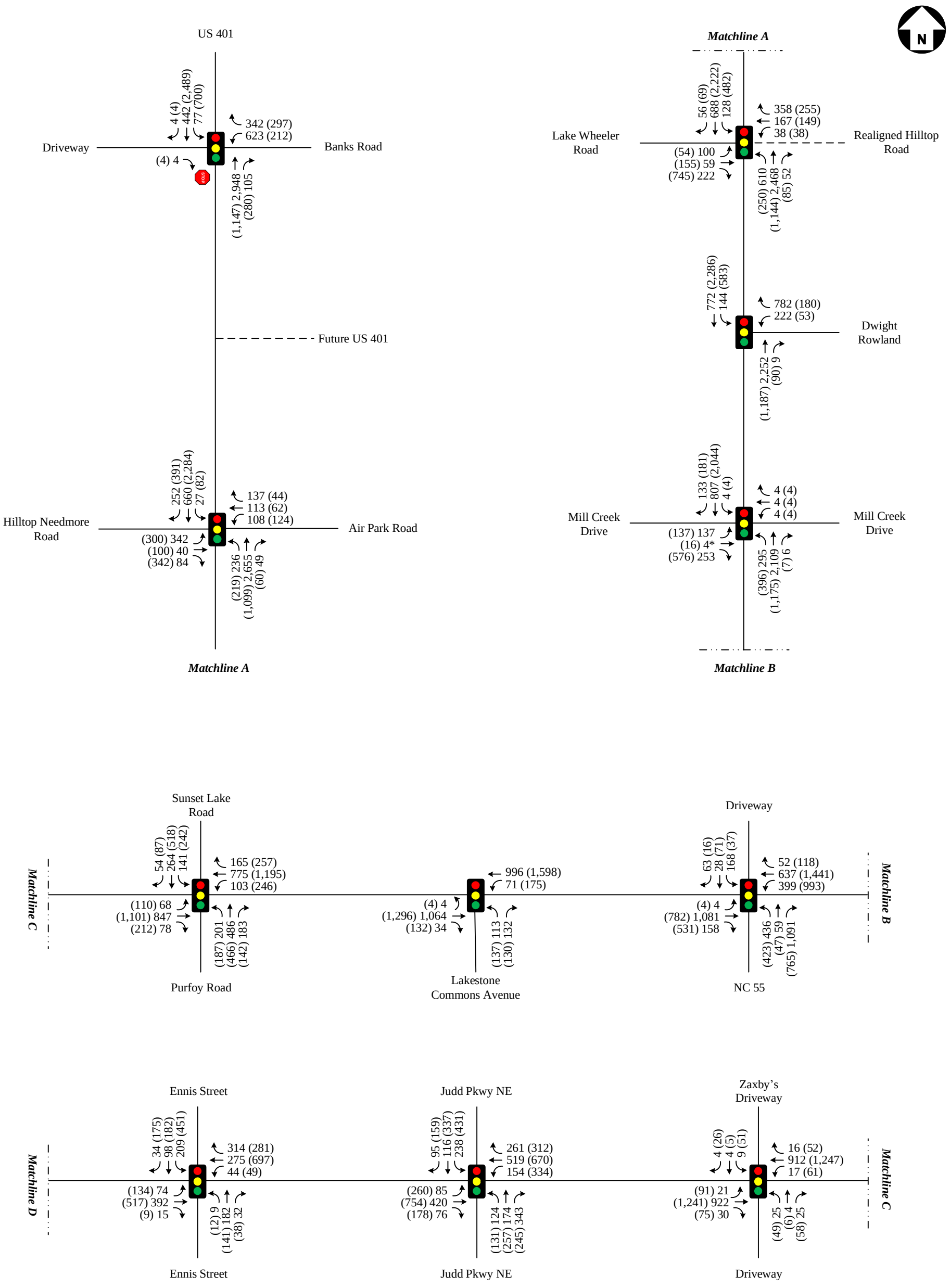
——	Existing Roadway	▽	Yield Control
– – –	Future Roadway	⬢	Stop Control
⟶	Turning Movement	🚦	Signal
XX (XX)	AM (PM) Volumes		

US 401 Corridor Study
Wake & Harnett Counties, NC

2019 No Build
Peak Hour Traffic Volumes

DATE: July 2021

Figure 1C



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

L E G E N D

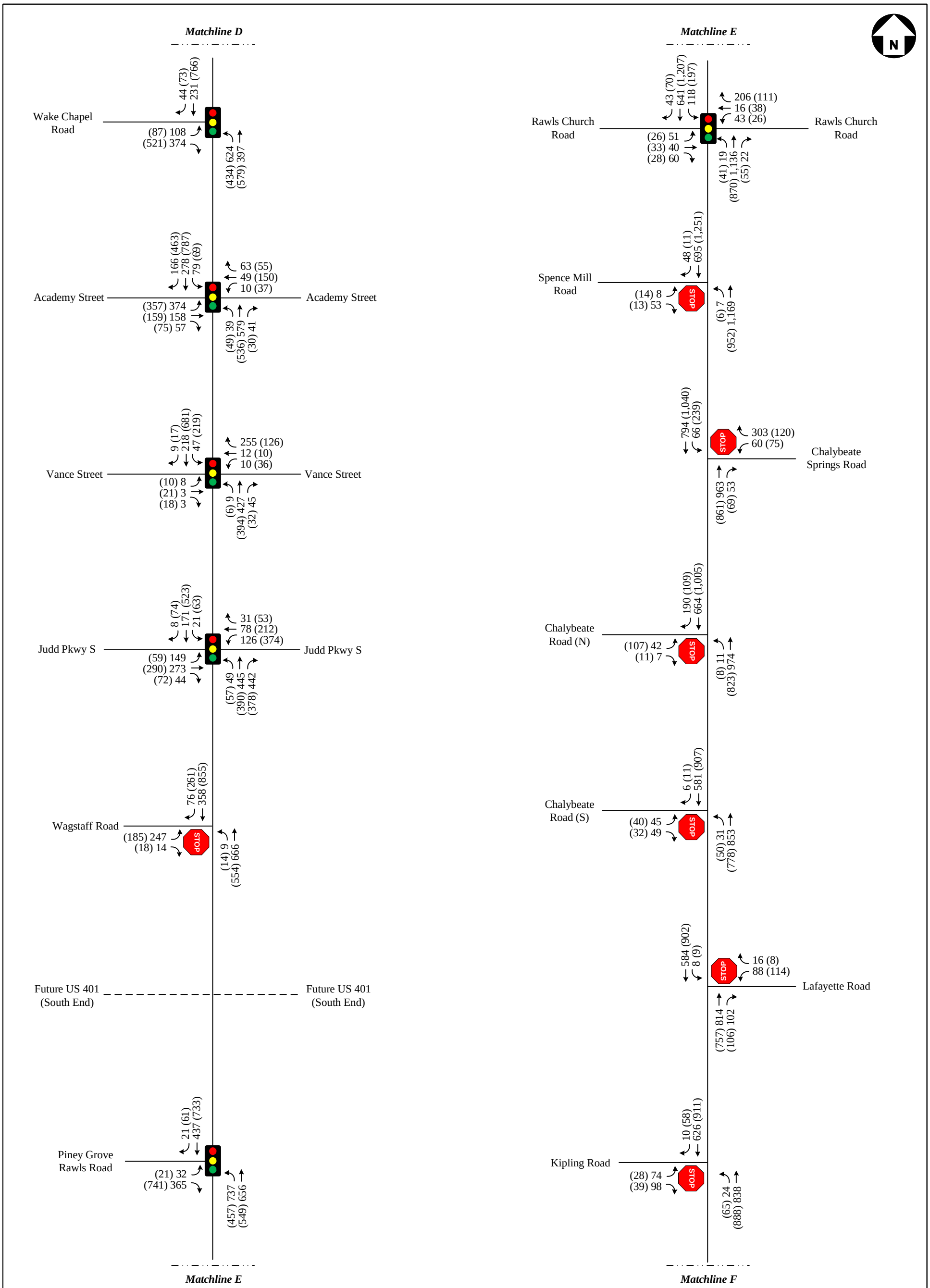
- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 No Build
Peak Hour Traffic

DATE: July 2021

Figure 2A



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

LEGEND

- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

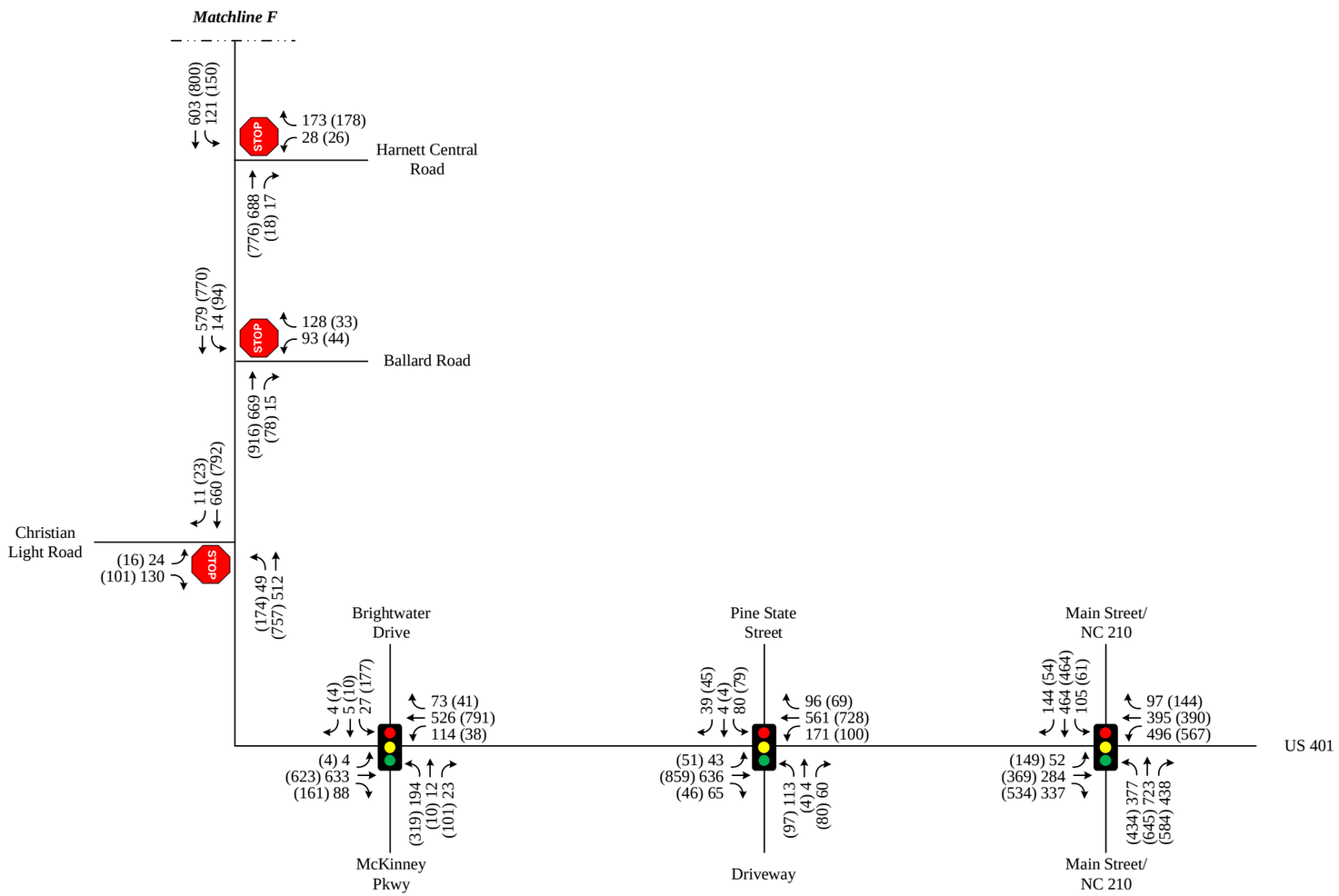
US 401 Corridor Study
Wake & Harnett Counties, NC

2045 No Build
Peak Hour Traffic

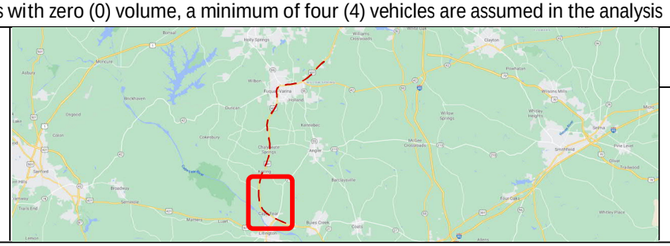
DATE: July 2021

Figure 2B

Not to scale



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis



LEGEND

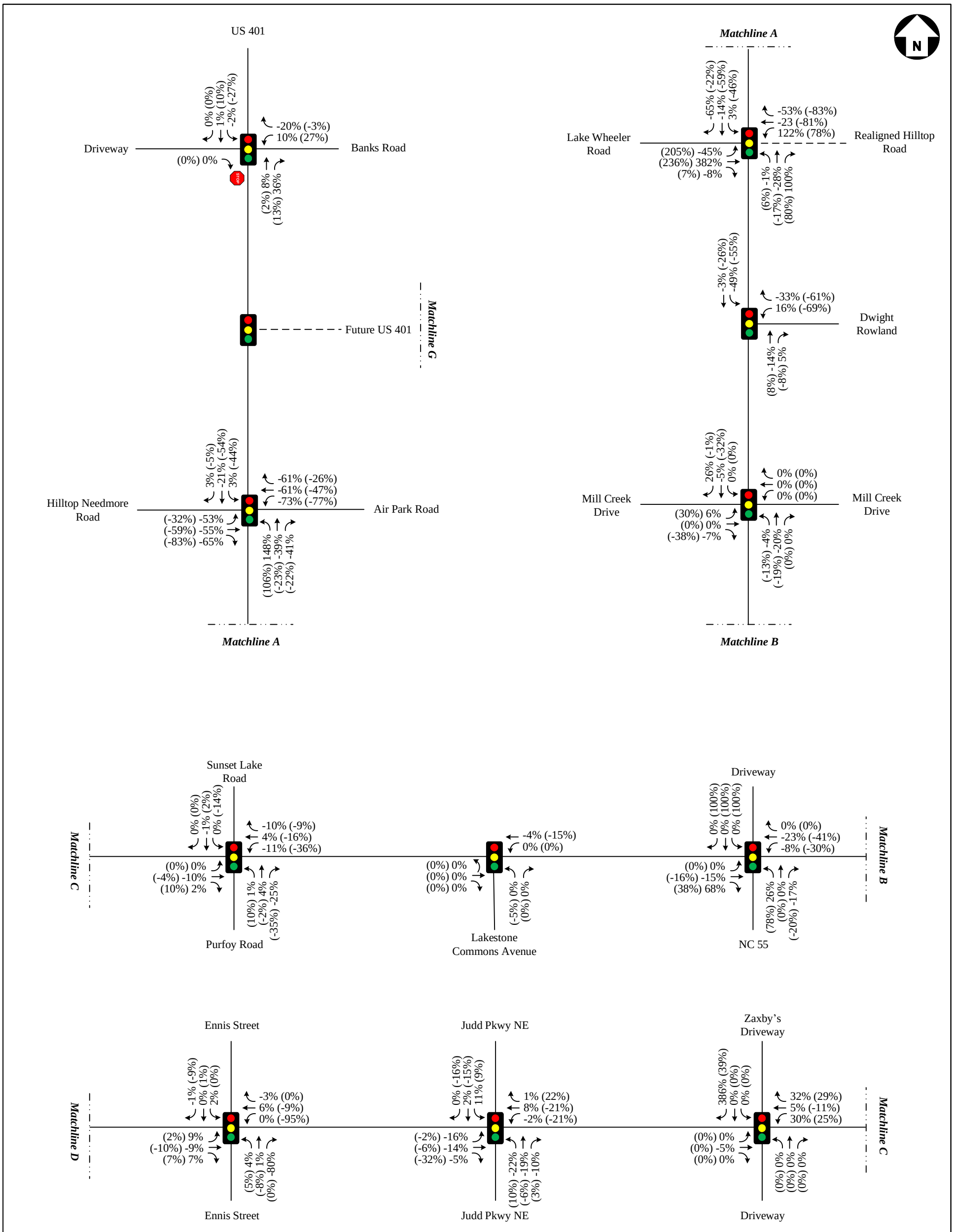
——	Existing Roadway		Yield Control
– – -	Future Roadway		Stop Control
⟶	Turning Movement		Signal
XX (XX)	AM (PM) Volumes		

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 No Build
Peak Hour Traffic

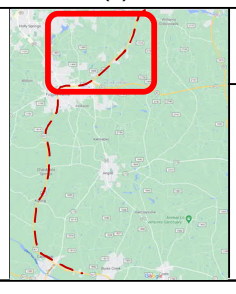
DATE: July 2021

Figure 2C



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale



LEGEND

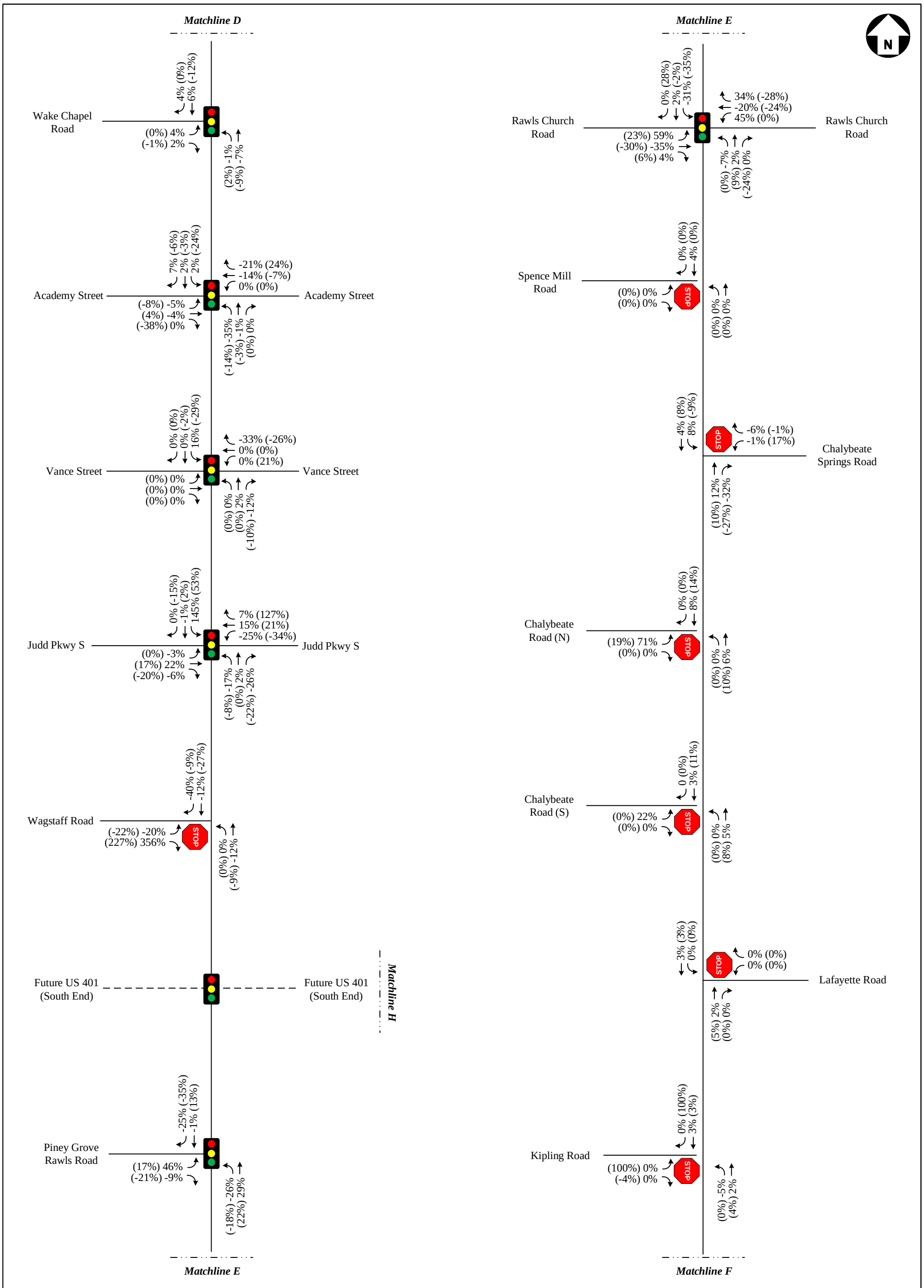
- Existing Roadway
- Future Roadway
- Turning Movement
- XX% (XX%) AM (PM) Diversion Percentage
- Yield Control
- Stop Control
- Signal

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Diversion Percentages

DATE: July 2021

Figure 3A



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

L E G E N D

- Existing Roadway
- Future Roadway
- Turning Movement
- XX% (XX%) AM (PM) Diversion Percentage
- Yield Control
- Stop Control
- Signal

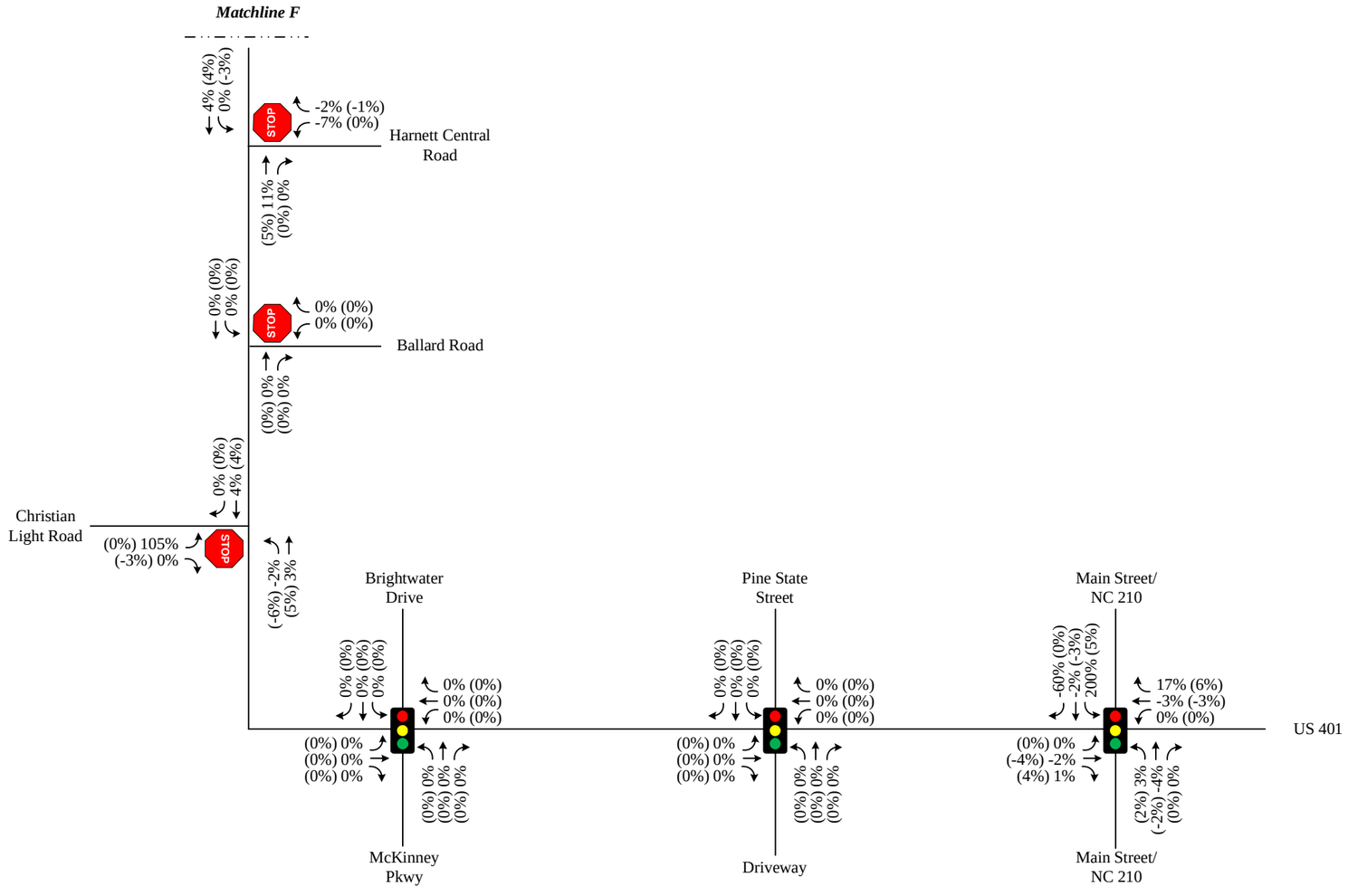
US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Diversion Percentages

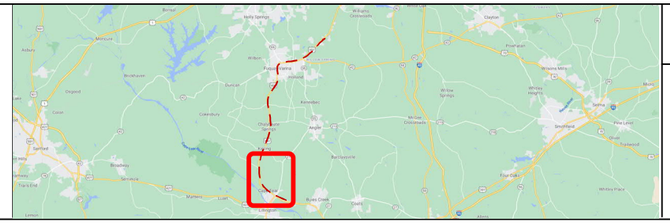
DATE: July 2021

Figure 3B

Not to scale



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis



LEGEND

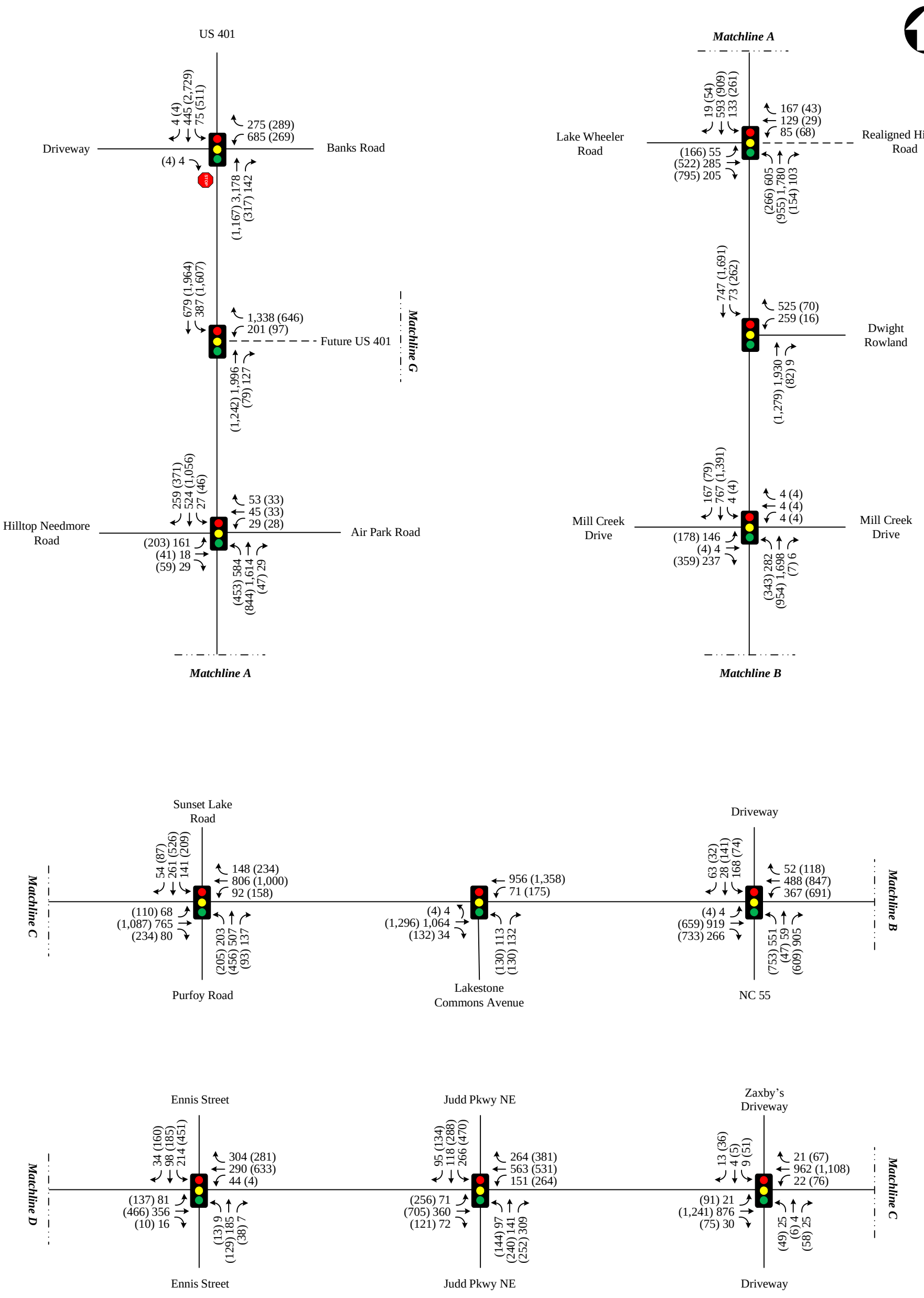
———	Existing Roadway	▽	Yield Control
– – –	Future Roadway	⬣	Stop Control
⟶	Turning Movement	🚦	Signal
XX% (XX%)	AM (PM) Diversion Percentage		

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Diversion Percentages

DATE: July 2021

Figure 3C



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

L E G E N D

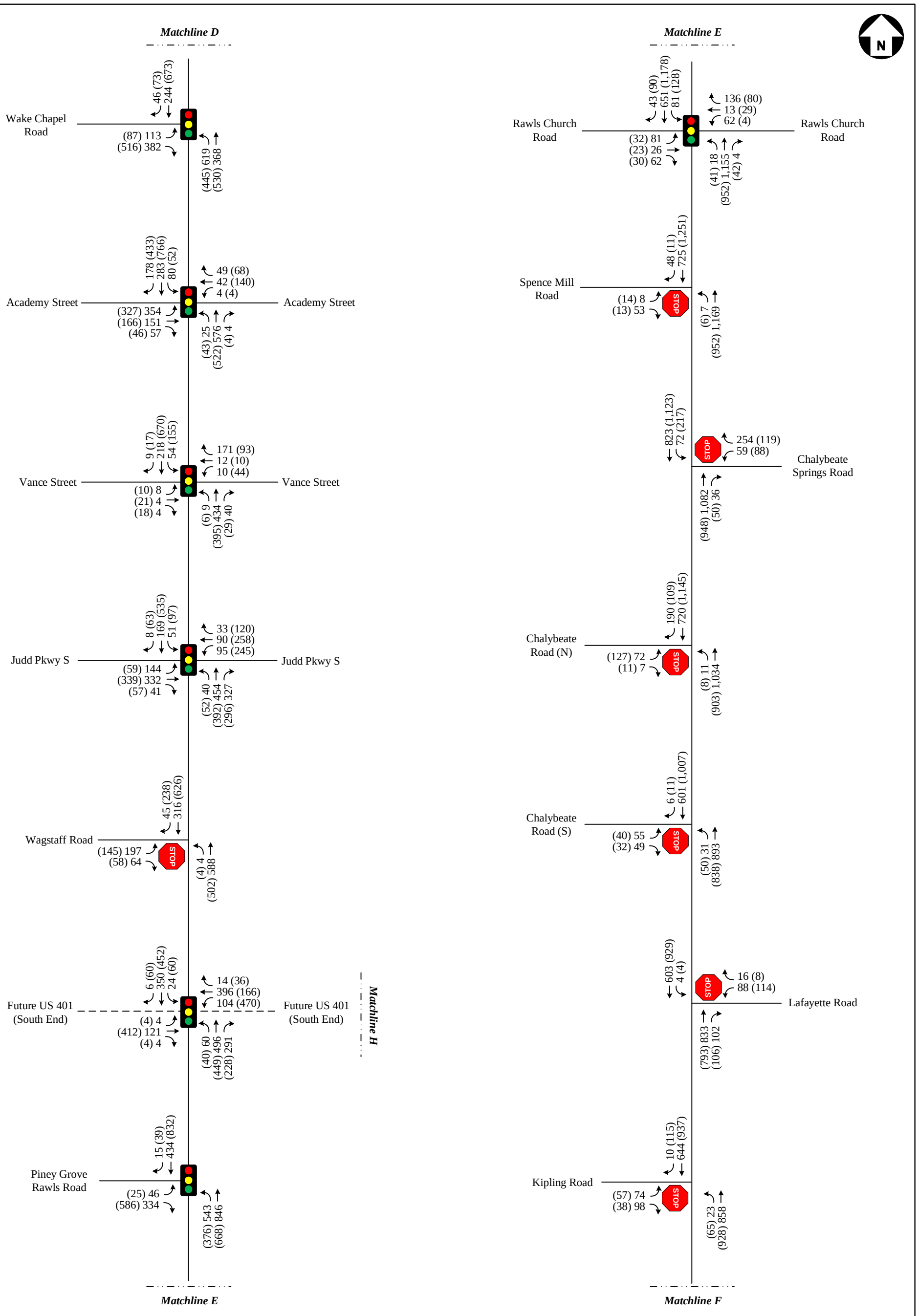
Existing Roadway
Future Roadway
Turning Movement
XX (XX) AM (PM) Volumes
Yield Control
Stop Control
Signal

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Volumes

DATE: July 2021

Figure 4A



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis

Not to scale

LEGEND

- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

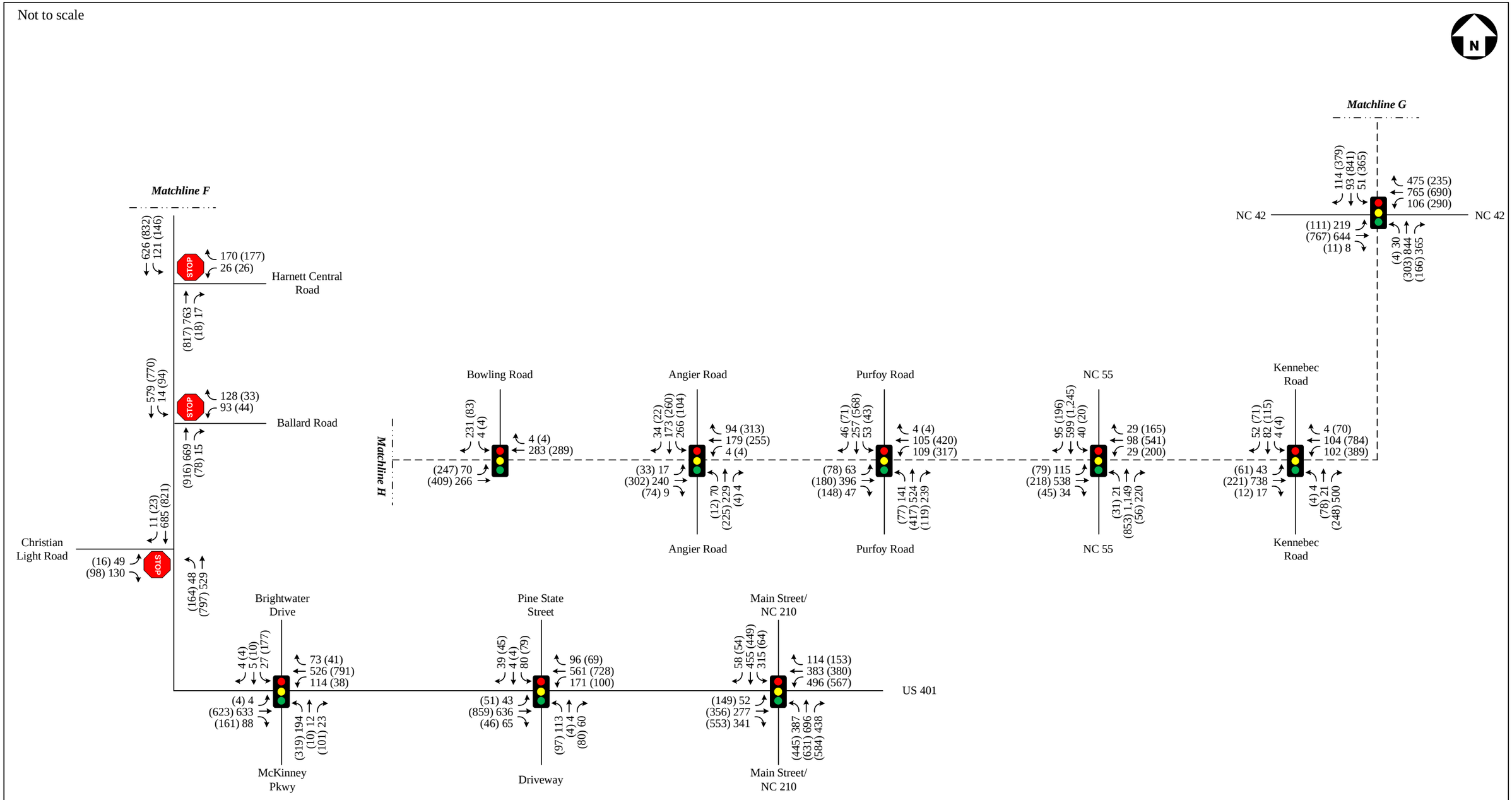
US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Volumes

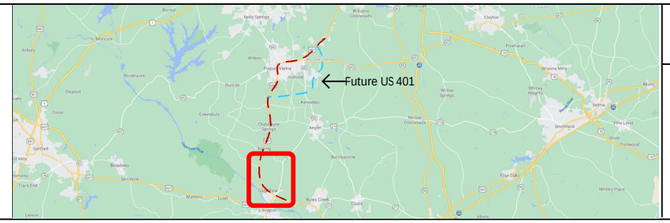
DATE: July 2021

Figure 4B

Not to scale



*For turning movements with zero (0) volume, a minimum of four (4) vehicles are assumed in the analysis



LEGEND

- Existing Roadway
- Future Roadway
- Turning Movement
- XX (XX) AM (PM) Volumes
- Yield Control
- Stop Control
- Signal

US 401 Corridor Study
Wake & Harnett Counties, NC

2045 Build
Peak Hour Traffic Volumes

DATE: July 2021

Figure 4C

APPENDIX B
CAP-X Results

2045 Build AM

Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 401 Corridor Study*
Project Number:	*31000115*
Location	*US 401 at N Main Street*
Date	May 20, 2021

Critical Lane Volume Sum

Acceptable Configurations			
< 1200	1200 - 1399	1400 - 1599	≥ 1600
7	3	10	11

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									1451	0.91	0.91	6
2	Conventional Shared RT LN	CSRL									1346	0.84	0.84	3
3.1	Quadrant Roadway	S-W			2233	1.40			439	0.27	3522	2.20	2.20	11
3.2		N-E	3522	2.20			1745	1.09			2005	1.25	2.20	13
3.3		S-E			2672	1.67	2672	1.67			3522	2.20	2.20	11
3.4		N-W	3598	2.25					1517	0.95	3522	2.20	2.25	14
4.1	Partial Displaced Left Turn	N-S	888	0.55	299	0.19					1207	0.75	0.75	1
4.2		E-W					623	0.39	0	0.00	1427	0.89	0.89	4
5	Displaced Left Turn	FULL	888	0.55	299	0.19	623	0.39	0	0.00	1207	0.75	0.75	1
6.1	Restricted Crossing U-Turn	N-S	477	0.30	668	0.42	1541	0.96	299	0.19			0.96	7
6.2		E-W	1979	1.24	2998	1.87	3798	2.37	1209	0.76			2.37	15
7.1	Median U-Turn	N-S	477	0.30	888	0.55					1541	0.96	0.96	7
7.2		E-W					1570	0.98	667	0.42	1427	0.89	0.98	9
8.1	Partial Median U-Turn	N-S	363	0.23	888	0.55					1427	0.89	0.89	4
8.2		E-W					1570	0.98	228	0.14	1427	0.89	0.98	9

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	1.34			-0.03			3.16			-1.51			3.16	#DIV/0!
9.2	75 ICD	1.30			-0.06			2.98			-1.82			2.98	#DIV/0!
9.3	1 X 1	1.18			0.00			2.63			10.32			10.32	#DIV/0!
9.4	1 X 2	1.11			0.00	0.00		2.34			1.35	8.97		8.97	#DIV/0!
9.5	2 X 1	0.81	0.38		0.00			1.32	1.32		5.65			5.65	#DIV/0!
9.6	2 X 2	0.77	0.35		0.82	4.92		1.19	1.17		0.00	0.00		4.92	#DIV/0!
9.7	3 X 3	0.21	0.56	0.34	0.00	0.00	#####	0.00	1.22	1.13	0.66	0.68	6.27	#DIV/0!	#DIV/0!

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					896	0.56	888	0.55					0.56	7
10.2		E-W					395	0.25	667	0.42					0.42	4
11.1	Partial Cloverleaf	N-S					363	0.23	888	0.55					0.55	6
11.2		E-W					228	2.20	205	0.13					0.14	1
13.1	Displaced Left Turn	N-S	1427	0.89			873	0.55	668	0.42			299	0.19	0.89	8
13.2		E-W	0	0.00			439	0.27	395	0.25			623	0.39	0.39	3
14.1	Double Crossover Diamond	N-S	1427	0.89	590	0.37	1031	0.64	968	0.60	668	0.42	299	0.19	0.89	8
14.2		E-W	0	0.00	0	0.00	439	0.27	205	0.13	600	0.38	395	0.25	0.38	2
15.1	Single Point	N-S	1427	0.89			1116	0.70					299	0.19	0.89	8
15.2		E-W	0	0.00			667	0.42					395	0.25	0.42	4

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at NC 42 (US 401 - N-S)*	17	5	1	9
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									1223	0.76	0.76	11
2	Conventional Shared RT LN	CSRL									1524	0.95	0.95	13
3.1	Quadrant Roadway	S-W			864	0.54			483	0.30	969	0.61	0.61	3
3.2		N-E	1217	0.76			907	0.57			886	0.55	0.76	8
3.3		S-E			678	0.42	678	0.42			969	0.61	0.61	3
3.4		N-W	921	0.58					787	0.49	985	0.62	0.62	5
4.1	Partial Displaced Left Turn	N-S	600	0.37	136	0.08					1159	0.72	0.72	7
4.2		E-W					475	0.30	653	0.41	969	0.61	0.61	2
5	Displaced Left Turn	FULL	600	0.37	136	0.08	475	0.30	653	0.41	912	0.57	0.57	1
6.1	Restricted Crossing U-Turn	N-S	625	0.39	1610	1.01	1906	1.19	1489	0.93			1.19	15
6.2		E-W	653	0.41	1057	0.66	1678	1.05	526	0.33			1.05	14
7.1	Median U-Turn	N-S	286	0.18	938	0.59					1130	0.71	0.71	6
7.2		E-W					969	0.61	622	0.39	1234	0.77	0.77	12
8.1	Partial Median U-Turn	N-S	166	0.10	690	0.43					1217	0.76	0.76	8
8.2		E-W					934	0.58	564	0.35	1217	0.76	0.76	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	3.20			1.16			15.19			-10.91			15.19	7
9.2	75 ICD	1.63			1.14			7.63			-66.97			7.63	6
9.3	1 X 1	0.58			1.01			2.84			3.71			3.71	5
9.4	1 X 2	0.44			0.63	0.38		2.15			1.34	2.36		2.36	3
9.5	2 X 1	0.22	0.36		0.94			1.04	1.80		2.65			2.65	4
9.6	2 X 2	0.18	0.28		1.02	1.69		0.82	1.36		0.59	0.36		1.69	1
9.7	3 X 3	0.06	0.16	0.29	0.12	0.48	0.35	0.03	0.96	1.44	0.15	1.15	1.85	1.85	2

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					696	0.44	603	0.38					0.44	4
10.2		E-W					637	0.40	583	0.36					0.40	3
11.1	Partial Cloverleaf	N-S					83	0.05	355	0.22					0.22	1
11.2		E-W					562	0.76	544	0.34					0.35	2
13.1	Displaced Left Turn	N-S	1081	0.68			650	0.41	654	0.41			136	0.08	0.68	7
13.2		E-W	653	0.41			463	0.29	424	0.27			768	0.48	0.48	5
14.1	Double Crossover Diamond	N-S	1081	0.68	194	0.12	616	0.38	548	0.34	694	0.43	110	0.07	0.68	7
14.2		E-W	534	0.33	846	0.53	498	0.31	478	0.30	799	0.50	768	0.48	0.53	6
15.1	Single Point	N-S	1081	0.68			612	0.38					110	0.07	0.68	7
15.2		E-W	534	0.33			696	0.43					1122	0.70	0.70	10

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Kennebec Rd (Kennebec Rd - N-S)*	25	2	1	4
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									943	*0.59*	0.59	5
2	Conventional Shared RT LN	CSRL									1020	*0.64*	0.64	14
3.1	Quadrant Roadway	S-W			665	*0.42*			492	*0.31*	943	*0.59*	0.59	6
3.2		N-E	253	*0.16*			632	*0.39*			965	*0.60*	0.60	8
3.3		S-E			567	*0.35*	567	*0.35*			483	*0.30*	0.35	1
3.4		N-W	200	*0.13*					395	*0.25*	943	*0.59*	0.59	4
4.1	Partial Displaced Left Turn	N-S	65	*0.04*	188	*0.12*					1010	*0.63*	0.63	13
4.2		E-W					492	*0.31*	102	*0.06*	828	*0.52*	0.52	2
5	Displaced Left Turn	FULL	65	*0.04*	188	*0.12*	492	*0.31*	102	*0.06*	828	*0.52*	0.52	2
6.1	Restricted Crossing U-Turn	N-S	370	*0.23*	1417	0.89	1520	0.95	640	*0.40*			0.95	15
6.2		E-W	264	*0.17*	967	*0.60*	128	*0.08*	500	*0.31*			0.60	12
7.1	Median U-Turn	N-S	253	*0.16*	580	*0.36*					943	*0.59*	0.59	6
7.2		E-W					154	*0.10*	523	*0.33*	965	*0.60*	0.60	8
8.1	Partial Median U-Turn	N-S	137	*0.09*	531	*0.33*					965	*0.60*	0.60	8
8.2		E-W					154	*0.10*	523	*0.33*	965	*0.60*	0.60	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.17			0.98			2.39			0.22			2.39	7
9.2	75 ICD	0.16			0.97			1.81			0.22			1.81	6
9.3	1 X 1	0.15			0.87			1.04			0.20			1.04	5
9.4	1 X 2	0.14			0.45	0.42		0.82			0.15	0.05		0.82	3
9.5	2 X 1	0.05	0.10		0.82			0.02	1.02		0.19			1.02	4
9.6	2 X 2	0.04	0.10		0.15	0.05		0.02	0.80		0.43	0.40		0.80	2
9.7	3 X 3	0.00	0.04	0.09	0.02	0.40	0.39	0.00	0.02	0.72	0.05	0.09	0.05	0.72	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					181	0.11	237	0.15					0.15	5
10.2		E-W					425	0.27	381	0.24					0.27	6
11.1	Partial Cloverleaf	N-S					84	0.05	21	0.01					0.05	1
11.2		E-W					536	0.16	154	0.10					0.34	7
13.1	Displaced Left Turn	N-S	65	0.04			188	0.12	232	0.15			207	0.13	0.15	4
13.2		E-W	112	0.07			377	0.24	377	0.24			943	0.59	0.59	8
14.1	Double Crossover Diamond	N-S	65	0.04	200	0.12	149	0.09	209	0.13	70	0.04	207	0.13	0.13	3
14.2		E-W	112	0.07	452	0.28	399	0.25	105	0.07	482	0.30	943	0.59	0.59	8
15.1	Single Point	N-S	65	0.04			200	0.12					207	0.13	0.13	2
15.2		E-W	112	0.07			492	0.31					943	0.59	0.59	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Project Name:	*US 401 Corridor Study*
Project Number:	*31000115*
Location	*US 401 at NC 55 (NC 55 - N-S)*
Date	May 20, 2021

Critical Lane Volume Sum			
Acceptable Configurations			
< 1200	**1200 - 1399**	**1400 - 1599**	**≥ 1600**
23	**1**	**1**	**7**

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									944	*0.59*	0.59	10
2	Conventional Shared RT LN	CSRL									1148	*0.72*	0.72	13
3.1	Quadrant Roadway	S-W			828	*0.52*			331	*0.21*	881	*0.55*	0.55	3
3.2		N-E	750	*0.47*			432	*0.27*			930	*0.58*	0.58	9
3.3		S-E			716	*0.45*	716	*0.45*			919	*0.57*	0.57	7
3.4		N-W	731	*0.46*					338	*0.21*	871	*0.54*	0.54	2
4.1	Partial Displaced Left Turn	N-S	690	*0.43*	344	*0.21*					894	*0.56*	0.56	5
4.2		E-W					328	*0.21*	191	*0.12*	906	*0.57*	0.57	6
5	Displaced Left Turn	FULL	690	*0.43*	344	*0.21*	328	*0.21*	191	*0.12*	861	*0.54*	0.54	1
6.1	Restricted Crossing U-Turn	N-S	519	*0.32*	1449	0.91	948	*0.59*	710	*0.44*			0.91	15
6.2		E-W	995	*0.62*	1243	0.78	743	*0.46*	713	*0.45*			0.78	14
7.1	Median U-Turn	N-S	431	*0.27*	884	*0.55*					871	*0.54*	0.55	4
7.2		E-W					233	*0.15*	429	*0.27*	919	*0.57*	0.57	7
8.1	Partial Median U-Turn	N-S	398	*0.25*	754	*0.47*					965	*0.60*	0.60	11
8.2		E-W					210	*0.13*	384	*0.24*	965	*0.60*	0.60	11

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.86			2.12			4.51			-0.49			4.51	7
9.2	75 ICD	0.84			1.86			3.75			-0.77			3.75	6
9.3	1 X 1	0.77			1.23			2.54			0.52			2.54	5
9.4	1 X 2	0.74			0.69	0.54		2.06			0.26	0.26		2.06	4
9.5	2 X 1	0.36	0.41		1.00			1.09	1.45		0.35			1.45	3
9.6	2 X 2	0.34	0.40		0.19	0.18		0.91	1.18		0.58	0.44		1.18	1
9.7	3 X 3	0.02	0.32	0.38	0.10	0.56	0.49	0.02	1.03	1.25	0.05	0.21	0.22	1.25	2

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					701	0.44	573	0.36					0.44	7
10.2		E-W					448	0.28	301	0.19					0.28	2
11.1	Partial Cloverleaf	N-S					349	0.22	642	0.40					0.40	6
11.2		E-W					425	0.47	195	0.12					0.27	1
13.1	Displaced Left Turn	N-S	690	0.43			675	0.42	703	0.44			359	0.22	0.44	8
13.2		E-W	191	0.12			320	0.20	318	0.20			544	0.34	0.34	3
14.1	Double Crossover Diamond	N-S	678	0.42	359	0.22	971	0.61	917	0.57	727	0.45	359	0.22	0.61	10
14.2		E-W	168	0.11	394	0.25	379	0.24	88	0.06	360	0.23	544	0.34	0.34	3
15.1	Single Point	N-S	678	0.42			762	0.48					359	0.22	0.48	9
15.2		E-W	168	0.11			450	0.28					544	0.34	0.34	3

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Purfoy Road*	27	1	0	4
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									659	*0.41*	0.41	11
2	Conventional Shared RT LN	CSRL									870	*0.54*	0.54	14
3.1	Quadrant Roadway	S-W			460	*0.29*			485	*0.30*	499	*0.31*	0.31	2
3.2		N-E	450	*0.28*			413	*0.26*			573	*0.36*	0.36	8
3.3		S-E			490	*0.31*	490	*0.31*			501	*0.31*	0.31	3
3.4		N-W	372	*0.23*					347	*0.22*	541	*0.34*	0.34	5
4.1	Partial Displaced Left Turn	N-S	359	*0.22*	356	*0.22*					592	*0.37*	0.37	10
4.2		E-W					352	*0.22*	197	*0.12*	529	*0.33*	0.33	4
5	Displaced Left Turn	FULL	359	*0.22*	356	*0.22*	352	*0.22*	197	*0.12*	469	*0.29*	0.29	1
6.1	Restricted Crossing U-Turn	N-S	424	*0.27*	981	*0.61*	840	*0.53*	483	*0.30*			0.61	15
6.2		E-W	500	*0.31*	707	*0.44*	486	*0.30*	444	*0.28*			0.44	13
7.1	Median U-Turn	N-S	465	*0.29*	592	*0.37*					541	*0.34*	0.37	9
7.2		E-W					340	*0.21*	441	*0.28*	664	*0.42*	0.42	12
8.1	Partial Median U-Turn	N-S	342	*0.21*	521	*0.33*					564	*0.35*	0.35	6
8.2		E-W					180	*0.11*	381	*0.24*	564	*0.35*	0.35	6

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.56			0.91			1.83			0.85			1.83	7
9.2	75 ICD	0.53			0.87			1.67			0.66			1.67	6
9.3	1 X 1	0.46			0.71			1.37			0.41			1.37	5
9.4	1 X 2	0.42			0.37	0.35		1.17			0.31	0.10		1.17	4
9.5	2 X 1	0.25	0.22		0.62			0.61	0.76		0.32			0.76	3
9.6	2 X 2	0.23	0.19		0.25	0.08		0.54	0.65		0.33	0.30		0.65	2
9.7	3 X 3	0.03	0.20	0.19	0.04	0.31	0.31	0.10	0.48	0.64	0.10	0.19	0.09	0.64	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					582	0.36	357	0.22					0.36	10
10.2		E-W					460	0.29	339	0.21					0.29	4
11.1	Partial Cloverleaf	N-S					328	0.20	399	0.25					0.25	2
11.2		E-W					389	0.28	180	0.11					0.24	1
13.1	Displaced Left Turn	N-S	359	0.22			410	0.26	331	0.21			356	0.22	0.26	3
13.2		E-W	197	0.12			262	0.16	389	0.24			499	0.31	0.31	5
14.1	Double Crossover Diamond	N-S	299	0.19	291	0.18	467	0.29	535	0.33	410	0.26	249	0.16	0.33	8
14.2		E-W	158	0.10	360	0.22	294	0.18	269	0.17	338	0.21	499	0.31	0.31	5
15.1	Single Point	N-S	299	0.19			550	0.34					249	0.16	0.34	9
15.2		E-W	158	0.10			485	0.30					499	0.31	0.31	5

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Angier Road*	32	0	0	0
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									574	*0.36*	0.36	15
2	Conventional Shared RT LN	CSRL									545	*0.34*	0.34	11
3.1	Quadrant Roadway	S-W			380	*0.24*			424	*0.26*	482	*0.30*	0.30	9
3.2		N-E	418	*0.26*			424	*0.26*			284	*0.18*	0.26	3
3.3		S-E			418	*0.26*	418	*0.26*			355	*0.22*	0.26	2
3.4		N-W	197	*0.12*					428	*0.27*	275	*0.17*	0.27	6
4.1	Partial Displaced Left Turn	N-S	427	*0.27*	167	*0.10*					424	*0.26*	0.27	4
4.2		E-W					258	*0.16*	146	*0.09*	541	*0.34*	0.34	10
5	Displaced Left Turn	FULL	427	*0.27*	167	*0.10*	258	*0.16*	146	*0.09*	424	*0.26*	0.27	4
6.1	Restricted Crossing U-Turn	N-S	444	*0.28*	444	*0.28*	573	*0.36*	393	*0.25*			0.36	14
6.2		E-W	384	*0.24*	371	*0.23*	309	*0.19*	384	*0.24*			0.24	1
7.1	Median U-Turn	N-S	320	*0.20*	473	*0.30*					424	*0.26*	0.30	8
7.2		E-W					237	*0.15*	437	*0.27*	471	*0.29*	0.29	7
8.1	Partial Median U-Turn	N-S	320	*0.20*	454	*0.28*					549	*0.34*	0.34	12
8.2		E-W					158	*0.10*	136	*0.08*	549	*0.34*	0.34	12

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.63			0.49			0.62			0.41			0.63	7
9.2	75 ICD	0.61			0.47			0.56			0.38			0.61	6
9.3	1 X 1	0.55			0.37			0.46			0.34			0.55	5
9.4	1 X 2	0.51			0.19	0.18		0.39			0.11	0.23		0.51	4
9.5	2 X 1	0.41	0.14		0.33			0.28	0.18		0.31			0.41	3
9.6	2 X 2	0.38	0.13		0.10	0.21		0.25	0.15		0.17	0.16		0.38	2
9.7	3 X 3	0.15	0.24	0.13	0.01	0.17	0.16	0.05	0.22	0.15	0.00	0.11	0.19	0.24	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					228	0.14	422	0.26					0.26	3
10.2		E-W					356	0.22	428	0.27					0.27	5
11.1	Partial Cloverleaf	N-S					302	0.19	454	0.28					0.28	10
11.2		E-W					140	0.26	110	0.07					0.09	1
13.1	Displaced Left Turn	N-S	427	0.27			301	0.19	134	0.08			167	0.10	0.27	4
13.2		E-W	166	0.10			428	0.27	337	0.21			258	0.16	0.27	5
14.1	Double Crossover Diamond	N-S	232	0.15	224	0.14	349	0.22	241	0.15	171	0.11	98	0.06	0.22	2
14.2		E-W	166	0.10	258	0.16	432	0.27	170	0.11	350	0.22	258	0.16	0.27	7
15.1	Single Point	N-S	232	0.15			437	0.27					98	0.06	0.27	8
15.2		E-W	166	0.10			443	0.28					258	0.16	0.28	9

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Bowling Road*	31	0	0	0
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									406	*0.25*	0.25	4
2	Conventional Shared RT LN	CSRL									452	*0.28*	0.28	14
3.1	Quadrant Roadway	S-W			79	*0.05*			263	*0.16*	407	*0.25*	0.25	7
3.2		N-E	315	*0.20*			223	*0.14*			433	*0.27*	0.27	9
3.3		S-E			79	*0.05*	79	*0.05*			433	*0.27*	0.27	9
3.4		N-W	262	*0.16*					406	*0.25*	145	*0.09*	0.25	4
4.1	Partial Displaced Left Turn	N-S	71	*0.04*	0	*0.00*					406	*0.25*	0.25	4
4.2		E-W					136	*0.08*	223	*0.14*	328	*0.20*	0.20	2
5	Displaced Left Turn	FULL	71	*0.04*	0	*0.00*	136	*0.08*	223	*0.14*	328	*0.20*	0.20	2
6.1	Restricted Crossing U-Turn	N-S	557	*0.35*	380	*0.24*	462	*0.29*	773	*0.48*			0.48	15
6.2		E-W	276	*0.17*	136	*0.08*	145	*0.09*	171	*0.11*			0.17	1
7.1	Median U-Turn	N-S	236	*0.15*	79	*0.05*					407	*0.25*	0.25	7
7.2		E-W					223	*0.14*	171	*0.11*	433	*0.27*	0.27	9
8.1	Partial Median U-Turn	N-S	236	*0.15*	0	*0.00*					433	*0.27*	0.27	9
8.2		E-W					223	*0.14*	171	*0.11*	433	*0.27*	0.27	9

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.32			0.34			0.00			0.31			0.34	#DIV/0!
9.2	75 ICD	0.31			0.34			0.00			0.30			0.34	#DIV/0!
9.3	1 X 1	0.28			0.30			0.00			0.27			0.30	#DIV/0!
9.4	1 X 2	0.26			0.18	0.12		0.00			0.14	0.14		0.26	#DIV/0!
9.5	2 X 1	0.00	0.28		0.30			0.00	0.00		0.27			0.30	#DIV/0!
9.6	2 X 2	0.00	0.26		0.13	0.13		0.00	0.00		0.18	0.12		0.26	#DIV/0!
9.7	3 X 3	0.00	0.00	0.20	0.03	0.14	0.11	0.00	0.00	#####	0.00	0.13	0.13	#DIV/0!	#DIV/0!

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					71	0.04	79	0.05					0.05	3
10.2		E-W					214	0.13	145	0.09					0.13	6
11.1	Partial Cloverleaf	N-S					0	0.00	0	0.00					0.00	1
11.2		E-W					207	0.20	223	0.14					0.14	7
13.1	Displaced Left Turn	N-S	71	0.04			71	0.04	71	0.04			0	0.00	0.04	2
13.2		E-W	407	0.25			145	0.09	145	0.09			136	0.08	0.25	8
14.1	Double Crossover Diamond	N-S	71	0.04	0	0.00	71	0.04	0	0.00	79	0.05	0	0.00	0.05	3
14.2		E-W	407	0.25	316	0.20	171	0.11	145	0.09	280	0.18	136	0.08	0.25	8
15.1	Single Point	N-S	71	0.04			79	0.05					0	0.00	0.05	3
15.2		E-W	407	0.25			223	0.14					136	0.08	0.25	8

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at S Main Street*	30	2	0	0
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									408	*0.26*	0.26	4
2	Conventional Shared RT LN	CSRL									613	*0.38*	0.38	14
3.1	Quadrant Roadway	S-W			392	*0.25*			202	*0.13*	472	*0.29*	0.29	8
3.2		N-E	321	*0.20*			229	*0.14*			419	*0.26*	0.26	5
3.3		S-E			321	*0.20*	321	*0.20*			393	*0.25*	0.25	2
3.4		N-W	302	*0.19*					229	*0.14*	487	*0.30*	0.30	10
4.1	Partial Displaced Left Turn	N-S	203	*0.13*	232	*0.14*					419	*0.26*	0.26	6
4.2		E-W					191	*0.12*	202	*0.13*	405	*0.25*	0.25	3
5	Displaced Left Turn	FULL	203	*0.13*	232	*0.14*	191	*0.12*	202	*0.13*	381	*0.24*	0.24	1
6.1	Restricted Crossing U-Turn	N-S	757	*0.47*	411	*0.26*	644	*0.40*	517	*0.32*			0.47	15
6.2		E-W	538	*0.34*	600	*0.37*	458	*0.29*	273	*0.17*			0.37	13
7.1	Median U-Turn	N-S	308	*0.19*	301	*0.19*					445	*0.28*	0.28	7
7.2		E-W					262	*0.16*	206	*0.13*	472	*0.29*	0.29	8
8.1	Partial Median U-Turn	N-S	191	*0.12*	301	*0.19*					498	*0.31*	0.31	11
8.2		E-W					262	*0.16*	179	*0.11*	498	*0.31*	0.31	11

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.76			0.25			0.62			0.80			0.80	7
9.2	75 ICD	0.70			0.24			0.60			0.75			0.75	6
9.3	1 X 1	0.56			0.18			0.56			0.66			0.66	5
9.4	1 X 2	0.48			0.09	0.09		0.54			0.39	0.27		0.54	3
9.5	2 X 1	0.30	0.26		0.15			0.18	0.38		0.59			0.59	4
9.6	2 X 2	0.26	0.23		0.36	0.24		0.17	0.36		0.08	0.08		0.36	2
9.7	3 X 3	0.02	0.27	0.24	0.00	0.08	0.08	0.00	0.17	0.33	0.06	0.31	0.26	0.33	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					294	0.18	258	0.16					0.18	5
10.2		E-W					170	0.11	346	0.22					0.22	8
11.1	Partial Cloverleaf	N-S					191	0.12	203	0.13					0.13	1
11.2		E-W					179	0.20	255	0.16					0.16	2
13.1	Displaced Left Turn	N-S	203	0.13			285	0.18	232	0.14			232	0.14	0.18	3
13.2		E-W	202	0.13			229	0.14	202	0.13			290	0.18	0.18	4
14.1	Double Crossover Diamond	N-S	192	0.12	308	0.19	367	0.23	408	0.26	177	0.11	232	0.14	0.26	10
14.2		E-W	202	0.13	264	0.16	88	0.06	255	0.16	329	0.21	290	0.18	0.21	7
15.1	Single Point	N-S	192	0.12			323	0.20					232	0.14	0.20	6
15.2		E-W	202	0.13			346	0.22					290	0.18	0.22	8

2045 Build PM

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at N Main Street*	5	4	2	20
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									1102	*0.69*	0.69	3
2	Conventional Shared RT LN	CSRL									1652	1.03	1.03	8
3.1	Quadrant Roadway	S-W			2003	1.25			1821	1.14	5281	3.30	3.30	14
3.2		N-E	2003	1.25			1902	1.19			2003	1.25	1.25	9
3.3		S-E			2003	1.25	2003	1.25			4374	2.73	2.73	13
3.4		N-W	2003	1.25					1821	1.14	1734	1.08	1.25	9
4.1	Partial Displaced Left Turn	N-S	911	*0.57*	668	*0.42*					911	*0.57*	0.57	1
4.2		E-W					1639	1.02	0	*0.00*	1001	*0.63*	1.02	6
5	Displaced Left Turn	FULL	911	*0.57*	668	*0.42*	1639	1.02	0	*0.00*	911	*0.57*	1.02	6
6.1	Restricted Crossing U-Turn	N-S	1214	0.76	27	*0.02*	1001	*0.63*	668	*0.42*			0.76	4
6.2		E-W	6272	3.92	2316	1.45	659	*0.41*	4047	2.53			3.92	15
7.1	Median U-Turn	N-S	1214	0.76	938	*0.59*					2277	1.42	1.42	12
7.2		E-W					659	*0.41*	1821	1.14	2187	1.37	1.37	11
8.1	Partial Median U-Turn	N-S	1214	0.76	938	*0.59*					1001	*0.63*	0.76	4
8.2		E-W					659	*0.41*	0	*0.00*	1001	*0.63*	0.63	2

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	3.56			0.00			-0.13			0.65			3.56	#DIV/0!
9.2	75 ICD	3.54			0.00			-0.16			0.64			3.54	#DIV/0!
9.3	1 X 1	3.22			0.00			0.37			0.58			3.22	#DIV/0!
9.4	1 X 2	3.22			0.00	0.00		0.23			0.00	0.58		3.22	#DIV/0!
9.5	2 X 1	2.34	0.89		0.00			0.00	0.37		0.58			2.34	#DIV/0!
9.6	2 X 2	2.34	0.89		0.00	0.58		0.00	0.23		0.00	0.00		2.34	#DIV/0!
9.7	3 X 3	0.69	1.54	0.85	0.00	0.00	#####	0.00	0.00	0.17	0.00	0.00	0.42	#DIV/0!	#DIV/0!

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					728	0.46	1578	0.99					0.99	5
10.2		E-W					1639	1.02	1821	1.14					1.14	7
11.1	Partial Cloverleaf	N-S					1214	0.76	911	0.57					0.76	3
11.2		E-W					0	1.25	0	0.00					0.00	1
13.1	Displaced Left Turn	N-S	911	0.57			911	0.57	668	0.42			668	0.42	0.57	2
13.2		E-W	0	0.00			1821	1.14	1639	1.02			1729	1.08	1.14	7
14.1	Double Crossover Diamond	N-S	366	0.23	1214	0.76	1214	0.76	668	0.42	0	0.00	668	0.42	0.76	3
14.2		E-W	0	0.00	0	0.00	1821	1.14	0	0.00	1639	1.02	1729	1.08	1.14	7
15.1	Single Point	N-S	366	0.23			1578	0.99					668	0.42	0.99	5
15.2		E-W	0	0.00			1821	1.14					1729	1.08	1.14	7

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at NC 42 (US 401 - N-S)*	17	5	0	10
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									1334	0.83	0.83	11
2	Conventional Shared RT LN	CSRL									1814	1.13	1.13	14
3.1	Quadrant Roadway	S-W			821	0.51			804	0.50	1243	0.78	0.78	9
3.2		N-E	1002	0.63			891	0.56			928	0.58	0.63	3
3.3		S-E			897	0.56	897	0.56			1114	0.70	0.70	6
3.4		N-W	809	0.51					891	0.56	1128	0.71	0.71	7
4.1	Partial Displaced Left Turn	N-S	624	0.39	628	0.39					1200	0.75	0.75	8
4.2		E-W					906	0.57	478	0.30	959	0.60	0.60	2
5	Displaced Left Turn	FULL	624	0.39	628	0.39	906	0.57	478	0.30	871	0.54	0.57	1
6.1	Restricted Crossing U-Turn	N-S	1415	0.88	1233	0.77	1746	1.09	1716	1.07			1.09	13
6.2		E-W	2034	1.27	1408	0.88	963	0.60	1193	0.75			1.27	15
7.1	Median U-Turn	N-S	1188	0.74	778	0.49					1262	0.79	0.79	10
7.2		E-W					746	0.47	1195	0.75	1343	0.84	0.84	12
8.1	Partial Median U-Turn	N-S	860	0.54	652	0.41					1101	0.69	0.69	4
8.2		E-W					746	0.47	782	0.49	1101	0.69	0.69	4

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	#####			-1.44			-1.83			2.12			2.12	3
9.2	75 ICD	20.05			-1.80			-3.16			1.96			20.05	7
9.3	1 X 1	4.14			4.08			1.50			1.67			4.14	6
9.4	1 X 2	3.06			2.27	1.81		1.03			0.87	0.80		3.06	4
9.5	2 X 1	2.05	2.09		2.51			0.49	1.02		1.47			2.51	3
9.6	2 X 2	1.60	1.55		0.79	0.70		0.35	0.69		1.51	1.11		1.60	1
9.7	3 X 3	0.45	1.53	1.69	0.27	1.88	1.39	0.00	0.46	0.75	0.19	0.65	0.69	1.88	2

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					773	0.48	1167	0.73					0.73	9
10.2		E-W					703	0.44	1094	0.68					0.68	8
11.1	Partial Cloverleaf	N-S					444	0.28	516	0.32					0.32	1
11.2		E-W					703	0.63	459	0.29					0.44	2
13.1	Displaced Left Turn	N-S	624	0.39			776	0.49	741	0.46			640	0.40	0.49	3
13.2		E-W	782	0.49			804	0.50	577	0.36			906	0.57	0.57	4
14.1	Double Crossover Diamond	N-S	478	0.30	995	0.62	877	0.55	783	0.49	280	0.18	640	0.40	0.62	5
14.2		E-W	782	0.49	800	0.50	861	0.54	500	0.31	1077	0.67	765	0.48	0.67	7
15.1	Single Point	N-S	478	0.30			1058	0.66					640	0.40	0.66	6
15.2		E-W	782	0.49			1133	0.71					1342	0.84	0.84	10

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Kennebec Rd (Kennebec Rd - N-S)*	25	2	1	4
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									671	*0.42*	0.42	4
2	Conventional Shared RT LN	CSRL									1166	*0.73*	0.73	14
3.1	Quadrant Roadway	S-W			787	*0.49*			554	*0.35*	915	*0.57*	0.57	9
3.2		N-E	630	*0.39*			510	*0.32*			717	*0.45*	0.45	5
3.3		S-E			570	*0.36*	570	*0.36*			553	*0.35*	0.36	3
3.4		N-W	558	*0.35*					515	*0.32*	1148	*0.72*	0.72	13
4.1	Partial Displaced Left Turn	N-S	142	*0.09*	514	*0.32*					766	*0.48*	0.48	8
4.2		E-W					554	*0.35*	504	*0.32*	558	*0.35*	0.35	1
5	Displaced Left Turn	FULL	142	*0.09*	514	*0.32*	554	*0.35*	504	*0.32*	558	*0.35*	0.35	1
6.1	Restricted Crossing U-Turn	N-S	1598	1.00	652	*0.41*	1236	0.77	1214	0.76			1.00	15
6.2		E-W	646	*0.40*	584	*0.37*	723	*0.45*	280	*0.17*			0.45	7
7.1	Median U-Turn	N-S	630	*0.39*	402	*0.25*					722	*0.45*	0.45	6
7.2		E-W					703	*0.44*	591	*0.37*	915	*0.57*	0.57	9
8.1	Partial Median U-Turn	N-S	189	*0.12*	333	*0.21*					915	*0.57*	0.57	9
8.2		E-W					703	*0.44*	591	*0.37*	915	*0.57*	0.57	9

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	-0.69			0.61			0.45			1.45			1.45	7
9.2	75 ICD	-1.13			0.57			0.43			1.41			1.41	6
9.3	1 X 1	0.59			0.44			0.39			1.29			1.29	5
9.4	1 X 2	0.41			0.26	0.18		0.36			0.85	0.44		0.85	3
9.5	2 X 1	0.18	0.41		0.38			0.05	0.35		1.24			1.24	4
9.6	2 X 2	0.13	0.28		0.82	0.43		0.04	0.32		0.23	0.16		0.82	2
9.7	3 X 3	0.00	0.17	0.31	0.05	0.20	0.16	0.00	0.05	0.26	0.20	0.62	0.42	0.62	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					583	0.36	583	0.36					0.36	5
10.2		E-W					492	0.31	877	0.55					0.55	9
11.1	Partial Cloverleaf	N-S					117	0.07	80	0.05					0.07	1
11.2		E-W					616	0.39	703	0.44					0.44	7
13.1	Displaced Left Turn	N-S	142	0.09			539	0.34	576	0.36			527	0.33	0.36	4
13.2		E-W	516	0.32			436	0.27	441	0.28			554	0.35	0.35	2
14.1	Double Crossover Diamond	N-S	142	0.09	558	0.35	259	0.16	594	0.37	149	0.09	527	0.33	0.37	6
14.2		E-W	516	0.32	579	0.36	144	0.09	634	0.40	747	0.47	394	0.25	0.47	8
15.1	Single Point	N-S	142	0.09			558	0.35					527	0.33	0.35	3
15.2		E-W	516	0.32			877	0.55					394	0.25	0.55	9

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at NC 55 (NC 55 - N-S)*	22	1	1	8
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									1041	0.65	0.65	8
2	Conventional Shared RT LN	CSRL									1334	0.83	0.83	13
3.1	Quadrant Roadway	S-W			934	0.58			395	0.25	1033	0.65	0.65	7
3.2		N-E	973	0.61			524	0.33			927	0.58	0.61	4
3.3		S-E			906	0.57	906	0.57			937	0.59	0.59	2
3.4		N-W	883	0.55					497	0.31	1134	0.71	0.71	12
4.1	Partial Displaced Left Turn	N-S	498	0.31	782	0.49					1001	0.63	0.63	5
4.2		E-W					369	0.23	382	0.24	947	0.59	0.59	3
5	Displaced Left Turn	FULL	498	0.31	782	0.49	369	0.23	382	0.24	911	0.57	0.57	1
6.1	Restricted Crossing U-Turn	N-S	1590	0.99	816	0.51	999	0.62	993	0.62			0.99	14
6.2		E-W	2002	1.25	1817	1.14	973	0.61	891	0.56			1.25	15
7.1	Median U-Turn	N-S	1012	0.63	592	0.37					1079	0.67	0.67	11
7.2		E-W					597	0.37	445	0.28	1023	0.64	0.64	6
8.1	Partial Median U-Turn	N-S	764	0.48	502	0.31					1058	0.66	0.66	9
8.2		E-W					562	0.35	422	0.26	1058	0.66	0.66	9

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	7.39			-0.69			1.36			93.13			93.13	7
9.2	75 ICD	5.45			-0.89			1.30			9.01			9.01	6
9.3	1 X 1	2.89			1.40			1.17			2.23			2.89	5
9.4	1 X 2	2.27			0.77	0.63		1.06			1.18	1.05		2.27	4
9.5	2 X 1	1.30	1.59		0.89			0.57	0.60		1.66			1.66	3
9.6	2 X 2	1.06	1.25		0.92	0.78		0.53	0.55		0.53	0.40		1.25	1
9.7	3 X 3	0.02	1.22	1.35	0.16	0.59	0.52	0.02	0.53	0.55	0.26	0.89	0.90	1.35	2

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					759	0.47	859	0.54					0.54	8
10.2		E-W					384	0.24	562	0.35					0.35	5
11.1	Partial Cloverleaf	N-S					681	0.43	473	0.30					0.43	6
11.2		E-W					440	0.61	478	0.30					0.30	1
13.1	Displaced Left Turn	N-S	662	0.41			858	0.54	828	0.52			798	0.50	0.54	7
13.2		E-W	478	0.30			314	0.20	312	0.19			369	0.23	0.30	2
14.1	Double Crossover Diamond	N-S	662	0.41	893	0.56	1121	0.70	1198	0.75	541	0.34	798	0.50	0.75	10
14.2		E-W	478	0.30	444	0.28	174	0.11	423	0.26	509	0.32	184	0.12	0.32	3
15.1	Single Point	N-S	662	0.41			918	0.57					798	0.50	0.57	9
15.2		E-W	478	0.30			559	0.35					184	0.12	0.35	4

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Purfoy Road*	27	0	0	5
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									838	*0.52*	0.52	12
2	Conventional Shared RT LN	CSRL									942	*0.59*	0.59	13
3.1	Quadrant Roadway	S-W			816	*0.51*			616	*0.38*	687	*0.43*	0.51	8
3.2		N-E	684	*0.43*			448	*0.28*			543	*0.34*	0.43	2
3.3		S-E			724	*0.45*	724	*0.45*			565	*0.35*	0.45	3
3.4		N-W	648	*0.41*					382	*0.24*	827	*0.52*	0.52	11
4.1	Partial Displaced Left Turn	N-S	301	*0.19*	539	*0.34*					740	*0.46*	0.46	5
4.2		E-W					473	*0.30*	342	*0.21*	736	*0.46*	0.46	4
5	Displaced Left Turn	FULL	301	*0.19*	539	*0.34*	473	*0.30*	342	*0.21*	648	*0.41*	0.41	1
6.1	Restricted Crossing U-Turn	N-S	1182	*0.74*	606	*0.38*	756	*0.47*	786	*0.49*			0.74	15
6.2		E-W	1069	*0.67*	1170	*0.73*	656	*0.41*	554	*0.35*			0.73	14
7.1	Median U-Turn	N-S	794	*0.50*	450	*0.28*					670	*0.42*	0.50	6
7.2		E-W					552	*0.35*	615	*0.38*	816	*0.51*	0.51	7
8.1	Partial Median U-Turn	N-S	435	*0.27*	361	*0.23*					816	*0.51*	0.51	8
8.2		E-W					464	*0.29*	566	*0.35*	816	*0.51*	0.51	8

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	4.02			6.69			0.86			1.79			6.69	7
9.2	75 ICD	2.83			3.19			0.83			1.56			3.19	6
9.3	1 X 1	1.41			0.95			0.75			1.19			1.41	5
9.4	1 X 2	1.10			0.39	0.55		0.69			0.85	0.34		1.10	4
9.5	2 X 1	0.68	0.73		0.71			0.35	0.40		1.00			1.00	3
9.6	2 X 2	0.55	0.57		0.74	0.29		0.32	0.37		0.31	0.42		0.74	2
9.7	3 X 3	0.05	0.59	0.60	0.09	0.28	0.42	0.05	0.29	0.35	0.25	0.57	0.31	0.60	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					699	0.44	589	0.37					0.44	8
10.2		E-W					427	0.27	661	0.41					0.41	7
11.1	Partial Cloverleaf	N-S					399	0.25	301	0.19					0.25	1
11.2		E-W					531	0.43	464	0.29					0.33	4
13.1	Displaced Left Turn	N-S	301	0.19			613	0.38	531	0.33			619	0.39	0.39	5
13.2		E-W	342	0.21			302	0.19	447	0.28			473	0.30	0.30	2
14.1	Double Crossover Diamond	N-S	253	0.16	670	0.42	564	0.35	703	0.44	341	0.21	619	0.39	0.44	9
14.2		E-W	334	0.21	386	0.24	181	0.11	463	0.29	490	0.31	248	0.16	0.31	3
15.1	Single Point	N-S	253	0.16			736	0.46					619	0.39	0.46	10
15.2		E-W	334	0.21			661	0.41					248	0.16	0.41	6

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Angier Road*	30	2	0	0
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									521	*0.33*	0.33	8
2	Conventional Shared RT LN	CSRL									573	*0.36*	0.36	14
3.1	Quadrant Roadway	S-W			216	*0.13*			272	*0.17*	540	*0.34*	0.34	11
3.2		N-E	507	*0.32*			393	*0.25*			304	*0.19*	0.32	5
3.3		S-E			233	*0.15*	233	*0.15*			540	*0.34*	0.34	11
3.4		N-W	312	*0.20*					393	*0.25*	487	*0.30*	0.30	4
4.1	Partial Displaced Left Turn	N-S	250	*0.16*	146	*0.09*					407	*0.25*	0.25	2
4.2		E-W					207	*0.13*	174	*0.11*	470	*0.29*	0.29	3
5	Displaced Left Turn	FULL	250	*0.16*	146	*0.09*	207	*0.13*	174	*0.11*	370	*0.23*	0.23	1
6.1	Restricted Crossing U-Turn	N-S	485	*0.30*	501	*0.31*	664	*0.41*	545	*0.34*			0.41	15
6.2		E-W	523	*0.33*	467	*0.29*	424	*0.26*	415	*0.26*			0.33	9
7.1	Median U-Turn	N-S	210	*0.13*	277	*0.17*					540	*0.34*	0.34	11
7.2		E-W					341	*0.21*	326	*0.20*	534	*0.33*	0.33	10
8.1	Partial Median U-Turn	N-S	210	*0.13*	239	*0.15*					507	*0.32*	0.32	5
8.2		E-W					327	*0.20*	209	*0.13*	507	*0.32*	0.32	5

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.53			0.65			0.42			0.79			0.79	7
9.2	75 ICD	0.51			0.63			0.39			0.75			0.75	6
9.3	1 X 1	0.46			0.53			0.34			0.68			0.68	5
9.4	1 X 2	0.42			0.24	0.29		0.29			0.15	0.52		0.52	3
9.5	2 X 1	0.28	0.18		0.48			0.18	0.16		0.62			0.62	4
9.6	2 X 2	0.26	0.17		0.14	0.48		0.16	0.14		0.22	0.26		0.48	2
9.7	3 X 3	0.06	0.21	0.17	0.02	0.21	0.26	0.01	0.16	0.15	0.00	0.15	0.42	0.42	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					145	0.09	288	0.18					0.18	5
10.2		E-W					258	0.16	254	0.16					0.16	3
11.1	Partial Cloverleaf	N-S					199	0.12	239	0.15					0.15	2
11.2		E-W					188	0.32	168	0.10					0.12	1
13.1	Displaced Left Turn	N-S	486	0.30			133	0.08	167	0.10			216	0.13	0.30	8
13.2		E-W	174	0.11			272	0.17	220	0.14			207	0.13	0.17	4
14.1	Double Crossover Diamond	N-S	486	0.30	186	0.12	318	0.20	254	0.16	159	0.10	216	0.13	0.30	8
14.2		E-W	160	0.10	307	0.19	289	0.18	143	0.09	337	0.21	207	0.13	0.21	7
15.1	Single Point	N-S	486	0.30			288	0.18					216	0.13	0.30	8
15.2		E-W	160	0.10			310	0.19					207	0.13	0.19	6

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at Bowling Road*	31	0	0	0
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									428	*0.27*	0.27	4
2	Conventional Shared RT LN	CSRL									546	*0.34*	0.34	14
3.1	Quadrant Roadway	S-W			280	*0.18*			280	*0.18*	303	*0.19*	0.19	1
3.2		N-E	365	*0.23*			428	*0.27*			429	*0.27*	0.27	9
3.3		S-E			280	*0.18*	280	*0.18*			429	*0.27*	0.27	9
3.4		N-W	280	*0.18*					428	*0.27*	209	*0.13*	0.27	4
4.1	Partial Displaced Left Turn	N-S	252	*0.16*	0	*0.00*					428	*0.27*	0.27	4
4.2		E-W					209	*0.13*	428	*0.27*	280	*0.18*	0.27	4
5	Displaced Left Turn	FULL	252	*0.16*	0	*0.00*	209	*0.13*	428	*0.27*	280	*0.18*	0.27	4
6.1	Restricted Crossing U-Turn	N-S	413	*0.26*	743	*0.46*	627	*0.39*	794	*0.50*			0.50	15
6.2		E-W	288	*0.18*	209	*0.13*	148	*0.09*	335	*0.21*			0.21	2
7.1	Median U-Turn	N-S	85	*0.05*	280	*0.18*					374	*0.23*	0.23	3
7.2		E-W					428	*0.27*	335	*0.21*	429	*0.27*	0.27	9
8.1	Partial Median U-Turn	N-S	85	*0.05*	0	*0.00*					429	*0.27*	0.27	9
8.2		E-W					428	*0.27*	335	*0.21*	429	*0.27*	0.27	9

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.12			0.66			0.00			0.39			0.66	#DIV/0!
9.2	75 ICD	0.11			0.66			0.00			0.37			0.66	#DIV/0!
9.3	1 X 1	0.10			0.59			0.00			0.34			0.59	#DIV/0!
9.4	1 X 2	0.09			0.41	0.18		0.00			0.17	0.17		0.41	#DIV/0!
9.5	2 X 1	0.00	0.10		0.59			0.00	0.00		0.31			0.59	#DIV/0!
9.6	2 X 2	0.00	0.09		0.16	0.16		0.00	0.00		0.41	0.18		0.41	#DIV/0!
9.7	3 X 3	0.00	0.00	0.07	0.11	0.28	0.18	0.00	0.00	#####	0.00	0.16	0.15	#DIV/0!	#DIV/0!

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					252	0.16	280	0.18					0.18	3
10.2		E-W					489	0.31	223	0.14					0.31	9
11.1	Partial Cloverleaf	N-S					0	0.00	0	0.00					0.00	1
11.2		E-W					461	0.23	428	0.27					0.29	7
13.1	Displaced Left Turn	N-S	252	0.16			252	0.16	252	0.16			0	0.00	0.16	2
13.2		E-W	428	0.27			280	0.18	209	0.13			209	0.13	0.27	6
14.1	Double Crossover Diamond	N-S	252	0.16	0	0.00	252	0.16	0	0.00	280	0.18	0	0.00	0.18	3
14.2		E-W	242	0.15	482	0.30	335	0.21	148	0.09	356	0.22	209	0.13	0.30	8
15.1	Single Point	N-S	252	0.16			280	0.18					0	0.00	0.18	3
15.2		E-W	242	0.15			489	0.31					209	0.13	0.31	9

Capacity Analysis for Planning of Junctions

Input Worksheet

		Critical Lane Volume Sum			
Project Name:	*US 401 Corridor Study*	Acceptable Configurations			
Project Number:	*31000115*	< 1200	1200 - 1399	1400 - 1599	≥ 1600
Location	*US 401 at S Main Street*	28	1	1	2
Date	May 20, 2021				

Results for Intersections

#	TYPE OF INTERSECTION	Sheet	Zone 1 (North)		Zone 2 (South)		Zone 3 (East)		Zone 4 (West)		Zone 5 (Center)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
1	Conventional	FULL									651	*0.41*	0.41	11
2	Conventional Shared RT LN	CSRL									745	*0.47*	0.47	14
3.1	Quadrant Roadway	S-W			538	*0.34*			402	*0.25*	477	*0.30*	0.34	10
3.2		N-E	439	*0.27*			344	*0.22*			469	*0.29*	0.29	4
3.3		S-E			439	*0.27*	439	*0.27*			439	*0.27*	0.27	1
3.4		N-W	440	*0.27*					228	*0.14*	515	*0.32*	0.32	9
4.1	Partial Displaced Left Turn	N-S	247	*0.15*	305	*0.19*					661	*0.41*	0.41	12
4.2		E-W					410	*0.26*	85	*0.05*	457	*0.29*	0.29	3
5	Displaced Left Turn	FULL	247	*0.15*	305	*0.19*	410	*0.26*	85	*0.05*	439	*0.27*	0.27	1
6.1	Restricted Crossing U-Turn	N-S	606	*0.38*	812	*0.51*	936	*0.59*	538	*0.34*			0.59	15
6.2		E-W	652	*0.41*	740	*0.46*	444	*0.28*	461	*0.29*			0.46	13
7.1	Median U-Turn	N-S	418	*0.26*	363	*0.23*					510	*0.32*	0.32	8
7.2		E-W					190	*0.12*	420	*0.26*	469	*0.29*	0.29	4
8.1	Partial Median U-Turn	N-S	226	*0.14*	363	*0.23*					487	*0.30*	0.30	6
8.2		E-W					190	*0.12*	402	*0.25*	487	*0.30*	0.30	6

Capacity Analysis for Planning of Junctions

Input Worksheet

Results for Roundabouts

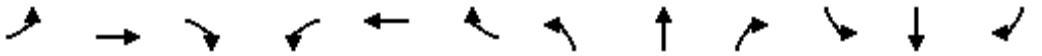
#	TYPE OF ROUNDABOUT	Zone 1 (North)			Zone 3 (East)			Zone 2 (South)			Zone 4 (West)			Overall v/c Ratio	Ranking
		Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3		
9.1	50 ICD	0.67			1.09			1.17			0.69			1.17	7
9.2	75 ICD	0.64			0.99			1.09			0.63			1.09	6
9.3	1 X 1	0.56			0.69			0.95			0.53			0.95	5
9.4	1 X 2	0.51			0.35	0.35		0.83			0.36	0.17		0.83	4
9.5	2 X 1	0.29	0.27		0.58			0.31	0.63		0.46			0.63	3
9.6	2 X 2	0.27	0.25		0.32	0.15		0.28	0.55		0.30	0.29		0.55	2
9.7	3 X 3	0.01	0.27	0.25	0.00	0.33	0.31	0.00	0.30	0.54	0.12	0.23	0.16	0.54	1

Results for Interchanges

#	TYPE OF INTERCHANGE	Sheet	Zone 1 (Rt Mrg)		Zone 2 (Lt Mrg)		Zone 3 (Ctr. 1)		Zone 4 (Ctr. 2)		Zone 5 (Lt Mrg)		Zone 6 (Rt Mrg)		Overall v/c Ratio	Ranking
			CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C	CLV	V/C		
10.1	Diamond	N-S					421	0.26	322	0.20					0.26	5
10.2		E-W					218	0.14	350	0.22					0.22	2
11.1	Partial Cloverleaf	N-S					226	0.14	247	0.15					0.15	1
11.2		E-W					402	0.27	171	0.11					0.25	4
13.1	Displaced Left Turn	N-S	270	0.17			402	0.25	305	0.19			305	0.19	0.25	3
13.2		E-W	85	0.05			228	0.14	218	0.14			477	0.30	0.30	7
14.1	Double Crossover Diamond	N-S	270	0.17	418	0.26	455	0.28	534	0.33	229	0.14	305	0.19	0.33	10
14.2		E-W	85	0.05	295	0.18	228	0.14	171	0.11	389	0.24	477	0.30	0.30	7
15.1	Single Point	N-S	270	0.17			439	0.27					305	0.19	0.27	6
15.2		E-W	85	0.05			420	0.26					477	0.30	0.30	7

APPENDIX C

Synchro Analysis Reports



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	423	0	232	0	2002	71	52	300	4
Future Volume (vph)	0	0	4	423	0	232	0	2002	71	52	300	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	0		425	0		175	275		200
Storage Lanes	0		1	1		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	1688	0	1599	0	3486	1560	1796	3393	1607
Flt Permitted				0.950						0.046		
Satd. Flow (perm)	0	0	1611	1688	0	1599	0	3486	1560	87	3393	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			4878			1414	
Travel Time (s)		29.6			32.4			60.5			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Adj. Flow (vph)	0	0	4	470	0	258	0	2224	79	58	333	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	470	0	258	0	2224	79	58	333	4
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			8			8			2	6		6
Detector Phase			8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0		7.0		12.0	7.0	7.0	12.0	12.0
Minimum Split (s)			13.1	13.1		12.8		24.5	13.1	12.8	24.5	24.5
Total Split (s)			39.0	39.0		12.8		88.2	39.0	12.8	101.0	101.0
Total Split (%)			27.9%	27.9%		9.1%		63.0%	27.9%	9.1%	72.1%	72.1%
Maximum Green (s)			32.9	32.9		7.0		81.7	32.9	7.0	94.5	94.5
Yellow Time (s)			3.0	3.0		3.0		5.5	3.0	3.0	5.5	5.5
All-Red Time (s)			3.1	3.1		2.8		1.0	3.1	2.8	1.0	1.0
Lost Time Adjust (s)			-1.1	-1.1		-0.8		-1.5	-1.1	-0.8	-1.5	0.0
Total Lost Time (s)			5.0	5.0		5.0		5.0	5.0	5.0	5.0	6.5
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)			3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode			None	None		None		Min	None	None	Min	Min
Act Effct Green (s)			34.0	34.0		46.8		83.2	122.2	96.0	96.0	94.5
Actuated g/C Ratio			0.24	0.24		0.33		0.59	0.87	0.69	0.69	0.68
v/c Ratio			0.01	1.15		0.48		1.07	0.06	0.38	0.14	0.00
Control Delay			40.5	138.6		40.7		71.4	1.3	18.3	7.8	7.5
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			40.5	138.6		40.7		71.4	1.3	18.3	7.8	7.5
LOS			D	F		D		E	A	B	A	A

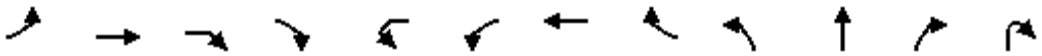
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		40.5			103.9			69.0			9.4	
Approach LOS		D			F			E			A	
Queue Length 50th (ft)			3	~501		186		~1181	7	16	51	1
Queue Length 95th (ft)			13	#720		274		#1312	12	46	69	5
Internal Link Dist (ft)		1005			2057			4798			1334	
Turn Bay Length (ft)						425			175	275		200
Base Capacity (vph)			391	409		534		2071	1361	154	2326	1084
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			0.01	1.15		0.48		1.07	0.06	0.38	0.14	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 69.5		Intersection LOS: E	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			

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

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

Splits and Phases: 1: US 401 & Driveway/Banks Road



Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	232	27	51	6	12	61	77	93	39	1693	21	35
Future Volume (vph)	232	27	51	6	12	61	77	93	39	1693	21	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%					-1%			2%		
Storage Length (ft)	100		0			0		0	175		0	
Storage Lanes	1		0			0		0	1		0	
Taper Length (ft)	100					100			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.898					0.948			0.995		
Flt Protected	0.950						0.985		0.950			
Satd. Flow (prot)	1736	1609	0	0	0	0	1615	0	1752	3486	0	0
Flt Permitted	0.318						0.865		0.950			
Satd. Flow (perm)	581	1609	0	0	0	0	1418	0	1752	3486	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		45					45			55		
Link Distance (ft)		2263					1263			2634		
Travel Time (s)		34.3					19.1			32.7		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	0%	10%	0%	10%	17%	7%	9%	2%	2%	2%	2%
Adj. Flow (vph)	258	30	57	7	13	68	86	103	43	1881	23	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	94	0	0	0	0	270	0	43	1943	0	0
Turn Type	pm+pt	NA			Perm	Perm	NA		Prot	NA		
Protected Phases	3	8					4		5	2		
Permitted Phases	8				4	4						
Detector Phase	3	8			4	4	4		5	2		
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0	7.0	7.0		7.0	14.0		
Minimum Split (s)	13.5	24.8			25.0	25.0	25.0		13.1	24.5		
Total Split (s)	14.0	41.0			27.0	27.0	27.0		14.2	63.4		
Total Split (%)	9.7%	28.3%			18.6%	18.6%	18.6%		9.8%	43.7%		
Maximum Green (s)	7.6	34.2			20.0	20.0	20.0		8.1	57.3		
Yellow Time (s)	3.0	4.5			4.6	4.6	4.6		3.0	5.0		
All-Red Time (s)	3.4	2.3			2.4	2.4	2.4		3.1	1.1		
Lost Time Adjust (s)	-1.4	-1.8					-2.0		-1.1	-1.1		
Total Lost Time (s)	5.0	5.0					5.0		5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes				Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None			None	None	None		None	Min		
Act Effct Green (s)	36.1	36.1					22.0		8.9	58.5		
Actuated g/C Ratio	0.25	0.25					0.15		0.06	0.41		
v/c Ratio	1.17	0.23					1.23		0.39	1.36		
Control Delay	159.2	45.0					185.6		76.3	199.1		
Queue Delay	0.0	0.0					0.0		0.0	0.0		
Total Delay	159.2	45.0					185.6		76.3	199.1		
LOS	F	D					F		E	F		

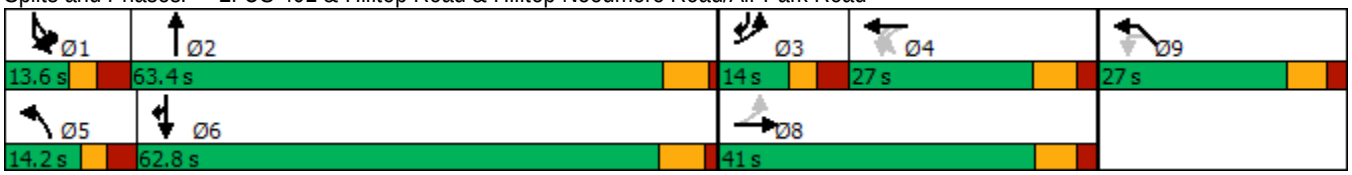
Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	18	24	424	171	26	121	110	12
Future Volume (vph)	18	24	424	171	26	121	110	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			2%			1%		
Storage Length (ft)		150		150		0	0	
Storage Lanes		1		1		1	0	
Taper Length (ft)		100				100		
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.939		
Flt Protected		0.950				0.973		
Satd. Flow (prot)	0	1700	3309	1467	0	1691	0	0
Flt Permitted		0.950				0.973		
Satd. Flow (perm)	0	1700	3309	1467	0	1691	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			55			45		
Link Distance (ft)			4878			1978		
Travel Time (s)			60.5			30.0		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	3%	8%	9%	0%	2%	3%	0%
Adj. Flow (vph)	20	27	471	190	29	134	122	13
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	47	471	190	0	298	0	0
Turn Type	Prot	Prot	NA	pt+ov	Perm	Prot		
Protected Phases	1	1	6	6 3		9		
Permitted Phases					9			
Detector Phase	1	1	6	6 3	9	9		
Switch Phase								
Minimum Initial (s)	7.0	7.0	14.0		7.0	7.0		
Minimum Split (s)	13.6	13.6	24.4		24.7	24.7		
Total Split (s)	13.6	13.6	62.8		27.0	27.0		
Total Split (%)	9.4%	9.4%	43.3%		18.6%	18.6%		
Maximum Green (s)	7.0	7.0	56.4		20.3	20.3		
Yellow Time (s)	3.0	3.0	5.0		4.4	4.4		
All-Red Time (s)	3.6	3.6	1.4		2.3	2.3		
Lost Time Adjust (s)		-1.6	-1.4			-1.7		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	Min		None	None		
Act Effct Green (s)		8.6	58.1	72.1		22.0		
Actuated g/C Ratio		0.06	0.41	0.51		0.15		
v/c Ratio		0.46	0.35	0.26		1.14		
Control Delay		80.9	30.5	21.8		151.3		
Queue Delay		0.0	0.0	0.0		0.0		
Total Delay		80.9	30.5	21.8		151.3		
LOS		F	C	C		F		

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Approach Delay		128.7					185.6			196.5		
Approach LOS		F					F			F		
Queue Length 50th (ft)	~264	71					~318		40	~1279		
Queue Length 95th (ft)	#476	124					#504		83	#1414		
Internal Link Dist (ft)		2183					1183			2554		
Turn Bay Length (ft)	100								175			
Base Capacity (vph)	220	407					219		113	1433		
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	1.17	0.23					1.23		0.38	1.36		

Intersection Summary			
Area Type:	Other		
Cycle Length: 145			
Actuated Cycle Length: 142.3			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay: 153.0		Intersection LOS: F	
Intersection Capacity Utilization 107.5%		ICU Level of Service G	
Analysis Period (min) 15			

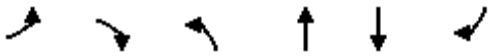
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 401 & Hilltop Road & Hilltop Needmore Road/Air Park Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Approach Delay			31.5			151.3		
Approach LOS			C			F		
Queue Length 50th (ft)		44	163	102		~332		
Queue Length 95th (ft)		89	210	157		#523		
Internal Link Dist (ft)			4798			1898		
Turn Bay Length (ft)		150		150				
Base Capacity (vph)		102	1351	743		261		
Starvation Cap Reductn		0	0	0		0		
Spillback Cap Reductn		0	0	0		0		
Storage Cap Reductn		0	0	0		0		
Reduced v/c Ratio		0.46	0.35	0.26		1.14		

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	68	151	414	1676	467	38
Future Volume (vph)	68	151	414	1676	467	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.907				0.989	
Flt Protected	0.985		0.950			
Satd. Flow (prot)	1664	0	1787	3539	3207	0
Flt Permitted	0.985		0.950			
Satd. Flow (perm)	1664	0	1787	3539	3207	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	1052			2924	2634	
Travel Time (s)	15.9			36.2	32.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	2%	9%	40%
Adj. Flow (vph)	76	168	460	1862	519	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	244	0	460	1862	561	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	165.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	68	151	414	1676	467	38
Future Vol, veh/h	68	151	414	1676	467	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	1	2	9	40
Mvmt Flow	76	168	460	1862	519	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2391	281	561	0	-	0
Stage 1	540	-	-	-	-	-
Stage 2	1851	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.12	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.21	-	-	-
Pot Cap-1 Maneuver	~ 28	716	1013	-	-	-
Stage 1	548	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 15	716	1013	-	-	-
Mov Cap-2 Maneuver	~ 15	-	-	-	-	-
Stage 1	299	-	-	-	-	-
Stage 2	110	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay,$	2105.8	2.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1013	-	46	-	-
HCM Lane V/C Ratio	0.454	-	5.29	-	-
HCM Control Delay (s)	11.5	-	$ 2105.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	2.4	-	27.9	-	-

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

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	151	531	4	1529	6	98	524
Future Volume (vph)	151	531	4	1529	6	98	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125	225		200	300	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		100			100	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1805	1615	1805	3539	1583	1770	3312
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	1805	1615	1805	3539	1583	1770	3312
Link Speed (mph)	45			55			55
Link Distance (ft)	1526			6983			2924
Travel Time (s)	23.1			86.6			36.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	9%
Adj. Flow (vph)	168	590	4	1699	7	109	582
Shared Lane Traffic (%)							
Lane Group Flow (vph)	168	590	4	1699	7	109	582
Sign Control	Stop			Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	224.9

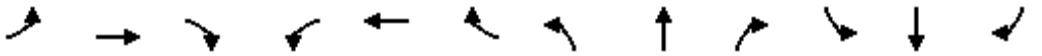
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	151	531	4	1529	6	98	524
Future Vol, veh/h	151	531	4	1529	6	98	524
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	Yield	-	None
Storage Length	0	125	225	-	200	300	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	2	2	2	9
Mvmt Flow	168	590	4	1699	7	109	582

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2216	850	582	0	0	1699	0
Stage 1	1707	-	-	-	-	-	-
Stage 2	509	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	-	-	2.22	-
Pot Cap-1 Maneuver	~ 38	~ 308	622	-	-	371	-
Stage 1	~ 135	-	-	-	-	-	-
Stage 2	574	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 27	~ 308	622	-	-	371	-
Mov Cap-2 Maneuver	~ 27	-	-	-	-	-	-
Stage 1	~ 134	-	-	-	-	-	-
Stage 2	405	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 935	0	2.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	622	-	-	27	308	371	-
HCM Lane V/C Ratio	0.007	-	-	6.214	1.916	0.294	-
HCM Control Delay (s)	10.8	-	-	$ 2634	$ 451.9	18.7	-
HCM Lane LOS	B	-	-	F	F	C	-
HCM 95th %tile Q(veh)	0	-	-	20.6	40.7	1.2	-

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

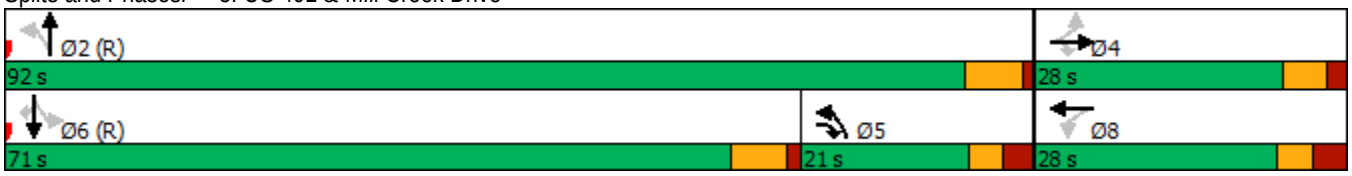


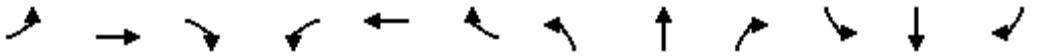
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	4	172	4	4	4	200	1432	4	4	548	90
Future Volume (vph)	93	4	172	4	4	4	200	1432	4	4	548	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955							0.850
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1787	1576	0	1794	0	1710	3454	0	1796	3421	1607
Flt Permitted		0.726			0.907		0.391			0.119		
Satd. Flow (perm)	0	1360	1576	0	1654	0	704	3454	0	225	3421	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			6983	
Travel Time (s)		40.4			25.8			20.1			86.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Adj. Flow (vph)	103	4	191	4	4	4	222	1591	4	4	609	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	191	0	12	0	222	1595	0	4	609	100
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	12.9	24.5	24.5		12.9	24.2		24.2	24.2	24.2
Total Split (s)	28.0	28.0	21.0	28.0	28.0		21.0	92.0		71.0	71.0	71.0
Total Split (%)	23.3%	23.3%	17.5%	23.3%	23.3%		17.5%	76.7%		59.2%	59.2%	59.2%
Maximum Green (s)	22.1	22.1	15.1	21.5	21.5		15.1	85.8		64.8	64.8	64.8
Yellow Time (s)	3.9	3.9	3.0	3.2	3.2		3.0	5.1		5.1	5.1	5.1
All-Red Time (s)	2.0	2.0	2.9	3.3	3.3		2.9	1.1		1.1	1.1	1.1
Lost Time Adjust (s)		-0.9	-0.9		-1.5		-0.9	-1.2		-1.2	-1.2	-1.2
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lag				Lag			Lead	Lead	Lead
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		15.6	38.4		15.6		94.4	94.4		71.6	71.6	71.6
Actuated g/C Ratio		0.13	0.32		0.13		0.79	0.79		0.60	0.60	0.60
v/c Ratio		0.61	0.38		0.06		0.32	0.59		0.03	0.30	0.10
Control Delay		62.8	32.1		43.3		3.7	3.8		15.0	13.7	13.0
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		62.8	32.1		43.3		3.7	3.8		15.0	13.7	13.0
LOS		E	C		D		A	A		B	B	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		43.1			43.3			3.8			13.6	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		79	115		8		22	122		1	113	31
Queue Length 95th (ft)		133	149		26		m38	m185		9	195	74
Internal Link Dist (ft)		1993			866			1540			6903	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		260	489		317		715	2717		137	2086	980
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		0.41	0.39		0.04		0.31	0.59		0.03	0.29	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 75 (63%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			
m	Volume for 95th percentile queue is metered by upstream signal.		

Splits and Phases: 5: US 401 & Mill Creek Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	982	212	203	487	36	523	40	589	120	21	45
Future Volume (vph)	4	982	212	203	487	36	523	40	589	120	21	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	250		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.959			0.959	
Satd. Flow (prot)	1832	3592	1518	1702	3265	0	1602	1623	1552	0	1859	1177
Flt Permitted	0.228			0.950			0.950	0.959			0.557	
Satd. Flow (perm)	440	3592	1518	1702	3265	0	1602	1623	1552	0	1079	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2282			629			1056			648	
Travel Time (s)		34.6			9.5			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Adj. Flow (vph)	4	1091	236	226	541	40	581	44	654	133	23	50
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	4	1091	236	226	581	0	314	311	654	0	156	50
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	12.6
Total Split (s)	12.6	41.9		27.0	56.3		27.2	27.2	27.0	23.9	23.9	12.6
Total Split (%)	10.5%	34.9%		22.5%	46.9%		22.7%	22.7%	22.5%	19.9%	19.9%	10.5%
Maximum Green (s)	7.0	35.7		21.9	50.1		21.3	21.3	21.9	18.0	18.0	7.0
Yellow Time (s)	3.0	4.8		3.0	4.8		4.3	4.3	3.0	3.0	3.0	3.0
All-Red Time (s)	2.6	1.4		2.1	1.4		1.6	1.6	2.1	2.9	2.9	2.6
Lost Time Adjust (s)	-0.6	-1.2		-0.1	-1.2		-0.9	-0.9	-0.1		-0.9	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	37.0	37.0	120.0	22.0	53.9		22.2	22.2	49.2		18.8	31.4
Actuated g/C Ratio	0.31	0.31	1.00	0.18	0.45		0.18	0.18	0.41		0.16	0.26
v/c Ratio	0.02	0.99	0.16	0.72	0.40		1.06	1.04	1.03		0.93	0.16
Control Delay	17.0	53.9	0.2	53.1	18.8		116.3	109.7	78.7		102.9	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	17.0	53.9	0.2	53.1	18.8		116.3	109.7	78.7		102.9	35.9
LOS	B	D	A	D	B		F	F	E		F	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		44.2			28.4			95.4			86.7	
Approach LOS		D			C			F			F	
Queue Length 50th (ft)	2	422	0	172	110		~281	~272	~541		120	30
Queue Length 95th (ft)	m2	#579	0	#199	149		#472	#463	#770		#253	65
Internal Link Dist (ft)		2202			549			976			568	
Turn Bay Length (ft)	175		275	250					650			150
Base Capacity (vph)	223	1106	1518	312	1466		296	300	636		169	307
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.02	0.99	0.16	0.72	0.40		1.06	1.04	1.03		0.92	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 59 (49%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 61.2		Intersection LOS: E	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			
~	Volume exceeds capacity, queue is theoretically infinite.		
	Queue shown is maximum after two cycles.		
#	95th percentile volume exceeds capacity, queue may be longer.		
	Queue shown is maximum after two cycles.		
m	Volume for 95th percentile queue is metered by upstream signal.		

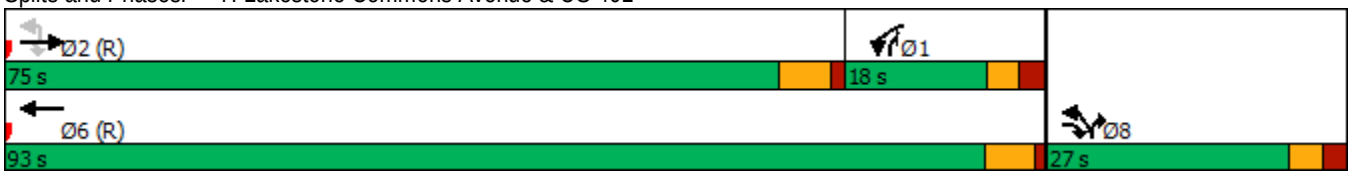
Splits and Phases: 6: NC 55/Driveway & US 401

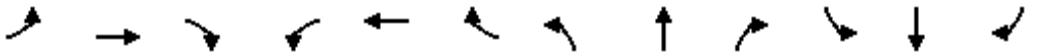
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1113	26	55	1065	87	102
Future Volume (vph)	4	1113	26	55	1065	87	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.219			0.950		0.950	
Satd. Flow (perm)	418	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2282	1303	
Travel Time (s)		35.0			34.6	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Adj. Flow (vph)	4	1237	29	61	1183	97	113
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1237	29	61	1183	97	113
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	75.0	75.0	27.0	18.0	93.0	27.0	
Total Split (%)	62.5%	62.5%	22.5%	15.0%	77.5%	22.5%	
Maximum Green (s)	69.1	69.1	21.7	12.6	87.5	21.7	
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	80.6	80.6	97.6	12.4	98.0	12.0	29.1
Actuated g/C Ratio	0.67	0.67	0.81	0.10	0.82	0.10	0.24
v/c Ratio	0.01	0.52	0.02	0.33	0.44	0.54	0.29
Control Delay	2.8	4.6	1.0	57.0	3.5	61.8	37.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.8	4.6	1.0	57.0	3.5	61.8	37.3
LOS	A	A	A	E	A	E	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay		4.5			6.1	48.6	
Approach LOS		A			A	D	
Queue Length 50th (ft)	0	66	2	51	169	73	72
Queue Length 95th (ft)	m1	413	m1	m65	m61	125	113
Internal Link Dist (ft)		2228			2202	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	280	2365	1320	208	2689	329	501
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.52	0.02	0.29	0.44	0.29	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 30 (25%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 57.8%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Lakestone Commons Avenue & US 401





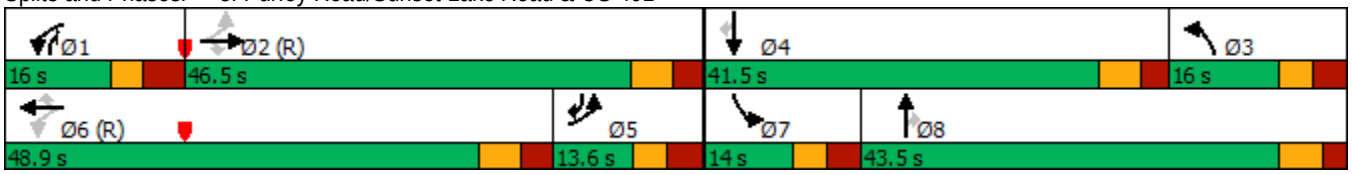
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	827	89	127	757	187	212	370	211	160	200	65
Future Volume (vph)	89	827	89	127	757	187	212	370	211	160	200	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	1919	1615	3450	1872	1591
Flt Permitted	0.317			0.116			0.950			0.950		
Satd. Flow (perm)	590	3470	1508	214	3436	1599	3502	1919	1615	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			1161	
Travel Time (s)		15.6			45.0			27.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Adj. Flow (vph)	99	919	99	141	841	208	236	411	234	178	222	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	919	99	141	841	208	236	411	234	178	222	72
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	12.0	7.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.4	40.9	40.9	13.6	43.9	43.9	13.2	37.3	13.6	13.1	41.5	13.4
Total Split (s)	13.6	46.5	46.5	16.0	48.9	48.9	16.0	43.5	16.0	14.0	41.5	13.6
Total Split (%)	11.3%	38.8%	38.8%	13.3%	40.8%	40.8%	13.3%	36.3%	13.3%	11.7%	34.6%	11.3%
Maximum Green (s)	7.2	39.9	39.9	9.4	42.3	42.3	9.8	37.2	9.4	7.9	35.2	7.2
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	4.0	3.0	3.0	3.8	3.0
All-Red Time (s)	3.4	2.9	2.9	3.6	2.9	2.9	3.2	2.3	3.6	3.1	2.5	3.4
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.6	-1.6	-1.6	-1.2	-1.3	-1.6	-1.1	-1.3	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		21.0	21.0		24.0	24.0		24.0			22.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	46.1	46.1	46.1	46.6	46.6	46.6	21.0	31.8	48.7	10.1	20.9	37.4
Actuated g/C Ratio	0.38	0.38	0.38	0.39	0.39	0.39	0.18	0.26	0.41	0.08	0.17	0.31
v/c Ratio	0.29	0.69	0.17	0.60	0.63	0.34	0.38	0.81	0.36	0.61	0.68	0.15
Control Delay	16.9	19.4	13.7	34.6	20.3	16.6	45.9	53.8	25.4	62.8	56.7	29.4

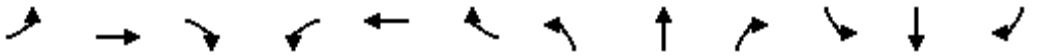
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	19.4	13.7	34.6	20.3	16.6	45.9	53.8	25.4	62.8	56.7	29.4
LOS	B	B	B	C	C	B	D	D	C	E	E	C
Approach Delay		18.6			21.3			44.1			54.8	
Approach LOS		B			C			D			D	
Queue Length 50th (ft)	22	231	23	69	198	90	82	297	119	68	163	39
Queue Length 95th (ft)	40	131	40	#126	333	132	125	389	175	#114	232	73
Internal Link Dist (ft)		720			2228			1334			1081	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	339	1333	579	240	1342	624	613	615	660	291	569	495
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.69	0.17	0.59	0.63	0.33	0.38	0.67	0.35	0.61	0.39	0.15

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 84 (70%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401



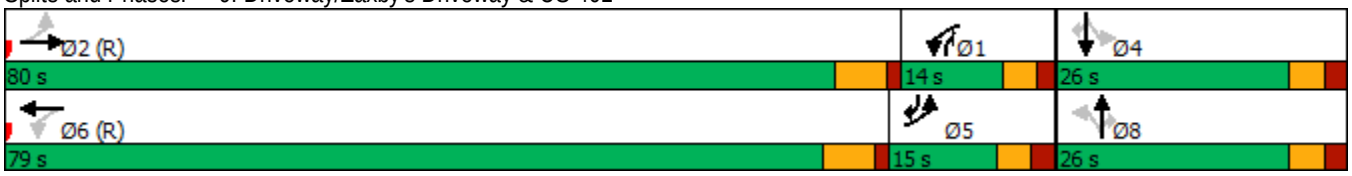


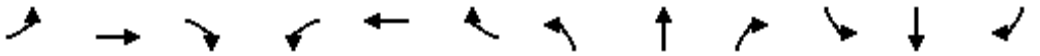
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	976	23	13	954	12	19	4	19	7	4	4
Future Volume (vph)	16	976	23	13	954	12	19	4	19	7	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.998				0.850			0.850
Flt Protected	0.950			0.950				0.960			0.968	
Satd. Flow (prot)	1814	3511	0	1796	3448	0	0	1824	1615	0	1830	1607
Flt Permitted	0.246			0.237				0.752			0.784	
Satd. Flow (perm)	470	3511	0	448	3448	0	0	1429	1615	0	1482	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	18	1084	26	14	1060	13	21	4	21	8	4	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	1110	0	14	1073	0	0	25	21	0	12	4
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	15.0	80.0		14.0	79.0		26.0	26.0	14.0	26.0	26.0	15.0
Total Split (%)	12.5%	66.7%		11.7%	65.8%		21.7%	21.7%	11.7%	21.7%	21.7%	12.5%
Maximum Green (s)	9.6	74.1		9.1	73.1		20.6	20.6	9.1	20.7	20.7	9.6
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead				Lag			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	104.9	101.1		102.0	99.5			8.3	15.7		8.3	17.5
Actuated g/C Ratio	0.87	0.84		0.85	0.83			0.07	0.13		0.07	0.15
v/c Ratio	0.04	0.38		0.03	0.38			0.25	0.10		0.12	0.02
Control Delay	2.6	4.5		1.8	2.0			58.8	42.7		54.3	39.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	2.6	4.5		1.8	2.0			58.8	42.7		54.3	39.0
LOS	A	A		A	A			E	D		D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		4.4			2.0			51.5			50.5	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	2	135		2	93			19	14		9	2
Queue Length 95th (ft)	m3	199		m3	113			47	36		29	13
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	533	2958		485	2859			250	193		259	228
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	0.03	0.38		0.03	0.38			0.10	0.11		0.05	0.02

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 4.6		Intersection LOS: A	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401





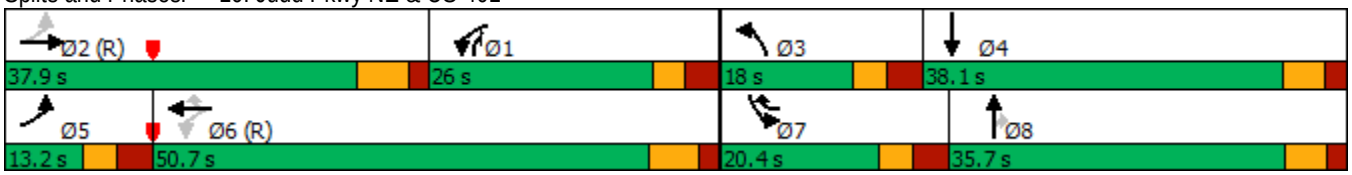
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	499	50	143	603	247	81	162	327	234	110	43
Future Volume (vph)	38	499	50	143	603	247	81	162	327	234	110	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.986				0.850			0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3394	0	1770	3539	1583	1752	3504	1567	3399	3357	0
Flt Permitted	0.269			0.421			0.950			0.950		
Satd. Flow (perm)	496	3394	0	784	3539	1583	1752	3504	1567	3399	3357	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	42	554	56	159	670	274	90	180	363	260	122	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	42	610	0	159	670	274	90	180	363	260	170	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	13.2	37.9		26.0	50.7	20.4	18.0	35.7	26.0	20.4	38.1	
Total Split (%)	11.0%	31.6%		21.7%	42.3%	17.0%	15.0%	29.8%	21.7%	17.0%	31.8%	
Maximum Green (s)	7.0	31.5		19.9	44.3	14.1	11.8	30.0	19.9	14.1	32.2	
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	50.0	50.0		67.0	67.0	86.5	11.6	12.2	35.4	14.5	15.1	
Actuated g/C Ratio	0.42	0.42		0.56	0.56	0.72	0.10	0.10	0.30	0.12	0.13	
v/c Ratio	0.14	0.43		0.25	0.34	0.24	0.53	0.51	0.79	0.63	0.40	
Control Delay	15.5	18.6		4.8	4.2	1.4	63.0	55.7	35.9	57.4	50.8	

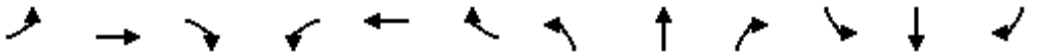
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.5	18.6		4.8	4.2	1.4	63.0	55.7	35.9	57.4	50.8	
LOS	B	B		A	A	A	E	E	D	E	D	
Approach Delay		18.4			3.6			45.4			54.8	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)	17	146		10	23	6	67	70	169	98	64	
Queue Length 95th (ft)	35	195		17	28	9	122	105	244	144	98	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	300	1415		634	1974	1154	190	896	467	439	925	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.43		0.25	0.34	0.24	0.47	0.20	0.78	0.59	0.18	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 24.2 Intersection LOS: C
Intersection Capacity Utilization 54.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Judd Pkwy NE & US 401



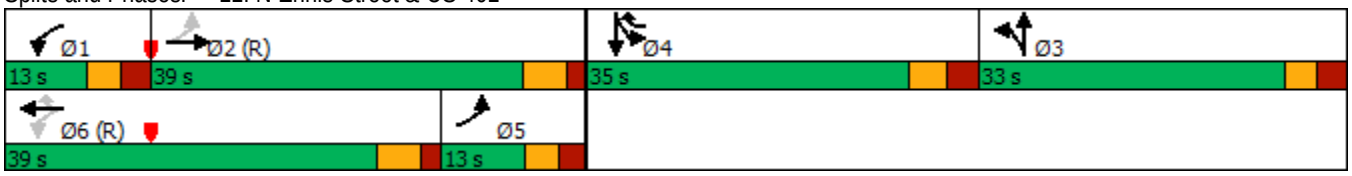


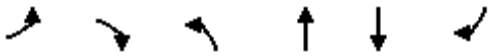
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	341	12	68	243	405	8	114	54	269	57	30
Future Volume (vph)	65	341	12	68	243	405	8	114	54	269	57	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.995				0.850		0.952			0.975	
Flt Protected	0.950			0.950			0.950			0.950	0.975	
Satd. Flow (prot)	1761	3504	0	1778	1872	1591	1725	1729	0	1698	1699	0
Flt Permitted	0.593			0.405			0.950			0.950	0.975	
Satd. Flow (perm)	1099	3504	0	758	1872	1591	1725	1729	0	1698	1699	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	72	379	13	76	270	450	9	127	60	299	63	33
Shared Lane Traffic (%)										34%		
Lane Group Flow (vph)	72	392	0	76	270	450	9	187	0	197	198	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	13.0	39.0		13.0	39.0	35.0	33.0	33.0		35.0	35.0	
Total Split (%)	10.8%	32.5%		10.8%	32.5%	29.2%	27.5%	27.5%		29.2%	29.2%	
Maximum Green (s)	7.4	33.3		7.4	33.3	28.8	27.2	27.2		28.8	28.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	49.3	49.3		51.2	51.2	76.9	19.0	19.0		24.7	24.7	
Actuated g/C Ratio	0.41	0.41		0.43	0.43	0.64	0.16	0.16		0.21	0.21	
v/c Ratio	0.15	0.27		0.19	0.34	0.44	0.03	0.68		0.56	0.57	
Control Delay	19.8	18.1		15.0	16.2	8.6	39.8	59.9		48.0	48.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	19.8	18.1		15.0	16.2	8.6	39.8	59.9		48.0	48.1	
LOS	B	B		B	B	A	D	E		D	D	
Approach Delay		18.3			11.8			58.9			48.1	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	24	74		21	95	88	6	138		145	146	
Queue Length 95th (ft)	66	154		67	251	390	20	205		206	208	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	498	1468		404	800	1098	402	403		434	434	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.14	0.27		0.19	0.34	0.41	0.02	0.46		0.45	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 88 (73%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 26.2		Intersection LOS: C	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 11: N Ennis Street & US 401



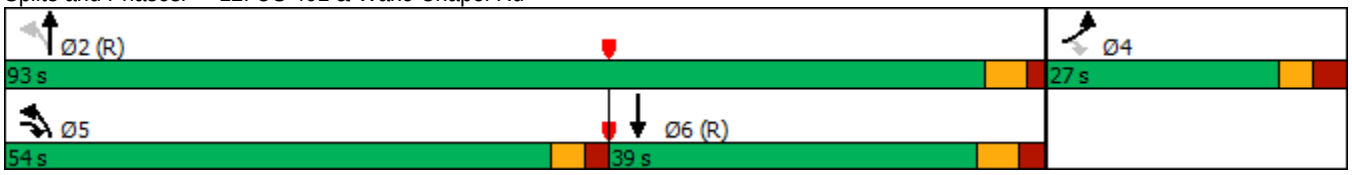


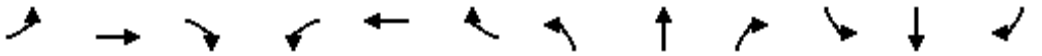
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	88	304	507	323	188	36
Future Volume (vph)	88	304	507	323	188	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.978	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1813	0
Flt Permitted	0.950		0.555			
Satd. Flow (perm)	1787	1599	1014	1826	1813	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	98	338	563	359	209	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	338	563	359	249	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	27.0	54.0	54.0	93.0	39.0	
Total Split (%)	22.5%	45.0%	45.0%	77.5%	32.5%	
Maximum Green (s)	20.8	48.7	48.7	87.5	32.8	
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	13.1	37.3	97.9	96.9	73.6	
Actuated g/C Ratio	0.11	0.31	0.82	0.81	0.61	
v/c Ratio	0.50	0.68	0.60	0.24	0.22	
Control Delay	58.6	42.1	7.4	4.3	4.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.6	42.1	7.4	4.3	4.2	
LOS	E	D	A	A	A	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	45.8			6.2	4.2	
Approach LOS	D			A	A	
Queue Length 50th (ft)	73	231	135	71	28	
Queue Length 95th (ft)	124	279	222	107	38	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	327	906	1127	1474	1111	
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	0.30	0.37	0.50	0.24	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 12 (10%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 57.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: US 401 & Wake Chapel Rd



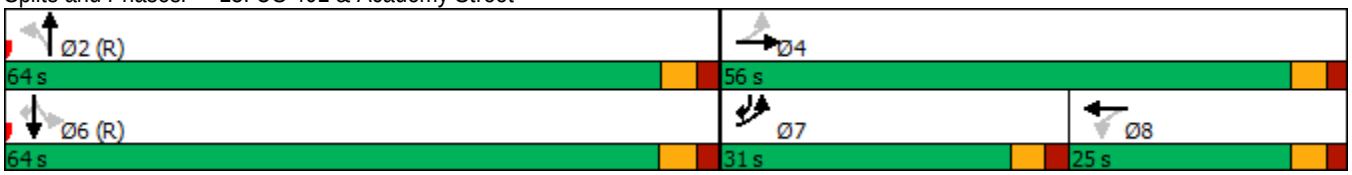


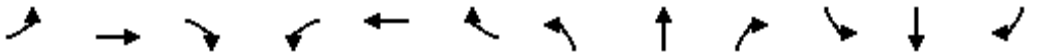
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	289	122	44	8	40	51	30	447	32	64	226	135
Future Volume (vph)	289	122	44	8	40	51	30	447	32	64	226	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.915			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1779	0	1761	1696	0	1796	1821	0	1787	1881	1599
Flt Permitted	0.441			0.641			0.564			0.328		
Satd. Flow (perm)	817	1779	0	1188	1696	0	1066	1821	0	617	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1043			1082			854			1797	
Travel Time (s)		28.4			29.5			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Adj. Flow (vph)	321	136	49	9	44	57	33	497	36	71	251	150
Shared Lane Traffic (%)												
Lane Group Flow (vph)	321	185	0	9	101	0	33	533	0	71	251	150
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	31.0	56.0		25.0	25.0		64.0	64.0		64.0	64.0	31.0
Total Split (%)	25.8%	46.7%		20.8%	20.8%		53.3%	53.3%		53.3%	53.3%	25.8%
Maximum Green (s)	25.9	50.9		19.9	19.9		58.6	58.6		58.4	58.4	25.9
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	46.4	46.4		12.6	12.6		63.6	63.6		63.4	63.6	97.9
Actuated g/C Ratio	0.39	0.39		0.10	0.10		0.53	0.53		0.53	0.53	0.82
v/c Ratio	0.59	0.27		0.07	0.57		0.06	0.55		0.22	0.25	0.11
Control Delay	30.9	24.3		47.2	63.0		8.4	11.2		15.8	13.8	1.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	30.9	24.3		47.2	63.0		8.4	11.2		15.8	13.8	1.3
LOS	C	C		D	E		A	B		B	B	A
Approach Delay		28.5			61.7			11.1			10.1	
Approach LOS		C			E			B			B	
Queue Length 50th (ft)	185	97		6	76		5	93		21	75	5
Queue Length 95th (ft)	211	121		22	129		22	320		60	147	18
Internal Link Dist (ft)		963			1002			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	555	790		198	282		586	1001		338	1033	1326
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.58	0.23		0.05	0.36		0.06	0.53		0.21	0.24	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 91 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 69.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: US 401 & Academy Street





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	4	4	8	9	197	7	330	35	36	168	7
Future Volume (vph)	6	4	4	8	9	197	7	330	35	36	168	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.964			0.857			0.986			0.994	
Flt Protected		0.977		0.950			0.950			0.950		
Satd. Flow (prot)	0	1763	0	1787	1614	0	1735	1801	0	1823	1870	0
Flt Permitted		0.869		0.748			0.635			0.496		
Satd. Flow (perm)	0	1568	0	1407	1614	0	1160	1801	0	952	1870	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1048			1030			2641			854	
Travel Time (s)		28.6			28.1			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Adj. Flow (vph)	7	4	4	9	10	219	8	367	39	40	187	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	9	229	0	8	406	0	40	195	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	50.0	50.0		50.0	50.0		70.0	70.0		70.0	70.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	45.1	45.1		44.7	44.7		64.8	64.8		64.6	64.6	
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		23.0		23.0	23.0		87.0	87.0		87.0	87.0	
Actuated g/C Ratio		0.19		0.19	0.19		0.72	0.72		0.72	0.72	
v/c Ratio		0.05		0.03	0.74		0.01	0.31		0.06	0.14	
Control Delay		36.5		35.9	59.6		6.6	7.7		2.2	2.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		36.5		35.9	59.6		6.6	7.7		2.2	2.1	
LOS		D		D	E		A	A		A	A	
Approach Delay		36.5			58.7			7.7			2.1	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		10		6	169		2	123		2	11	
Queue Length 95th (ft)		27		19	238		8	161		8	27	
Internal Link Dist (ft)		968			950			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		588		527	605		841	1305		690	1355	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.03		0.02	0.38		0.01	0.31		0.06	0.14	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 24 (20%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 20.2 Intersection LOS: C
Intersection Capacity Utilization 50.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 14: US 401 & Vance Street

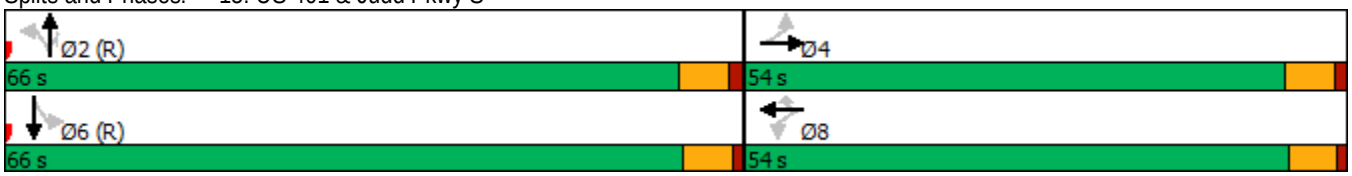
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	163	26	97	60	24	29	266	264	16	132	6
Future Volume (vph)	89	163	26	97	60	24	29	266	264	16	132	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	0		125	50		75	150		0
Storage Lanes	1		0	0		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850			0.850		0.993	
Flt Protected	0.950				0.970		0.950			0.950		
Satd. Flow (prot)	1761	1815	0	0	1798	1575	1752	1845	1568	1770	1850	0
Flt Permitted	0.494				0.458		0.659			0.569		
Satd. Flow (perm)	916	1815	0	0	849	1575	1216	1845	1568	1060	1850	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2561			1512			355			505	
Travel Time (s)		38.8			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	99	181	29	108	67	27	32	296	293	18	147	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	99	210	0	0	175	27	32	296	293	18	154	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	54.0	54.0		54.0	54.0	54.0	66.0	66.0	66.0	66.0	66.0	
Total Split (%)	45.0%	45.0%		45.0%	45.0%	45.0%	55.0%	55.0%	55.0%	55.0%	55.0%	
Maximum Green (s)	48.3	48.3		48.6	48.6	48.6	60.2	60.2	60.2	60.5	60.5	
Yellow Time (s)	4.4	4.4		4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	1.3	1.3		1.0	1.0	1.0	1.3	1.3	1.3	1.0	1.0	
Lost Time Adjust (s)	-0.7	-0.7			-0.4	-0.4	-0.8	-0.8	-0.8	-0.5	-0.5	
Total Lost Time (s)	5.0	5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	23.0	23.0			23.0	23.0	87.0	87.0	87.0	87.0	87.0	
Actuated g/C Ratio	0.19	0.19			0.19	0.19	0.72	0.72	0.72	0.72	0.72	
v/c Ratio	0.57	0.61			1.08	0.09	0.04	0.22	0.26	0.02	0.11	
Control Delay	55.0	50.7			138.6	37.0	6.4	6.8	7.2	3.2	3.0	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.0	50.7			138.6	37.0	6.4	6.8	7.2	3.2	3.0	
LOS	E	D			F	D	A	A	A	A	A	

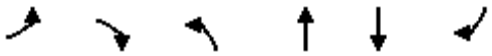
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		52.1			125.0			7.0			3.0	
Approach LOS		D			F			A			A	
Queue Length 50th (ft)	70	150			~151	17	6	66	67	2	18	
Queue Length 95th (ft)	118	210			#243	40	20	131	136	4	19	
Internal Link Dist (ft)		2481			1432			275			425	
Turn Bay Length (ft)	75					125	50		75	150		
Base Capacity (vph)	374	741			346	643	881	1337	1137	768	1341	
Starvation Cap Reductn	0	0			0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0			0	0	0	0	0	0	0	
Storage Cap Reductn	0	0			0	0	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.28			0.51	0.04	0.04	0.22	0.26	0.02	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 74 (62%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 35.4 Intersection LOS: D
Intersection Capacity Utilization 55.3% ICU Level of Service B
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	147	8	5	398	214	45
Future Volume (vph)	147	8	5	398	214	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993				0.977	
Flt Protected	0.955			0.999		
Satd. Flow (prot)	1802	0	0	1844	1826	0
Flt Permitted	0.955			0.999		
Satd. Flow (perm)	1802	0	0	1844	1826	0
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2476	1444	
Travel Time (s)	43.2			48.2	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	163	9	6	442	238	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	172	0	0	448	288	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.2%		ICU Level of Service A	
Analysis Period (min) 15			

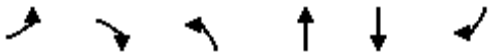
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	147	8	5	398	214	45
Future Vol, veh/h	147	8	5	398	214	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	163	9	6	442	238	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	717	263	288	0	-	0
Stage 1	263	-	-	-	-	-
Stage 2	454	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	399	781	1286	-	-	-
Stage 1	786	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	397	781	1286	-	-	-
Mov Cap-2 Maneuver	397	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1286	-	407	-	-
HCM Lane V/C Ratio	0.004	-	0.423	-	-
HCM Control Delay (s)	7.8	0	20.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	2.1	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	19	218	440	392	261	12
Future Volume (vph)	19	218	440	392	261	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.876				0.994	
Flt Protected	0.996		0.950			
Satd. Flow (prot)	1658	0	1752	1845	1852	0
Flt Permitted	0.996		0.950			
Satd. Flow (perm)	1658	0	1752	1845	1852	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2722	
Travel Time (s)	27.4			15.8	33.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Adj. Flow (vph)	21	242	489	436	290	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	263	0	489	436	303	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.4%		ICU Level of Service B	
Analysis Period (min) 15			

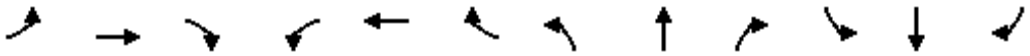
Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	218	440	392	261	12
Future Vol, veh/h	19	218	440	392	261	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	21	242	489	436	290	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1711	297	303	0	-	0
Stage 1	297	-	-	-	-	-
Stage 2	1414	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	101	747	1252	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	62	747	1252	-	-	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	227	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.4	5.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1252	-	396	-	-
HCM Lane V/C Ratio	0.39	-	0.665	-	-
HCM Control Delay (s)	9.7	-	30.4	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	1.9	-	4.7	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	24	36	26	9	123	11	679	13	70	383	26
Future Volume (vph)	30	24	36	26	9	123	11	679	13	70	383	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.895			0.997			0.990	
Flt Protected		0.984			0.992		0.950			0.950		
Satd. Flow (prot)	0	1734	0	0	1654	0	1752	1839	0	1770	1844	0
Flt Permitted		0.984			0.992		0.950			0.950		
Satd. Flow (perm)	0	1734	0	0	1654	0	1752	1839	0	1770	1844	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	33	27	40	29	10	137	12	754	14	78	426	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	100	0	0	176	0	12	768	0	78	455	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

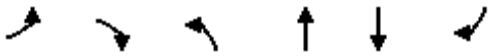
Intersection	
Int Delay, s/veh	13.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	24	36	26	9	123	11	679	13	70	383	26
Future Vol, veh/h	30	24	36	26	9	123	11	679	13	70	383	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	33	27	40	29	10	137	12	754	14	78	426	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1456	1389	441	1415	1396	761	455	0	0	768	0	0
Stage 1	597	597	-	785	785	-	-	-	-	-	-	-
Stage 2	859	792	-	630	611	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	108	142	616	115	141	405	1100	-	-	846	-	-
Stage 1	490	491	-	386	404	-	-	-	-	-	-	-
Stage 2	351	401	-	470	484	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	128	616	83	127	405	1100	-	-	846	-	-
Mov Cap-2 Maneuver	62	128	-	83	127	-	-	-	-	-	-	-
Stage 1	485	446	-	382	400	-	-	-	-	-	-	-
Stage 2	224	397	-	375	439	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	103.9	58	0.1	1.4
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1100	-	-	123	230	846	-	-
HCM Lane V/C Ratio	0.011	-	-	0.813	0.763	0.092	-	-
HCM Control Delay (s)	8.3	-	-	103.9	58	9.7	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	4.9	5.4	0.3	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	32	4	699	416	28
Future Volume (vph)	5	32	4	699	416	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.884				0.992	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1635	0	1805	1845	1850	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1635	0	1805	1845	1850	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1978			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	6	36	4	777	462	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	0	4	777	493	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	32	4	699	416	28
Future Vol, veh/h	5	32	4	699	416	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	6	36	4	777	462	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1263	478	493	0	-	0
Stage 1	478	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	187	587	1081	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	186	587	1081	-	-	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	449	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1081	-	455	-	-
HCM Lane V/C Ratio	0.004	-	0.09	-	-
HCM Control Delay (s)	8.3	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	181	575	32	40	474
Future Volume (vph)	36	181	575	32	40	474
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.887		0.993			
Flt Protected	0.992					0.996
Satd. Flow (prot)	1639	0	1832	0	0	1855
Flt Permitted	0.992					0.996
Satd. Flow (perm)	1639	0	1832	0	0	1855
Link Speed (mph)	55		45			45
Link Distance (ft)	2952		1355			6809
Travel Time (s)	36.6		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	40	201	639	36	44	527
Shared Lane Traffic (%)						
Lane Group Flow (vph)	241	0	675	0	0	571
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

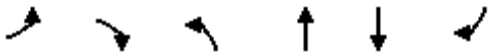
Intersection	
Int Delay, s/veh	5.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	181	575	32	40	474
Future Vol, veh/h	36	181	575	32	40	474
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	40	201	639	36	44	527

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1272	657	0	0	675	0
Stage 1	657	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	185	465	-	-	916	-
Stage 1	516	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	172	465	-	-	916	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	516	-	-	-	-	-
Stage 2	502	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.5	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	363	916	-
HCM Lane V/C Ratio	-	-	0.664	0.049	-
HCM Control Delay (s)	-	-	32.5	9.1	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	4.6	0.2	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	4	6	582	397	113
Future Volume (vph)	25	4	6	582	397	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.983				0.970	
Flt Protected	0.958			0.999		
Satd. Flow (prot)	1754	0	0	1843	1807	0
Flt Permitted	0.958			0.999		
Satd. Flow (perm)	1754	0	0	1843	1807	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2900			4214	1355	
Travel Time (s)	79.1			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	28	4	7	647	441	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	0	654	567	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

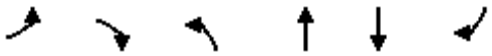
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	4	6	582	397	113
Future Vol, veh/h	25	4	6	582	397	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	28	4	7	647	441	126

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1165	504	567	0	-	0
Stage 1	504	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	215	568	1000	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	213	568	1000	-	-	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1000	-	233	-	-
HCM Lane V/C Ratio	0.007	-	0.138	-	-
HCM Control Delay (s)	8.6	0	22.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	29	19	510	347	4
Future Volume (vph)	27	29	19	510	347	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.930				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1691	0	1770	1863	1861	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1691	0	1770	1863	1861	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1843			2358	4214	
Travel Time (s)	50.3			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	30	32	21	567	386	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	0	21	567	390	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.8%		ICU Level of Service A	
Analysis Period (min) 15			

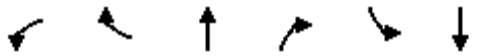
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	29	19	510	347	4
Future Vol, veh/h	27	29	19	510	347	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	32	21	567	386	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	997	388	390	0	-	0
Stage 1	388	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	271	660	1169	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	660	1169	-	-	-
Mov Cap-2 Maneuver	266	-	-	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.1	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1169	-	385	-	-
HCM Lane V/C Ratio	0.018	-	0.162	-	-
HCM Control Delay (s)	8.1	-	16.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	53	9	486	61	5	349
Future Volume (vph)	53	9	486	61	5	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.980		0.985			
Flt Protected	0.959					0.999
Satd. Flow (prot)	1751	0	1823	0	0	1861
Flt Permitted	0.959					0.999
Satd. Flow (perm)	1751	0	1823	0	0	1861
Link Speed (mph)	25		45			45
Link Distance (ft)	1341		4391			2358
Travel Time (s)	36.6		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	59	10	540	68	6	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	608	0	0	394
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			

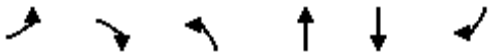
Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	9	486	61	5	349
Future Vol, veh/h	53	9	486	61	5	349
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	59	10	540	68	6	388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	974	574	0	0	608	0
Stage 1	574	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	279	518	-	-	980	-
Stage 1	563	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	277	518	-	-	980	-
Mov Cap-2 Maneuver	277	-	-	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	297	980	-
HCM Lane V/C Ratio	-	-	0.232	0.006	-
HCM Control Delay (s)	-	-	20.7	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	58	14	501	374	6
Future Volume (vph)	44	58	14	501	374	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924					0.850
Flt Protected	0.979		0.950			
Satd. Flow (prot)	1685	0	1805	1845	1863	1615
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1685	0	1805	1845	1863	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2276			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	49	64	16	557	416	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	0	16	557	416	7
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	58	14	501	374	6
Future Vol, veh/h	44	58	14	501	374	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	49	64	16	557	416	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1005	416	423	0	-	0
Stage 1	416	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	268	637	1147	-	-	-
Stage 1	666	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	264	637	1147	-	-	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1147	-	396	-	-
HCM Lane V/C Ratio	0.014	-	0.286	-	-
HCM Control Delay (s)	8.2	-	17.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	104	411	10	72	360
Future Volume (vph)	16	104	411	10	72	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.883			0.850		
Flt Protected	0.993				0.950	
Satd. Flow (prot)	1666	0	1845	1615	1805	1863
Flt Permitted	0.993				0.950	
Satd. Flow (perm)	1666	0	1845	1615	1805	1863
Link Speed (mph)	35		55			55
Link Distance (ft)	1130		2530			954
Travel Time (s)	22.0		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Adj. Flow (vph)	18	116	457	11	80	400
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	0	457	11	80	400
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	104	411	10	72	360
Future Vol, veh/h	16	104	411	10	72	360
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	18	116	457	11	80	400

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1017	457	0	0	468	0
Stage 1	457	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	266	608	-	-	1104	-
Stage 1	642	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	247	608	-	-	1104	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	535	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	509	1104	-
HCM Lane V/C Ratio	-	-	0.262	0.072	-
HCM Control Delay (s)	-	-	14.6	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	76	400	9	9	346
Future Volume (vph)	56	76	400	9	9	346
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.922		0.997			
Flt Protected	0.979					0.999
Satd. Flow (prot)	1681	0	1840	0	0	1862
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1681	0	1840	0	0	1862
Link Speed (mph)	25		55			55
Link Distance (ft)	2127		1122			5420
Travel Time (s)	58.0		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	62	84	444	10	10	384
Shared Lane Traffic (%)						
Lane Group Flow (vph)	146	0	454	0	0	394
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			

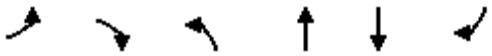
Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	76	400	9	9	346
Future Vol, veh/h	56	76	400	9	9	346
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	62	84	444	10	10	384

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	853	449	0	0	454	0
Stage 1	449	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	330	610	-	-	1117	-
Stage 1	643	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	326	610	-	-	1117	-
Mov Cap-2 Maneuver	326	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	445	1117	-
HCM Lane V/C Ratio	-	-	0.33	0.009	-
HCM Control Delay (s)	-	-	17	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	100	38	395	395	6
Future Volume (vph)	14	100	38	395	395	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.882				0.998	
Flt Protected	0.994		0.950			
Satd. Flow (prot)	1633	0	1805	1845	1860	0
Flt Permitted	0.994		0.950			
Satd. Flow (perm)	1633	0	1805	1845	1860	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2371			4450	1122	
Travel Time (s)	35.9			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	16	111	42	439	439	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	0	42	439	446	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

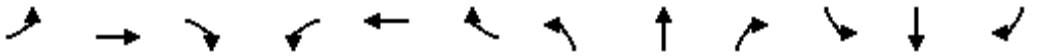
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	100	38	395	395	6
Future Vol, veh/h	14	100	38	395	395	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	16	111	42	439	439	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	966	443	446	0	-	0
Stage 1	443	-	-	-	-	-
Stage 2	523	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	282	615	1125	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	272	615	1125	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1125	-	533	-	-
HCM Lane V/C Ratio	0.038	-	0.238	-	-
HCM Control Delay (s)	8.3	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

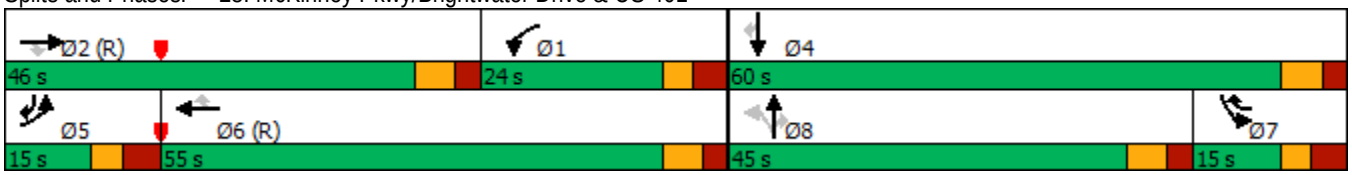


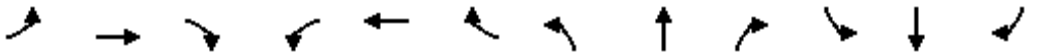
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	489	68	88	406	56	150	9	18	21	4	4
Future Volume (vph)	4	489	68	88	406	56	150	9	18	21	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.755			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1392	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	543	76	98	451	62	167	10	20	23	4	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	543	76	98	451	62	167	10	20	23	4	4
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	15.0	46.0	46.0	24.0	55.0	15.0	45.0	45.0	45.0	15.0	60.0	15.0
Total Split (%)	11.5%	35.4%	35.4%	18.5%	42.3%	11.5%	34.6%	34.6%	34.6%	11.5%	46.2%	11.5%
Maximum Green (s)	8.4	39.6	39.6	17.6	48.6	8.4	38.5	38.5	38.5	8.4	53.5	8.4
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	67.4	67.4	13.8	83.5	93.8	22.5	22.5	22.5	9.0	33.7	47.3
Actuated g/C Ratio	0.07	0.52	0.52	0.11	0.64	0.72	0.17	0.17	0.17	0.07	0.26	0.36
v/c Ratio	0.02	0.30	0.09	0.51	0.20	0.05	0.70	0.03	0.07	0.10	0.01	0.01
Control Delay	57.0	20.8	20.5	39.6	5.1	3.2	64.9	41.0	42.4	57.4	29.8	21.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	20.8	20.5	39.6	5.1	3.2	64.9	41.0	42.4	57.4	29.8	21.2
LOS	E	C	C	D	A	A	E	D	D	E	C	C
Approach Delay		21.0			10.5			61.4			49.2	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	1	137	33	56	27	6	134	7	14	9	2	2
Queue Length 95th (ft)	7	221	75	88	95	16	199	22	36	24	10	9
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	269	1835	837	265	2263	1142	428	567	482	266	792	596
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.30	0.09	0.37	0.20	0.05	0.39	0.02	0.04	0.09	0.01	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 96 (74%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 22.6		Intersection LOS: C	
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401





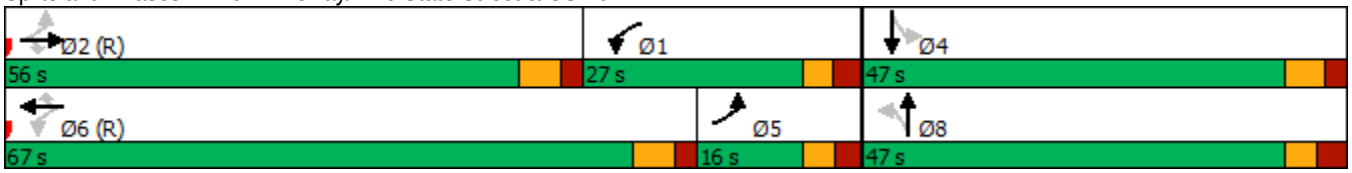
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	491	50	132	433	74	87	4	47	62	4	30
Future Volume (vph)	33	491	50	132	433	74	87	4	47	62	4	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.861			0.866	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1588	0	1778	1621	0
Flt Permitted	0.472			0.435			0.733			0.720		
Satd. Flow (perm)	892	3522	1607	835	3540	1631	1352	1588	0	1348	1621	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	37	546	56	147	481	82	97	4	52	69	4	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	546	56	147	481	82	97	56	0	69	37	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	16.0	56.0	56.0	27.0	67.0	67.0	47.0	47.0		47.0	47.0	
Total Split (%)	12.3%	43.1%	43.1%	20.8%	51.5%	51.5%	36.2%	36.2%		36.2%	36.2%	
Maximum Green (s)	10.2	49.8	49.8	21.1	60.8	60.8	40.8	40.8		40.8	40.8	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	99.5	91.2	91.2	100.7	95.9	95.9	15.9	15.9		15.9	15.9	
Actuated g/C Ratio	0.77	0.70	0.70	0.77	0.74	0.74	0.12	0.12		0.12	0.12	
v/c Ratio	0.05	0.22	0.05	0.21	0.18	0.07	0.59	0.29		0.42	0.19	
Control Delay	1.1	4.0	2.0	6.1	7.0	6.5	67.3	53.9		59.1	51.2	

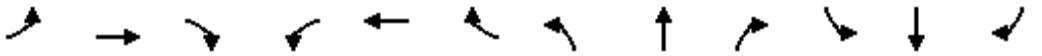
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.1	4.0	2.0	6.1	7.0	6.5	67.3	53.9		59.1	51.2	
LOS	A	A	A	A	A	A	E	D		E	D	
Approach Delay		3.6			6.7			62.4			56.3	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	2	16	3	27	68	18	78	44		55	28	
Queue Length 95th (ft)	3	29	8	m69	m137	m48	132	83		99	60	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	777	2470	1127	904	2612	1203	436	513		435	523	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.05	0.22	0.05	0.16	0.18	0.07	0.22	0.11		0.16	0.07	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 20 (15%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 44.9% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Driveway/Pine State Street & US 401



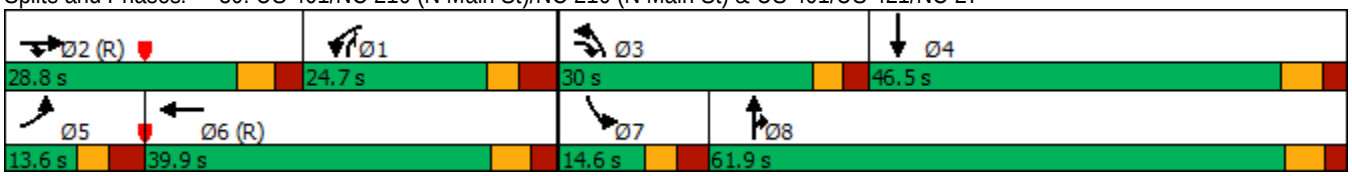


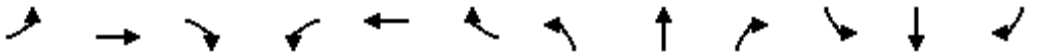
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	219	260	383	305	75	291	558	338	81	358	111
Future Volume (vph)	40	219	260	383	305	75	291	558	338	81	358	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		450	300		0	575		0	125		0
Storage Lanes	1		2	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.970				0.850		0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3416	0	1752	1844	1567	1787	3449	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3416	0	1752	1844	1567	1787	3449	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	243	289	426	339	83	323	620	376	90	398	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	243	289	426	422	0	323	620	376	90	521	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	13.6	28.8		24.7	39.9		30.0	61.9		14.6	46.5	
Total Split (%)	10.5%	22.2%		19.0%	30.7%		23.1%	47.6%		11.2%	35.8%	
Maximum Green (s)	7.0	22.4		17.9	33.4		24.6	55.8		8.5	40.0	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-1.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	9.0	26.0	50.0	22.4	42.1		26.8	51.2	71.4	10.5	34.9	
Actuated g/C Ratio	0.07	0.20	0.38	0.17	0.32		0.21	0.39	0.55	0.08	0.27	
v/c Ratio	0.36	0.34	0.27	0.73	0.38		0.89	0.85	0.44	0.63	0.56	
Control Delay	60.7	31.3	12.7	58.6	37.6		77.6	47.9	10.6	77.5	42.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	60.7	31.3	12.7	58.6	37.6		77.6	47.9	10.6	77.5	42.7	
LOS	E	C	B	E	D		E	D	B	E	D	
Approach Delay		24.2			48.1			44.5			47.8	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	29	103	100	173	158		264	460	85	73	193	
Queue Length 95th (ft)	76	94	66	236	208		#460	592	130	#156	240	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		450	300			575			125		
Base Capacity (vph)	122	773	1124	594	1111		361	807	932	145	1101	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.36	0.31	0.26	0.72	0.38		0.89	0.77	0.40	0.62	0.47	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 127 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27





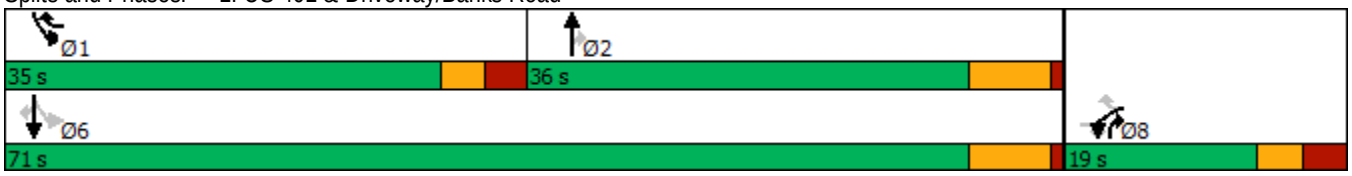
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	144	0	202	0	779	190	475	1690	4
Future Volume (vph)	0	0	4	144	0	202	0	779	190	475	1690	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	0		425	0		175	275		200
Storage Lanes	0		1	1		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	1688	0	1599	0	3486	1560	1796	3393	1607
Flt Permitted				0.950						0.145		
Satd. Flow (perm)	0	0	1611	1688	0	1599	0	3486	1560	274	3393	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			4878			1414	
Travel Time (s)		29.6			32.4			60.5			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Adj. Flow (vph)	0	0	4	160	0	224	0	866	211	528	1878	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	160	0	224	0	866	211	528	1878	4
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			8			8			2	6		6
Detector Phase			8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0		7.0		12.0	7.0	7.0	12.0	12.0
Minimum Split (s)			13.1	13.1		12.8		24.5	13.1	12.8	24.5	24.5
Total Split (s)			19.0	19.0		35.0		36.0	19.0	35.0	71.0	71.0
Total Split (%)			21.1%	21.1%		38.9%		40.0%	21.1%	38.9%	78.9%	78.9%
Maximum Green (s)			12.9	12.9		29.2		29.5	12.9	29.2	64.5	64.5
Yellow Time (s)			3.0	3.0		3.0		5.5	3.0	3.0	5.5	5.5
All-Red Time (s)			3.1	3.1		2.8		1.0	3.1	2.8	1.0	1.0
Lost Time Adjust (s)			-1.1	-1.1		-0.8		-1.5	-1.1	-0.8	-1.5	0.0
Total Lost Time (s)			5.0	5.0		5.0		5.0	5.0	5.0	5.0	6.5
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)			3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode			None	None		None		Min	None	None	Min	Min
Act Effct Green (s)			12.4	12.4		40.2		25.8	43.4	53.6	53.6	52.0
Actuated g/C Ratio			0.16	0.16		0.53		0.34	0.57	0.70	0.70	0.68
v/c Ratio			0.02	0.58		0.27		0.74	0.24	0.82	0.79	0.00
Control Delay			32.0	42.3		11.4		27.5	10.1	27.2	10.4	3.8
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			32.0	42.3		11.4		27.5	10.1	27.2	10.4	3.8
LOS			C	D		B		C	B	C	B	A

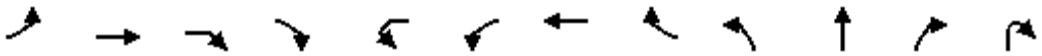
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		32.0			24.3			24.1			14.1	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)			2	75		58		198	48	176	276	1
Queue Length 95th (ft)			11	#152		106		293	97	309	362	3
Internal Link Dist (ft)		1005			2057			4798			1334	
Turn Bay Length (ft)						425			175	275		200
Base Capacity (vph)			307	322		1022		1472	931	814	2889	1344
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			0.01	0.50		0.22		0.59	0.23	0.65	0.65	0.00

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.4
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 17.9 Intersection LOS: B
Intersection Capacity Utilization 72.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 401 & Driveway/Banks Road





Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Lane Configurations												
Traffic Volume (vph)	204	68	210	22	18	66	42	30	50	683	30	58
Future Volume (vph)	204	68	210	22	18	66	42	30	50	683	30	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%					-1%			2%		
Storage Length (ft)	100		0			0		0	175		0	
Storage Lanes	1		0			0		0	1		0	
Taper Length (ft)	100					100			100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.884					0.974			0.983		
Flt Protected	0.950						0.974		0.950			
Satd. Flow (prot)	1736	1570	0	0	0	0	1618	0	1752	3444	0	0
Flt Permitted	0.583						0.521		0.950			
Satd. Flow (perm)	1065	1570	0	0	0	0	866	0	1752	3444	0	0
Right Turn on Red				No				No				No
Satd. Flow (RTOR)												
Link Speed (mph)		45					45			55		
Link Distance (ft)		2263					1263			2634		
Travel Time (s)		34.3					19.1			32.7		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	0%	10%	0%	10%	17%	7%	9%	2%	2%	2%	2%
Adj. Flow (vph)	227	76	233	24	20	73	47	33	56	759	33	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	333	0	0	0	0	173	0	56	856	0	0
Turn Type	pm+pt	NA			Perm	Perm	NA		Prot	NA		
Protected Phases	3	8					4		5	2		
Permitted Phases	8				4	4						
Detector Phase	3	8			4	4	4		5	2		
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0	7.0	7.0		7.0	14.0		
Minimum Split (s)	13.5	24.8			25.0	25.0	25.0		13.1	24.5		
Total Split (s)	13.5	43.5			30.0	30.0	30.0		13.1	52.9		
Total Split (%)	9.3%	30.0%			20.7%	20.7%	20.7%		9.0%	36.5%		
Maximum Green (s)	7.1	36.7			23.0	23.0	23.0		7.0	46.8		
Yellow Time (s)	3.0	4.5			4.6	4.6	4.6		3.0	5.0		
All-Red Time (s)	3.4	2.3			2.4	2.4	2.4		3.1	1.1		
Lost Time Adjust (s)	-1.4	-1.8					-2.0		-1.1	-1.1		
Total Lost Time (s)	5.0	5.0					5.0		5.0	5.0		
Lead/Lag	Lead				Lag	Lag	Lag		Lead	Lag		
Lead-Lag Optimize?	Yes				Yes	Yes	Yes		Yes	Yes		
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None			None	None	None		None	Min		
Act Effct Green (s)	38.6	38.6					25.0		8.1	46.1		
Actuated g/C Ratio	0.27	0.27					0.18		0.06	0.32		
v/c Ratio	0.69	0.79					1.14		0.57	0.77		
Control Delay	57.9	63.0					166.5		88.4	48.7		
Queue Delay	0.0	0.0					0.0		0.0	0.0		
Total Delay	57.9	63.0					166.5		88.4	48.7		
LOS	E	E					F		F	D		

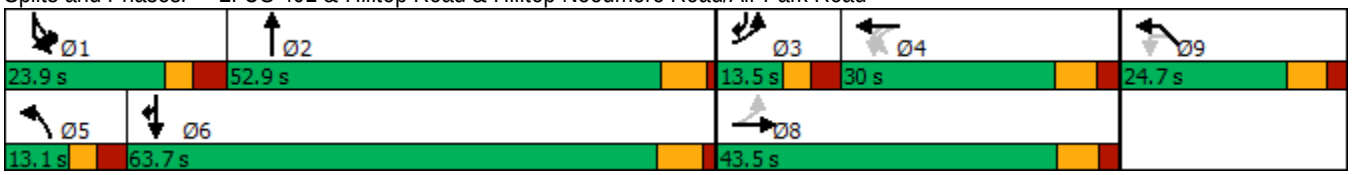
Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations								
Traffic Volume (vph)	56	99	1452	289	26	99	63	11
Future Volume (vph)	56	99	1452	289	26	99	63	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			2%			1%		
Storage Length (ft)		150		150		0	0	
Storage Lanes		1		1		1	0	
Taper Length (ft)		100				100		
Lane Util. Factor	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.950		
Flt Protected		0.950				0.970		
Satd. Flow (prot)	0	1705	3309	1467	0	1709	0	0
Flt Permitted		0.950				0.970		
Satd. Flow (perm)	0	1705	3309	1467	0	1709	0	0
Right Turn on Red				No				No
Satd. Flow (RTOR)								
Link Speed (mph)			55			45		
Link Distance (ft)			4878			1978		
Travel Time (s)			60.5			30.0		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	3%	8%	9%	0%	2%	3%	0%
Adj. Flow (vph)	62	110	1613	321	29	110	70	12
Shared Lane Traffic (%)								
Lane Group Flow (vph)	0	172	1613	321	0	221	0	0
Turn Type	Prot	Prot	NA	pt+ov	Perm	Prot		
Protected Phases	1	1	6	6 3		9		
Permitted Phases					9			
Detector Phase	1	1	6	6 3	9	9		
Switch Phase								
Minimum Initial (s)	7.0	7.0	14.0		7.0	7.0		
Minimum Split (s)	13.6	13.6	24.4		24.7	24.7		
Total Split (s)	23.9	23.9	63.7		24.7	24.7		
Total Split (%)	16.5%	16.5%	43.9%		17.0%	17.0%		
Maximum Green (s)	17.3	17.3	57.3		18.0	18.0		
Yellow Time (s)	3.0	3.0	5.0		4.4	4.4		
All-Red Time (s)	3.6	3.6	1.4		2.3	2.3		
Lost Time Adjust (s)		-1.6	-1.4			-1.7		
Total Lost Time (s)		5.0	5.0			5.0		
Lead/Lag	Lead	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0		
Recall Mode	None	None	Min		None	None		
Act Effct Green (s)		18.0	58.8	72.3		19.7		
Actuated g/C Ratio		0.13	0.41	0.51		0.14		
v/c Ratio		0.80	1.18	0.43		0.93		
Control Delay		87.1	127.0	25.0		104.3		
Queue Delay		0.0	0.0	0.0		0.0		
Total Delay		87.1	127.0	25.0		104.3		
LOS		F	F	C		F		

Lane Group	EBL	EBT	EBR	EBR2	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	NBR2
Approach Delay		60.9					166.5			51.2		
Approach LOS		E					F			D		
Queue Length 50th (ft)	182	295					~193		53	379		
Queue Length 95th (ft)	269	#444					#349		#110	460		
Internal Link Dist (ft)		2183					1183			2554		
Turn Bay Length (ft)	100								175			
Base Capacity (vph)	328	424					152		99	1160		
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	0.69	0.79					1.14		0.57	0.74		

Intersection Summary			
Area Type:	Other		
Cycle Length: 145			
Actuated Cycle Length: 142.4			
Natural Cycle: 145			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 90.8		Intersection LOS: F	
Intersection Capacity Utilization 104.8%		ICU Level of Service G	
Analysis Period (min) 15			

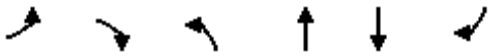
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: US 401 & Hilltop Road & Hilltop Needmore Road/Air Park Road



Lane Group	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Approach Delay			108.2			104.3		
Approach LOS			F			F		
Queue Length 50th (ft)		160	~972	191		210		
Queue Length 95th (ft)		#274	#1111	274		#378		
Internal Link Dist (ft)			4798			1898		
Turn Bay Length (ft)		150		150				
Base Capacity (vph)		226	1366	745		237		
Starvation Cap Reductn		0	0	0		0		
Spillback Cap Reductn		0	0	0		0		
Storage Cap Reductn		0	0	0		0		
Reduced v/c Ratio		0.76	1.18	0.43		0.93		

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	506	170	777	1509	47
Future Volume (vph)	37	506	170	777	1509	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.874				0.995	
Flt Protected	0.997		0.950			
Satd. Flow (prot)	1623	0	1787	3539	3267	0
Flt Permitted	0.997		0.950			
Satd. Flow (perm)	1623	0	1787	3539	3267	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	1052			2924	2634	
Travel Time (s)	15.9			36.2	32.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	1%	2%	9%	40%
Adj. Flow (vph)	41	562	189	863	1677	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	603	0	189	863	1729	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 96.0%		ICU Level of Service F	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	387.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	506	170	777	1509	47
Future Vol, veh/h	37	506	170	777	1509	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	1	2	9	40
Mvmt Flow	41	562	189	863	1677	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2513	865	1729	0	-	0
Stage 1	1703	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.12	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.21	-	-	-
Pot Cap-1 Maneuver	~ 23	~ 297	365	-	-	-
Stage 1	133	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 11	~ 297	365	-	-	-
Mov Cap-2 Maneuver	~ 11	-	-	-	-	-
Stage 1	64	-	-	-	-	-
Stage 2	398	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay,$	2166.2	4.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	365	-	107	-	-
HCM Lane V/C Ratio	0.518	-	5.639	-	-
HCM Control Delay (s)	25	-	$ 2166.2	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	2.8	-	65.5	-	-

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

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	36	122	4	806	61	396	1552
Future Volume (vph)	36	122	4	806	61	396	1552
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125	225		200	300	
Storage Lanes	1	1	1		1	1	
Taper Length (ft)	100		100			100	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	1805	1615	1805	3539	1583	1770	3312
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	1805	1615	1805	3539	1583	1770	3312
Link Speed (mph)	45			55			55
Link Distance (ft)	1526			6983			2924
Travel Time (s)	23.1			86.6			36.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	9%
Adj. Flow (vph)	40	136	4	896	68	440	1724
Shared Lane Traffic (%)							
Lane Group Flow (vph)	40	136	4	896	68	440	1724
Sign Control	Stop			Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	35.5

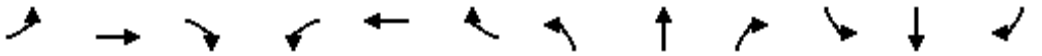
Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	36	122	4	806	61	396	1552
Future Vol, veh/h	36	122	4	806	61	396	1552
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	Yield	-	None
Storage Length	0	125	225	-	200	300	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	2	2	2	9
Mvmt Flow	40	136	4	896	68	440	1724

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2646	448	1724	0	0	896	0
Stage 1	904	-	-	-	-	-	-
Stage 2	1742	-	-	-	-	-	-
Critical Hdwy	6.8	6.9	6.4	-	-	4.14	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.5	-	-	2.22	-
Pot Cap-1 Maneuver	~ 19	564	115	-	-	753	-
Stage 1	360	-	-	-	-	-	-
Stage 2	129	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 8	564	115	-	-	753	-
Mov Cap-2 Maneuver	~ 8	-	-	-	-	-	-
Stage 1	347	-	-	-	-	-	-
Stage 2	54	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 626.7	0.2	3.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	115	-	-	8	564	753	-
HCM Lane V/C Ratio	0.039	-	-	5	0.24	0.584	-
HCM Control Delay (s)	37.6	-	-	$ 2705	13.4	16.3	-
HCM Lane LOS	E	-	-	F	B	C	-
HCM 95th %tile Q(veh)	0.1	-	-	6.4	0.9	3.8	-

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

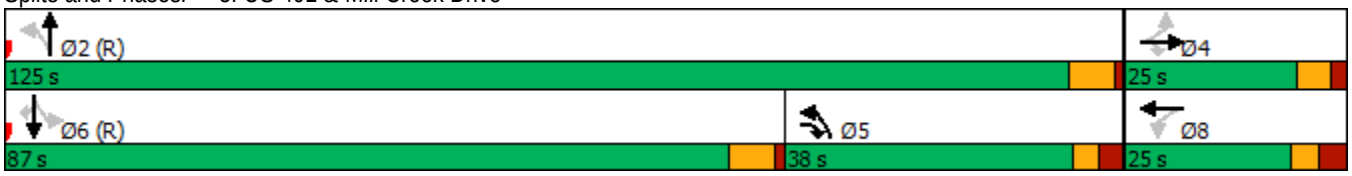


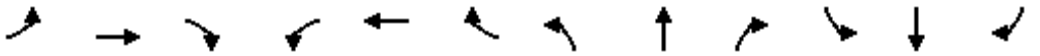
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	11	391	4	4	4	269	798	5	4	1388	123
Future Volume (vph)	93	11	391	4	4	4	269	798	5	4	1388	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected		0.957			0.984		0.950			0.950		
Satd. Flow (prot)	0	1795	1576	0	1794	0	1710	3451	0	1796	3421	1607
Flt Permitted		0.740			0.906		0.075			0.301		
Satd. Flow (perm)	0	1388	1576	0	1652	0	135	3451	0	569	3421	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			6983	
Travel Time (s)		40.4			25.8			20.1			86.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Adj. Flow (vph)	103	12	434	4	4	4	299	887	6	4	1542	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	434	0	12	0	299	893	0	4	1542	137
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	12.9	24.5	24.5		12.9	24.2		24.2	24.2	24.2
Total Split (s)	25.0	25.0	38.0	25.0	25.0		38.0	125.0		87.0	87.0	87.0
Total Split (%)	16.7%	16.7%	25.3%	16.7%	16.7%		25.3%	83.3%		58.0%	58.0%	58.0%
Maximum Green (s)	19.1	19.1	32.1	18.5	18.5		32.1	118.8		80.8	80.8	80.8
Yellow Time (s)	3.9	3.9	3.0	3.2	3.2		3.0	5.1		5.1	5.1	5.1
All-Red Time (s)	2.0	2.0	2.9	3.3	3.3		2.9	1.1		1.1	1.1	1.1
Lost Time Adjust (s)		-0.9	-0.9		-1.5		-0.9	-1.2		-1.2	-1.2	-1.2
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lag				Lag			Lead	Lead	Lead
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		17.1	55.9		17.1		122.9	122.9		84.1	84.1	84.1
Actuated g/C Ratio		0.11	0.37		0.11		0.82	0.82		0.56	0.56	0.56
v/c Ratio		0.73	0.74		0.06		0.64	0.32		0.01	0.80	0.15
Control Delay		89.2	49.1		58.2		23.7	2.3		16.0	31.1	17.1
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		89.2	49.1		58.2		23.7	2.3		16.0	31.1	17.1
LOS		F	D		E		C	A		B	C	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		57.5			58.2			7.6			29.9	
Approach LOS		E			E			A			C	
Queue Length 50th (ft)		109	349		11		168	33		2	656	67
Queue Length 95th (ft)		179	494		32		m259	71		8	741	103
Internal Link Dist (ft)		1993			866			1540			6903	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		185	582		220		471	2827		320	1928	905
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		0.62	0.75		0.05		0.63	0.32		0.01	0.80	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 111 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 26.7		Intersection LOS: C	
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 401 & Mill Creek Drive





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	680	724	536	1151	84	500	31	389	26	56	12
Future Volume (vph)	4	680	724	536	1151	84	500	31	389	26	56	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	250		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.958			0.984	
Satd. Flow (prot)	1832	3592	1518	1702	3264	0	1602	1620	1552	0	1907	1177
Flt Permitted	0.134			0.950			0.950	0.958			0.780	
Satd. Flow (perm)	258	3592	1518	1702	3264	0	1602	1620	1552	0	1512	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2282			629			1056			648	
Travel Time (s)		34.6			9.5			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Adj. Flow (vph)	4	756	804	596	1279	93	556	34	432	29	62	13
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	4	756	804	596	1372	0	295	295	432	0	91	13
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	12.6
Total Split (s)	12.6	37.9		56.0	81.3		32.2	32.2	56.0	23.9	23.9	12.6
Total Split (%)	8.4%	25.3%		37.3%	54.2%		21.5%	21.5%	37.3%	15.9%	15.9%	8.4%
Maximum Green (s)	7.0	31.7		50.9	75.1		26.3	26.3	50.9	18.0	18.0	7.0
Yellow Time (s)	3.0	4.8		3.0	4.8		4.3	4.3	3.0	3.0	3.0	3.0
All-Red Time (s)	2.6	1.4		2.1	1.4		1.6	1.6	2.1	2.9	2.9	2.6
Lost Time Adjust (s)	-0.6	-1.2		-0.1	-1.2		-0.9	-0.9	-0.1		-0.9	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	37.2	37.2	150.0	51.0	88.1		27.2	27.2	83.2		14.6	27.2
Actuated g/C Ratio	0.25	0.25	1.00	0.34	0.59		0.18	0.18	0.55		0.10	0.18
v/c Ratio	0.03	0.85	0.53	1.03	0.72		1.02	1.01	0.50		0.62	0.06
Control Delay	26.0	52.4	2.8	75.9	15.9		116.6	114.2	23.2		82.3	49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	26.0	52.4	2.8	75.9	15.9		116.6	114.2	23.2		82.3	49.6
LOS	C	D	A	E	B		F	F	C		F	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		26.8			34.1			76.4			78.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	3	392	1	~626	204		~320	~309	253		87	11
Queue Length 95th (ft)	m4	#525	285	#855	481		#522	#518	349		146	31
Internal Link Dist (ft)		2202			549			976			568	
Turn Bay Length (ft)	175		275	250					650			150
Base Capacity (vph)	143	889	1518	578	1917		290	293	860		190	213
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.03	0.85	0.53	1.03	0.72		1.02	1.01	0.50		0.48	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 147 (98%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 41.9		Intersection LOS: D	
Intersection Capacity Utilization 82.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

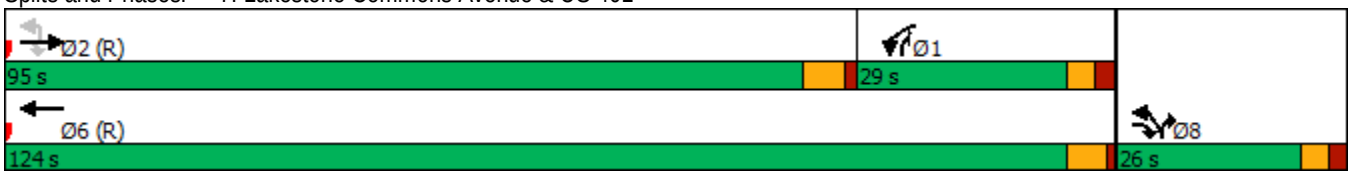
Splits and Phases: 6: NC 55/Driveway & US 401

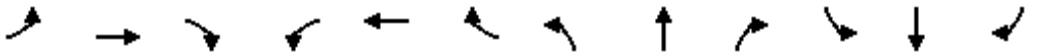
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1367	102	135	1652	106	100
Future Volume (vph)	4	1367	102	135	1652	106	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.093			0.950		0.950	
Satd. Flow (perm)	178	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2282	1303	
Travel Time (s)		35.0			34.6	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Adj. Flow (vph)	4	1519	113	150	1836	118	111
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1519	113	150	1836	118	111
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	95.0	95.0	26.0	29.0	124.0	26.0	
Total Split (%)	63.3%	63.3%	17.3%	19.3%	82.7%	17.3%	
Maximum Green (s)	89.1	89.1	20.7	23.6	118.5	20.7	
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	101.4	101.4	121.9	18.1	124.6	15.4	38.3
Actuated g/C Ratio	0.68	0.68	0.81	0.12	0.83	0.10	0.26
v/c Ratio	0.03	0.64	0.09	0.69	0.67	0.64	0.27
Control Delay	3.8	8.2	1.5	75.4	6.7	79.8	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.8	8.2	1.5	75.4	6.7	79.8	44.3
LOS	A	A	A	E	A	E	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay		7.7			11.8	62.6	
Approach LOS		A			B	E	
Queue Length 50th (ft)	0	83	10	135	10	113	88
Queue Length 95th (ft)	m1	657	m3	m201	m724	176	129
Internal Link Dist (ft)		2228			2202	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	120	2383	1314	288	2736	251	465
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.64	0.09	0.52	0.67	0.47	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 65 (43%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 74.0%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Lakestone Commons Avenue & US 401





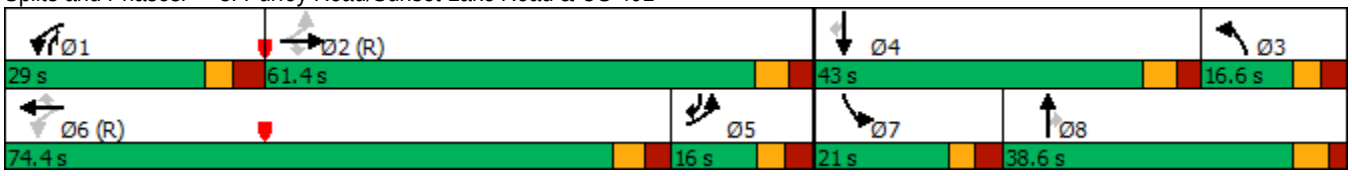
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	1076	224	283	1167	291	212	354	175	295	394	113
Future Volume (vph)	133	1076	224	283	1167	291	212	354	175	295	394	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	1919	1615	3450	1872	1591
Flt Permitted	0.134			0.092			0.950			0.950		
Satd. Flow (perm)	250	3470	1508	170	3436	1599	3502	1919	1615	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			1161	
Travel Time (s)		15.6			45.0			27.5			22.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Adj. Flow (vph)	148	1196	249	314	1297	323	236	393	194	328	438	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1196	249	314	1297	323	236	393	194	328	438	126
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0	12.0	7.0	12.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.4	40.9	40.9	13.6	43.9	43.9	13.2	37.3	13.6	13.1	41.5	13.4
Total Split (s)	16.0	61.4	61.4	29.0	74.4	74.4	16.6	38.6	29.0	21.0	43.0	16.0
Total Split (%)	10.7%	40.9%	40.9%	19.3%	49.6%	49.6%	11.1%	25.7%	19.3%	14.0%	28.7%	10.7%
Maximum Green (s)	9.6	54.8	54.8	22.4	67.8	67.8	10.4	32.3	22.4	14.9	36.7	9.6
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	4.0	3.0	3.0	3.8	3.0
All-Red Time (s)	3.4	2.9	2.9	3.6	2.9	2.9	3.2	2.3	3.6	3.1	2.5	3.4
Lost Time Adjust (s)	-1.4	-1.6	-1.6	-1.6	-1.6	-1.6	-1.2	-1.3	-1.6	-1.1	-1.3	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		21.0	21.0		24.0	24.0		24.0			22.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	56.6	56.6	56.6	67.7	67.7	67.7	12.0	33.0	62.2	16.2	37.2	55.3
Actuated g/C Ratio	0.38	0.38	0.38	0.45	0.45	0.45	0.08	0.22	0.41	0.11	0.25	0.37
v/c Ratio	0.65	0.91	0.44	0.95	0.84	0.45	0.85	0.93	0.29	0.88	0.94	0.22
Control Delay	52.5	41.3	24.9	78.5	38.5	26.7	93.5	86.5	30.6	90.4	84.8	34.1

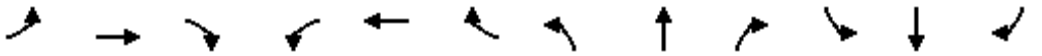
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	41.3	24.9	78.5	38.5	26.7	93.5	86.5	30.6	90.4	84.8	34.1
LOS	D	D	C	E	D	C	F	F	C	F	F	C
Approach Delay		39.8			43.0			75.4			79.7	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	75	544	150	270	536	214	120	379	125	165	421	86
Queue Length 95th (ft)	#158	#671	180	#441	527	188	#197	#574	187	#254	#627	138
Internal Link Dist (ft)		720			2228			1334			1081	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	227	1309	569	331	1589	739	279	429	669	372	474	586
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.91	0.44	0.95	0.82	0.44	0.85	0.92	0.29	0.88	0.92	0.22

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 7 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 53.4 Intersection LOS: D
Intersection Capacity Utilization 89.1% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401



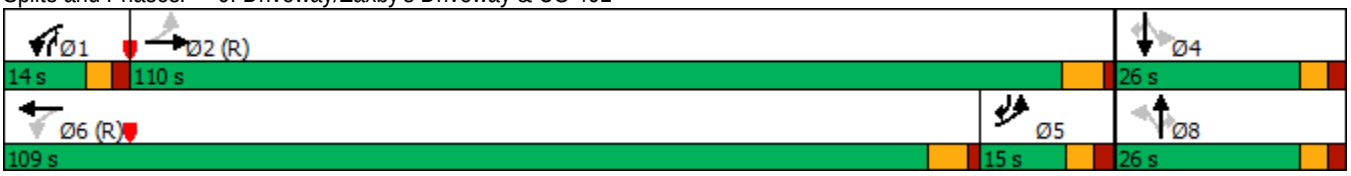


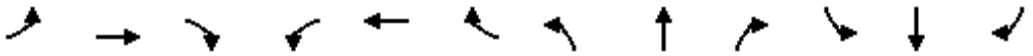
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1297	58	47	1316	40	38	5	45	39	4	20
Future Volume (vph)	70	1297	58	47	1316	40	38	5	45	39	4	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.996				0.850			0.850
Flt Protected	0.950			0.950				0.958			0.956	
Satd. Flow (prot)	1814	3506	0	1796	3444	0	0	1820	1615	0	1807	1607
Flt Permitted	0.154			0.134				0.719			0.709	
Satd. Flow (perm)	294	3506	0	253	3444	0	0	1366	1615	0	1340	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	78	1441	64	52	1462	44	42	6	50	43	4	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	1505	0	52	1506	0	0	48	50	0	47	22
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	15.0	110.0		14.0	109.0		26.0	26.0	14.0	26.0	26.0	15.0
Total Split (%)	10.0%	73.3%		9.3%	72.7%		17.3%	17.3%	9.3%	17.3%	17.3%	10.0%
Maximum Green (s)	9.6	104.1		9.1	103.1		20.6	20.6	9.1	20.7	20.7	9.6
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lag		Lead	Lead				Lead			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	121.7	122.7		117.2	117.2			11.1	20.7		11.1	22.8
Actuated g/C Ratio	0.81	0.82		0.78	0.78			0.07	0.14		0.07	0.15
v/c Ratio	0.24	0.53		0.19	0.56			0.48	0.22		0.47	0.09
Control Delay	5.7	5.6		1.6	1.8			81.0	56.9		81.2	51.1
Queue Delay	0.0	0.4		0.0	0.3			0.0	0.0		0.0	0.0
Total Delay	5.7	6.0		1.6	2.0			81.0	56.9		81.2	51.1
LOS	A	A		A	A			F	E		F	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		5.9			2.0			68.7			71.6	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	23	264		1	15			46	43		45	18
Queue Length 95th (ft)	m7	m60		m5	140			90	82		88	43
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	344	2866		290	2691			191	243		187	224
Starvation Cap Reductn	0	711		0	464			0	0		0	0
Spillback Cap Reductn	0	52		0	0			0	0		0	0
Storage Cap Reductn	0	0		0	0			0	0		0	0
Reduced v/c Ratio	0.23	0.70		0.18	0.68			0.25	0.21		0.25	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 45 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	877	116	316	796	306	86	244	228	408	315	72
Future Volume (vph)	119	877	116	316	796	306	86	244	228	408	315	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.982				0.850			0.850		0.972	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3382	0	1770	3539	1583	1752	3504	1567	3399	3406	0
Flt Permitted	0.146			0.160			0.950			0.950		
Satd. Flow (perm)	269	3382	0	298	3539	1583	1752	3504	1567	3399	3406	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	132	974	129	351	884	340	96	271	253	453	350	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	1103	0	351	884	340	96	271	253	453	430	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	21.2	57.1		31.0	66.9	26.2	20.8	35.7	31.0	26.2	41.1	
Total Split (%)	14.1%	38.1%		20.7%	44.6%	17.5%	13.9%	23.8%	20.7%	17.5%	27.4%	
Maximum Green (s)	15.0	50.7		24.9	60.5	19.9	14.6	30.0	24.9	19.9	35.2	
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	61.9	61.9		74.7	74.7	101.3	16.5	20.2	46.5	21.6	25.3	
Actuated g/C Ratio	0.41	0.41		0.50	0.50	0.68	0.11	0.13	0.31	0.14	0.17	
v/c Ratio	0.54	0.79		0.86	0.50	0.32	0.50	0.58	0.52	0.93	0.75	
Control Delay	21.2	15.3		45.6	9.6	3.1	72.1	64.8	28.0	89.1	67.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.2	15.3		45.6	9.6	3.1	72.1	64.8	28.0	89.1	67.6	
LOS	C	B		D	A	A	E	E	C	F	E	
Approach Delay		15.9			16.2			50.9			78.6	
Approach LOS		B			B			D			E	
Queue Length 50th (ft)	35	331		225	81	27	91	134	143	229	213	
Queue Length 95th (ft)	m88	#684		#453	205	55	150	168	172	#337	262	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	272	1395		407	1762	1069	198	717	486	489	819	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	0.79		0.86	0.50	0.32	0.48	0.38	0.52	0.93	0.53	

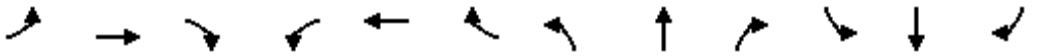
Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 8 (5%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 33.9 Intersection LOS: C
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15

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

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

Splits and Phases: 10: Judd Pkwy NE & US 401

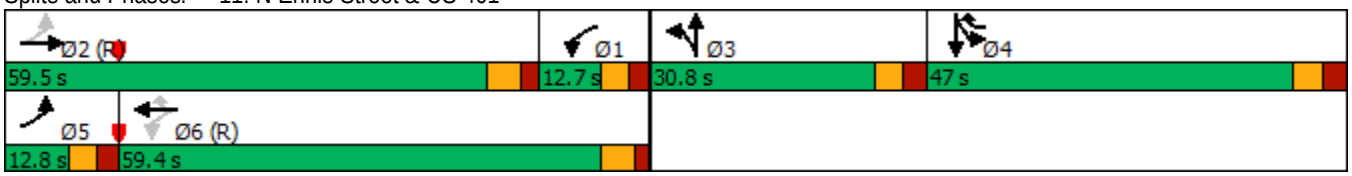


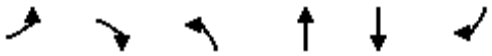
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	457	8	81	607	362	10	82	59	583	115	154
Future Volume (vph)	119	457	8	81	607	362	10	82	59	583	115	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.997				0.850		0.937			0.945	
Flt Protected	0.950			0.950			0.950			0.950	0.982	
Satd. Flow (prot)	1761	3511	0	1778	1872	1591	1725	1702	0	1698	1659	0
Flt Permitted	0.189			0.385			0.950			0.950	0.982	
Satd. Flow (perm)	350	3511	0	721	1872	1591	1725	1702	0	1698	1659	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	132	508	9	90	674	402	11	91	66	648	128	171
Shared Lane Traffic (%)										26%		
Lane Group Flow (vph)	132	517	0	90	674	402	11	157	0	480	467	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	12.8	59.5		12.7	59.4	47.0	30.8	30.8		47.0	47.0	
Total Split (%)	8.5%	39.7%		8.5%	39.6%	31.3%	20.5%	20.5%		31.3%	31.3%	
Maximum Green (s)	7.2	53.8		7.1	53.7	40.8	25.0	25.0		40.8	40.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	29.3	29.3		54.4	54.4	102.3	19.7	19.7		47.9	47.9	
Actuated g/C Ratio	0.20	0.20		0.36	0.36	0.68	0.13	0.13		0.32	0.32	
v/c Ratio	0.92	0.75		0.18	0.99	0.37	0.05	0.70		0.89	0.88	
Control Delay	108.6	61.3		19.3	61.6	5.1	54.4	78.7		67.7	67.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	108.6	61.3		19.3	61.6	5.1	54.4	78.7		67.7	67.7	
LOS	F	E		B	E	A	D	E		E	E	
Approach Delay		70.9			38.9			77.1			67.7	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	110	259		41	623	123	10	149		470	456	
Queue Length 95th (ft)	#191	304		40	#921	71	28	221		#754	#735	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	143	1275		494	678	1085	296	292		542	530	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.92	0.41		0.18	0.99	0.37	0.04	0.54		0.89	0.88	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 91 (61%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 57.5		Intersection LOS: E	
Intersection Capacity Utilization 87.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 11: N Ennis Street & US 401



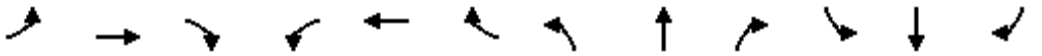


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	424	353	471	623	59
Future Volume (vph)	71	424	353	471	623	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1831	0
Flt Permitted	0.950		0.215			
Satd. Flow (perm)	1787	1599	393	1826	1831	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	79	471	392	523	692	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	471	392	523	758	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	24.2	41.0	41.0	125.8	84.8	
Total Split (%)	16.1%	27.3%	27.3%	83.9%	56.5%	
Maximum Green (s)	18.0	35.7	35.7	120.3	78.6	
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	13.2	49.3	127.8	126.8	91.6	
Actuated g/C Ratio	0.09	0.33	0.85	0.85	0.61	
v/c Ratio	0.50	0.90	0.64	0.34	0.68	
Control Delay	75.6	68.0	17.5	3.6	10.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	75.6	68.0	17.5	3.6	10.3	
LOS	E	E	B	A	B	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	69.1			9.5	10.3	
Approach LOS	E			A	B	
Queue Length 50th (ft)	75	452	92	34	130	
Queue Length 95th (ft)	129	526	233	196	m165	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	228	590	668	1543	1118	
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	0.35	0.80	0.59	0.34	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 117 (78%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 12: US 401 & Wake Chapel Rd



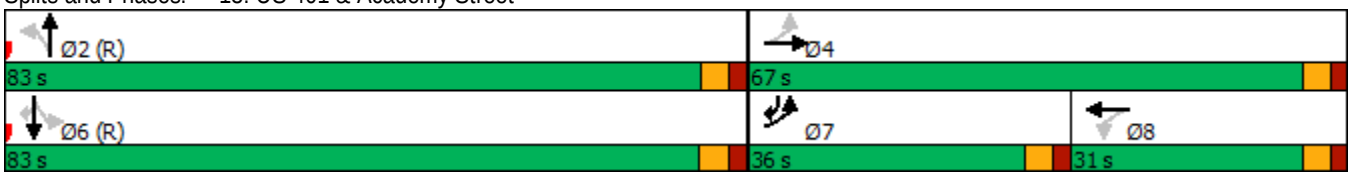
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	123	58	30	122	45	38	414	23	56	640	376
Future Volume (vph)	276	123	58	30	122	45	38	414	23	56	640	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.960			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1764	0	1761	1779	0	1796	1824	0	1787	1881	1599
Flt Permitted	0.267			0.632			0.213			0.372		
Satd. Flow (perm)	495	1764	0	1171	1779	0	403	1824	0	700	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2068			1972			854			1797	
Travel Time (s)		56.4			53.8			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Adj. Flow (vph)	307	137	64	33	136	50	42	460	26	62	711	418
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	201	0	33	186	0	42	486	0	62	711	418
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	36.0	67.0		31.0	31.0		83.0	83.0		83.0	83.0	36.0
Total Split (%)	24.0%	44.7%		20.7%	20.7%		55.3%	55.3%		55.3%	55.3%	24.0%
Maximum Green (s)	30.9	61.9		25.9	25.9		77.6	77.6		77.4	77.4	30.9
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	56.6	56.6		20.6	20.6		83.4	83.4		83.2	83.4	119.9
Actuated g/C Ratio	0.38	0.38		0.14	0.14		0.56	0.56		0.55	0.56	0.80
v/c Ratio	0.69	0.30		0.21	0.76		0.19	0.48		0.16	0.68	0.33
Control Delay	42.5	32.8		58.6	81.8		14.3	14.1		17.9	25.1	4.6

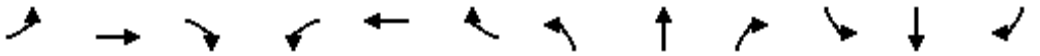
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	42.5	32.8		58.6	81.8		14.3	14.1		17.9	25.1	4.6
LOS	D	C		E	F		B	B		B	C	A
Approach Delay		38.7			78.3			14.2			17.5	
Approach LOS		D			E			B			B	
Queue Length 50th (ft)	217	132		29	177		13	160		20	413	56
Queue Length 95th (ft)	297	192		62	257		25	182		m49	715	m194
Internal Link Dist (ft)		1988			1892			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	466	742		202	308		226	1027		393	1059	1300
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.66	0.27		0.16	0.60		0.19	0.47		0.16	0.67	0.32

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 84 (56%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 26.6 Intersection LOS: C
Intersection Capacity Utilization 83.1% ICU Level of Service E
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: US 401 & Academy Street





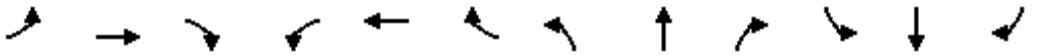
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	16	14	28	8	97	5	304	25	169	526	13
Future Volume (vph)	8	16	14	28	8	97	5	304	25	169	526	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.862			0.989			0.996	
Flt Protected		0.990		0.950			0.950			0.950		
Satd. Flow (prot)	0	1760	0	1787	1624	0	1735	1806	0	1823	1874	0
Flt Permitted		0.930		0.769			0.410			0.535		
Satd. Flow (perm)	0	1653	0	1447	1624	0	749	1806	0	1027	1874	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1404			1928			2641			854	
Travel Time (s)		38.3			52.6			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Adj. Flow (vph)	9	18	16	31	9	108	6	338	28	188	584	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	31	117	0	6	366	0	188	598	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	41.0	41.0		41.0	41.0		109.0	109.0		109.0	109.0	
Total Split (%)	27.3%	27.3%		27.3%	27.3%		72.7%	72.7%		72.7%	72.7%	
Maximum Green (s)	36.1	36.1		35.7	35.7		103.8	103.8		103.6	103.6	
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.5		16.5	16.5		123.5	123.5		123.5	123.5	
Actuated g/C Ratio		0.11		0.11	0.11		0.82	0.82		0.82	0.82	
v/c Ratio		0.24		0.20	0.66		0.01	0.25		0.22	0.39	
Control Delay		62.2		61.5	80.8		1.2	2.8		2.1	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.6	
Total Delay		62.2		61.5	80.8		1.2	2.8		2.1	3.6	
LOS		E		E	F		A	A		A	A	
Approach Delay		62.2			76.7			2.8			3.2	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		39		28	112		0	17		11	74	
Queue Length 95th (ft)		76		60	175		m1	29		15	41	
Internal Link Dist (ft)		1324			1848			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		396		347	389		616	1487		845	1543	
Starvation Cap Reductn		0		0	0		0	0		0	541	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.11		0.09	0.30		0.01	0.25		0.22	0.60	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 31 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 13.1 Intersection LOS: B
Intersection Capacity Utilization 58.1% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: US 401 & Vance Street

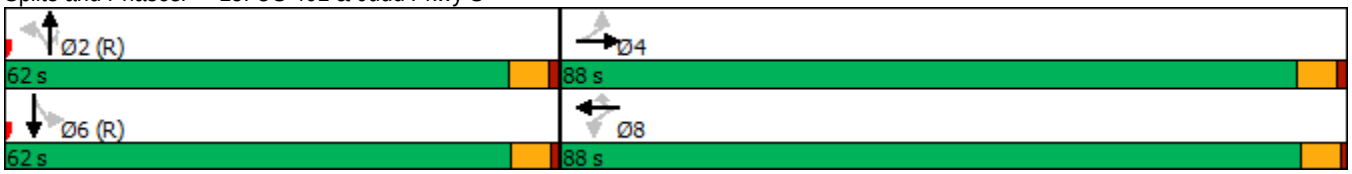


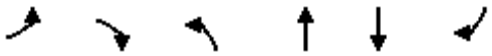
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	173	43	289	164	41	34	233	226	49	404	57
Future Volume (vph)	35	173	43	289	164	41	34	233	226	49	404	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	0		125	50		75	150		0
Storage Lanes	1		0	0		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850			0.850		0.982	
Flt Protected	0.950				0.969		0.950			0.950		
Satd. Flow (prot)	1761	1798	0	0	1796	1575	1752	1845	1568	1770	1829	0
Flt Permitted	0.321				0.610		0.270			0.516		
Satd. Flow (perm)	595	1798	0	0	1131	1575	498	1845	1568	961	1829	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2561			1512			355			505	
Travel Time (s)		38.8			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	39	192	48	321	182	46	38	259	251	54	449	63
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	240	0	0	503	46	38	259	251	54	512	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	88.0	88.0		88.0	88.0	88.0	62.0	62.0	62.0	62.0	62.0	
Total Split (%)	58.7%	58.7%		58.7%	58.7%	58.7%	41.3%	41.3%	41.3%	41.3%	41.3%	
Maximum Green (s)	82.3	82.3		82.6	82.6	82.6	56.2	56.2	56.2	56.5	56.5	
Yellow Time (s)	4.4	4.4		4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	1.3	1.3		1.0	1.0	1.0	1.3	1.3	1.3	1.0	1.0	
Lost Time Adjust (s)	-0.7	-0.7			-0.4	-0.4	-0.8	-0.8	-0.8	-0.5	-0.5	
Total Lost Time (s)	5.0	5.0			5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	74.1	74.1			74.1	74.1	65.9	65.9	65.9	65.9	65.9	
Actuated g/C Ratio	0.49	0.49			0.49	0.49	0.44	0.44	0.44	0.44	0.44	
v/c Ratio	0.13	0.27			0.90	0.06	0.17	0.32	0.36	0.13	0.64	
Control Delay	19.0	21.9			54.3	17.4	32.5	30.9	32.2	12.0	19.9	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.0	21.9			54.3	17.4	32.5	30.9	32.2	12.0	19.9	
LOS	B	C			D	B	C	C	C	B	B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		21.5			51.2			31.6			19.2	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	19	128			420	22	23	170	169	17	387	
Queue Length 95th (ft)	39	171			573	41	57	261	263	35	434	
Internal Link Dist (ft)		2481			1432			275			425	
Turn Bay Length (ft)	75					125	50		75	150		
Base Capacity (vph)	329	994			625	871	218	810	688	422	803	
Starvation Cap Reductn	0	0			0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0			0	0	0	0	0	0	0	
Storage Cap Reductn	0	0			0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.24			0.80	0.05	0.17	0.32	0.36	0.13	0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 28 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 32.1		Intersection LOS: C	
Intersection Capacity Utilization 87.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	111	11	8	331	511	156
Future Volume (vph)	111	11	8	331	511	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988				0.968	
Flt Protected	0.956			0.999		
Satd. Flow (prot)	1795	0	0	1844	1811	0
Flt Permitted	0.956			0.999		
Satd. Flow (perm)	1795	0	0	1844	1811	0
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2405	1444	
Travel Time (s)	43.2			46.9	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	123	12	9	368	568	173
Shared Lane Traffic (%)						
Lane Group Flow (vph)	135	0	0	377	741	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

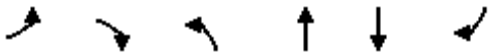
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	111	11	8	331	511	156
Future Vol, veh/h	111	11	8	331	511	156
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	123	12	9	368	568	173

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1041	655	741	0	-	0
Stage 1	655	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	257	470	875	-	-	-
Stage 1	521	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	470	875	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32	0.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	875	-	265	-	-
HCM Lane V/C Ratio	0.01	-	0.512	-	-
HCM Control Delay (s)	9.2	0	32	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	2.7	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	13	443	273	328	438	36
Future Volume (vph)	13	443	273	328	438	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869				0.990	
Flt Protected	0.999		0.950			
Satd. Flow (prot)	1649	0	1752	1845	1844	0
Flt Permitted	0.999		0.950			
Satd. Flow (perm)	1649	0	1752	1845	1844	0
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2753	
Travel Time (s)	27.4			15.8	34.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Adj. Flow (vph)	14	492	303	364	487	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	506	0	303	364	527	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

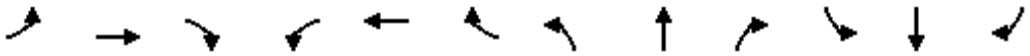
Intersection	
Int Delay, s/veh	23

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	443	273	328	438	36
Future Vol, veh/h	13	443	273	328	438	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	14	492	303	364	487	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1477	507	527	0	-	0
Stage 1	507	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	140	570	1035	-	-	-
Stage 1	609	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	99	570	1035	-	-	-
Mov Cap-2 Maneuver	99	-	-	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	71.4	4.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1035	-	502	-	-
HCM Lane V/C Ratio	0.293	-	1.009	-	-
HCM Control Delay (s)	9.9	-	71.4	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	1.2	-	14.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	20	17	16	23	66	24	520	33	118	721	42
Future Volume (vph)	16	20	17	16	23	66	24	520	33	118	721	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.957			0.916			0.991			0.992	
Flt Protected		0.985			0.992		0.950			0.950		
Satd. Flow (prot)	0	1756	0	0	1693	0	1752	1828	0	1770	1848	0
Flt Permitted		0.985			0.992		0.950			0.950		
Satd. Flow (perm)	0	1756	0	0	1693	0	1752	1828	0	1770	1848	0
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	18	22	19	18	26	73	27	578	37	131	801	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	117	0	27	615	0	131	848	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.7%		ICU Level of Service B	
Analysis Period (min) 15			

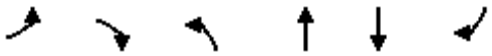
Intersection	
Int Delay, s/veh	15.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	20	17	16	23	66	24	520	33	118	721	42
Future Vol, veh/h	16	20	17	16	23	66	24	520	33	118	721	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	275	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	18	22	19	18	26	73	27	578	37	131	801	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1787	1756	825	1758	1761	597	848	0	0	615	0	0
Stage 1	1087	1087	-	651	651	-	-	-	-	-	-	-
Stage 2	700	669	-	1107	1110	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	63	85	372	66	84	503	785	-	-	965	-	-
Stage 1	262	292	-	457	465	-	-	-	-	-	-	-
Stage 2	430	456	-	255	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	34	71	372	42	70	503	785	-	-	965	-	-
Mov Cap-2 Maneuver	34	71	-	42	70	-	-	-	-	-	-	-
Stage 1	253	252	-	441	449	-	-	-	-	-	-	-
Stage 2	334	440	-	191	246	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	185.3	129.8	0.4	1.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	785	-	-	66	125	965	-	-
HCM Lane V/C Ratio	0.034	-	-	0.892	0.933	0.136	-	-
HCM Control Delay (s)	9.7	-	-	185.3	129.8	9.3	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	6.1	0.5	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	8	4	569	748	6
Future Volume (vph)	8	8	4	569	748	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932				0.999	
Flt Protected	0.976		0.950			
Satd. Flow (prot)	1694	0	1805	1845	1861	0
Flt Permitted	0.976		0.950			
Satd. Flow (perm)	1694	0	1805	1845	1861	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1978			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	9	9	4	632	831	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	4	632	838	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	8	4	569	748	6
Future Vol, veh/h	8	8	4	569	748	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	9	9	4	632	831	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1475	835	838	0	-	0
Stage 1	835	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	139	368	805	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	138	368	805	-	-	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	805	-	201	-	-
HCM Lane V/C Ratio	0.006	-	0.088	-	-
HCM Control Delay (s)	9.5	-	24.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	72	515	42	143	621
Future Volume (vph)	45	72	515	42	143	621
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.917		0.990			
Flt Protected	0.981					0.991
Satd. Flow (prot)	1676	0	1826	0	0	1846
Flt Permitted	0.981					0.991
Satd. Flow (perm)	1676	0	1826	0	0	1846
Link Speed (mph)	55		45			45
Link Distance (ft)	2952		1355			6809
Travel Time (s)	36.6		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	50	80	572	47	159	690
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	0	619	0	0	849
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

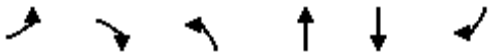
Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	72	515	42	143	621
Future Vol, veh/h	45	72	515	42	143	621
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	50	80	572	47	159	690

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1604	596	0	0	619	0
Stage 1	596	-	-	-	-	-
Stage 2	1008	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	116	504	-	-	961	-
Stage 1	550	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	85	504	-	-	961	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	258	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	69.8	0	1.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	174	961	-
HCM Lane V/C Ratio	-	-	0.747	0.165	-
HCM Control Delay (s)	-	-	69.8	9.5	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	4.8	0.6	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	6	5	492	601	65
Future Volume (vph)	64	6	5	492	601	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988				0.987	
Flt Protected	0.956			0.999		
Satd. Flow (prot)	1759	0	0	1843	1839	0
Flt Permitted	0.956			0.999		
Satd. Flow (perm)	1759	0	0	1843	1839	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2900			4214	1355	
Travel Time (s)	79.1			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	71	7	6	547	668	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	553	740	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

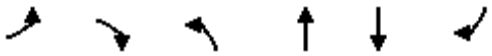
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	64	6	5	492	601	65
Future Vol, veh/h	64	6	5	492	601	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	71	7	6	547	668	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1263	704	740	0	-	0
Stage 1	704	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	187	437	862	-	-	-
Stage 1	490	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	437	862	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	485	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.2	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	862	-	195	-	-
HCM Lane V/C Ratio	0.006	-	0.399	-	-
HCM Control Delay (s)	9.2	0	35.2	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	19	30	465	542	6
Future Volume (vph)	24	19	30	465	542	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.941				0.998	
Flt Protected	0.973		0.950			
Satd. Flow (prot)	1706	0	1770	1863	1859	0
Flt Permitted	0.973		0.950			
Satd. Flow (perm)	1706	0	1770	1863	1859	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1843			2358	4214	
Travel Time (s)	50.3			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	21	33	517	602	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	0	33	517	609	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.9%		ICU Level of Service A	
Analysis Period (min) 15			

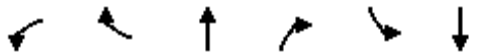
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	19	30	465	542	6
Future Vol, veh/h	24	19	30	465	542	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	21	33	517	602	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1189	606	609	0	-	0
Stage 1	606	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	208	497	970	-	-	-
Stage 1	545	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	201	497	970	-	-	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	526	-	-	-	-	-
Stage 2	558	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	970	-	273	-	-
HCM Lane V/C Ratio	0.034	-	0.175	-	-
HCM Control Delay (s)	8.8	-	21	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	5	453	63	5	539
Future Volume (vph)	68	5	453	63	5	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.990		0.984			
Flt Protected	0.956					
Satd. Flow (prot)	1763	0	1822	0	0	1863
Flt Permitted	0.956					
Satd. Flow (perm)	1763	0	1822	0	0	1863
Link Speed (mph)	25		45			45
Link Distance (ft)	1341		4391			2358
Travel Time (s)	36.6		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	76	6	503	70	6	599
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	573	0	0	605
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			

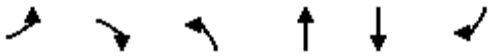
Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	5	453	63	5	539
Future Vol, veh/h	68	5	453	63	5	539
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	76	6	503	70	6	599

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1149	538	0	0	573	0
Stage 1	538	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	219	543	-	-	1010	-
Stage 1	585	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	543	-	-	1010	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	537	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.6	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	226	1010	-
HCM Lane V/C Ratio	-	-	0.359	0.006	-
HCM Control Delay (s)	-	-	29.6	8.6	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	24	39	531	545	34
Future Volume (vph)	17	24	39	531	545	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.921					0.850
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1681	0	1805	1845	1863	1615
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1681	0	1805	1845	1863	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2276			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	19	27	43	590	606	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	43	590	606	38
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	24	39	531	545	34
Future Vol, veh/h	17	24	39	531	545	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	19	27	43	590	606	38

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1282	606	644	0	-	0
Stage 1	606	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	182	497	951	-	-	-
Stage 1	545	-	-	-	-	-
Stage 2	505	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	497	951	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	520	-	-	-	-	-
Stage 2	505	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	951	-	281	-	-
HCM Lane V/C Ratio	0.046	-	0.162	-	-
HCM Control Delay (s)	9	-	20.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	106	464	11	90	478
Future Volume (vph)	16	106	464	11	90	478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.883			0.850		
Flt Protected	0.993				0.950	
Satd. Flow (prot)	1666	0	1845	1615	1805	1863
Flt Permitted	0.993				0.950	
Satd. Flow (perm)	1666	0	1845	1615	1805	1863
Link Speed (mph)	35		55			55
Link Distance (ft)	1130		2530			954
Travel Time (s)	22.0		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Adj. Flow (vph)	18	118	516	12	100	531
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	516	12	100	531
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

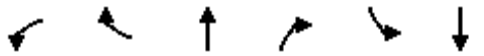
Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	106	464	11	90	478
Future Vol, veh/h	16	106	464	11	90	478
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	18	118	516	12	100	531

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1247	516	0	0	528	0
Stage 1	516	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	193	563	-	-	1049	-
Stage 1	603	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	175	563	-	-	1049	-
Mov Cap-2 Maneuver	175	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	436	1049	-
HCM Lane V/C Ratio	-	-	0.311	0.095	-
HCM Control Delay (s)	-	-	16.9	8.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	26	20	548	47	56	460
Future Volume (vph)	26	20	548	47	56	460
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.942		0.989			
Flt Protected	0.972					0.995
Satd. Flow (prot)	1706	0	1829	0	0	1857
Flt Permitted	0.972					0.995
Satd. Flow (perm)	1706	0	1829	0	0	1857
Link Speed (mph)	25		55			55
Link Distance (ft)	2127		1122			5420
Travel Time (s)	58.0		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	29	22	609	52	62	511
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	661	0	0	573
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

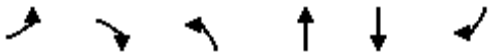
Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	20	548	47	56	460
Future Vol, veh/h	26	20	548	47	56	460
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	29	22	609	52	62	511

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1270	635	0	0	661	0
Stage 1	635	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.1	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.2	-
Pot Cap-1 Maneuver	186	478	-	-	937	-
Stage 1	528	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	169	478	-	-	937	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	528	-	-	-	-	-
Stage 2	479	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.5	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	235	937	-
HCM Lane V/C Ratio	-	-	0.217	0.066	-
HCM Control Delay (s)	-	-	24.5	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.2	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	78	135	585	473	14
Future Volume (vph)	9	78	135	585	473	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.879				0.996	
Flt Protected	0.995		0.950			
Satd. Flow (prot)	1629	0	1805	1845	1856	0
Flt Permitted	0.995		0.950			
Satd. Flow (perm)	1629	0	1805	1845	1856	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2371			4450	1122	
Travel Time (s)	35.9			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	10	87	150	650	526	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	0	150	650	542	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	78	135	585	473	14
Future Vol, veh/h	9	78	135	585	473	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	10	87	150	650	526	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1484	534	542	0	-	0
Stage 1	534	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	137	546	1037	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	117	546	1037	-	-	-
Mov Cap-2 Maneuver	117	-	-	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	376	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	1.7	0
HCM LOS	C		

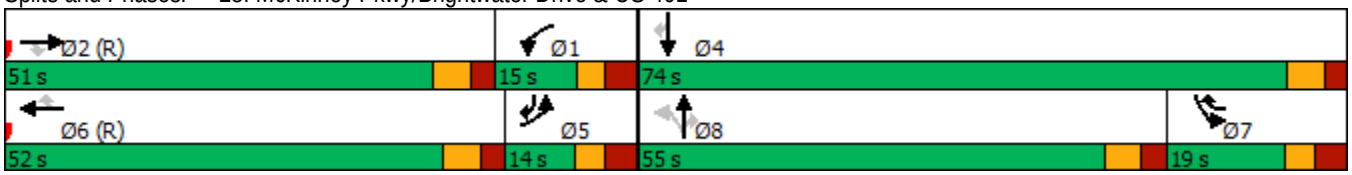
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1037	-	396	-	-
HCM Lane V/C Ratio	0.145	-	0.244	-	-
HCM Control Delay (s)	9.1	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.5	-	0.9	-	-

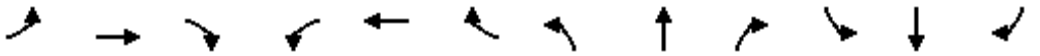
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	481	124	29	611	32	246	8	78	137	8	4
Future Volume (vph)	4	481	124	29	611	32	246	8	78	137	8	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.752			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1387	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	534	138	32	679	36	273	9	87	152	9	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	534	138	32	679	36	273	9	87	152	9	4
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	14.0	51.0	51.0	15.0	52.0	19.0	55.0	55.0	55.0	19.0	74.0	14.0
Total Split (%)	10.0%	36.4%	36.4%	10.7%	37.1%	13.6%	39.3%	39.3%	39.3%	13.6%	52.9%	10.0%
Maximum Green (s)	7.4	44.6	44.6	8.6	45.6	12.4	48.5	48.5	48.5	12.4	67.5	7.4
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	67.3	67.3	10.1	74.3	92.4	34.9	34.9	34.9	13.1	53.0	59.1
Actuated g/C Ratio	0.06	0.48	0.48	0.07	0.53	0.66	0.25	0.25	0.25	0.09	0.38	0.42
v/c Ratio	0.02	0.31	0.18	0.25	0.36	0.03	0.79	0.02	0.22	0.47	0.01	0.01
Control Delay	62.0	26.5	26.6	42.7	7.8	2.9	64.9	35.0	40.9	64.7	22.1	14.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	26.5	26.6	42.7	7.8	2.9	64.9	35.0	40.9	64.7	22.1	14.8
LOS	E	C	C	D	A	A	E	C	D	E	C	B
Approach Delay		26.8			9.0			58.5			61.1	
Approach LOS		C			A			E			E	
Queue Length 50th (ft)	2	163	75	26	22	2	234	6	63	69	5	2
Queue Length 95th (ft)	8	264	153	67	91	4	309	19	101	103	15	7
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	225	1712	781	140	1869	1053	495	658	559	358	922	674
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.31	0.18	0.23	0.36	0.03	0.55	0.01	0.16	0.42	0.01	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 83 (59%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401





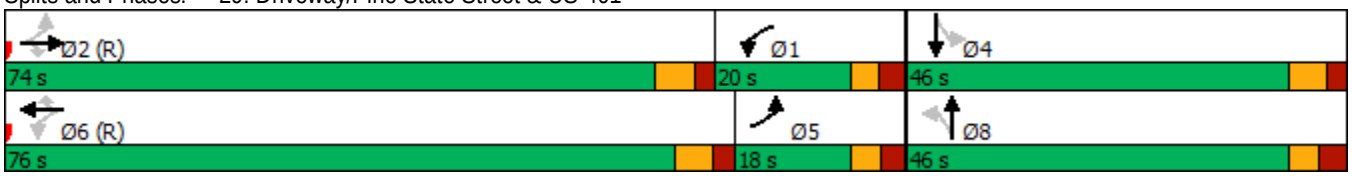
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	663	36	77	562	53	75	4	62	61	4	35
Future Volume (vph)	39	663	36	77	562	53	75	4	62	61	4	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.858			0.864	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1582	0	1778	1617	0
Flt Permitted	0.401			0.350			0.729			0.697		
Satd. Flow (perm)	758	3522	1607	672	3540	1631	1344	1582	0	1305	1617	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	43	737	40	86	624	59	83	4	69	68	4	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	737	40	86	624	59	83	73	0	68	43	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	18.0	74.0	74.0	20.0	76.0	76.0	46.0	46.0		46.0	46.0	
Total Split (%)	12.9%	52.9%	52.9%	14.3%	54.3%	54.3%	32.9%	32.9%		32.9%	32.9%	
Maximum Green (s)	12.2	67.8	67.8	14.1	69.8	69.8	39.8	39.8		39.8	39.8	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	111.3	101.9	101.9	109.2	102.9	102.9	15.2	15.2		15.2	15.2	
Actuated g/C Ratio	0.80	0.73	0.73	0.78	0.74	0.74	0.11	0.11		0.11	0.11	
v/c Ratio	0.06	0.29	0.03	0.15	0.24	0.05	0.57	0.43		0.48	0.25	
Control Delay	1.0	3.6	3.1	6.4	5.9	5.1	73.5	64.6		68.8	58.5	

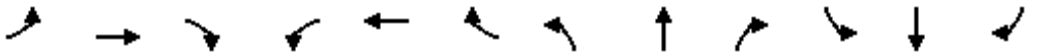
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.0	3.6	3.1	6.4	5.9	5.1	73.5	64.6		68.8	58.5	
LOS	A	A	A	A	A	A	E	E		E	E	
Approach Delay		3.5			5.9			69.3			64.8	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	1	53	3	22	121	15	73	63		59	36	
Queue Length 95th (ft)	2	47	8	m47	m158	m35	125	111		106	73	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	718	2562	1169	681	2601	1198	393	463		382	473	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.06	0.29	0.03	0.13	0.24	0.05	0.21	0.16		0.18	0.09	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 109 (78%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 13.7 Intersection LOS: B
Intersection Capacity Utilization 47.5% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Driveway/Pine State Street & US 401





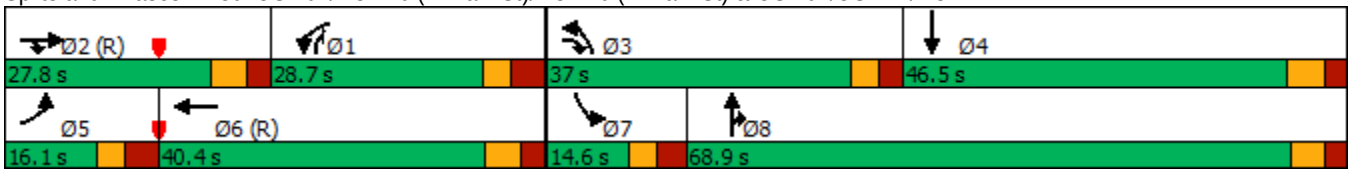
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	285	412	438	301	111	335	498	451	47	358	42
Future Volume (vph)	115	285	412	438	301	111	335	498	451	47	358	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		450	300		0	575		0	125		0
Storage Lanes	1		2	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.960				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3381	0	1752	1844	1567	1787	3517	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3381	0	1752	1844	1567	1787	3517	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	128	317	458	487	334	123	372	553	501	52	398	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	317	458	487	457	0	372	553	501	52	445	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	16.1	27.8		28.7	40.4		37.0	68.9		14.6	46.5	
Total Split (%)	11.5%	19.9%		20.5%	28.9%		26.4%	49.2%		10.4%	33.2%	
Maximum Green (s)	9.5	21.4		21.9	33.9		31.6	62.8		8.5	40.0	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-1.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	15.7	32.5	61.5	25.9	42.7		31.8	55.0	79.9	9.2	29.8	
Actuated g/C Ratio	0.11	0.23	0.44	0.18	0.30		0.23	0.39	0.57	0.07	0.21	
v/c Ratio	0.65	0.39	0.37	0.77	0.44		0.94	0.76	0.56	0.44	0.59	
Control Delay	69.4	45.7	13.9	63.6	42.5		84.5	44.2	14.2	75.1	52.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	

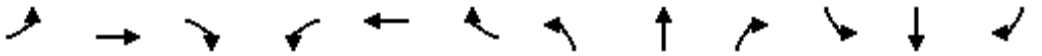
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	69.4	45.7	13.9	63.6	42.5		84.5	44.2	14.2	75.1	52.0	
LOS	E	D	B	E	D		F	D	B	E	D	
Approach Delay		32.9			53.4			44.2			54.4	
Approach LOS		C			D			D			D	
Queue Length 50th (ft)	79	94	47	217	184		335	445	181	46	192	
Queue Length 95th (ft)	#242	208	154	#306	247		#529	517	198	92	224	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		450	300			575			125		
Base Capacity (vph)	198	821	1237	631	1030		405	841	993	122	1042	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.65	0.39	0.37	0.77	0.44		0.92	0.66	0.50	0.43	0.43	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 128 (91%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 45.1 Intersection LOS: D
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27



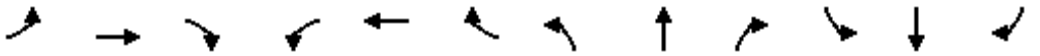


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	623	0	342	0	2948	105	77	442	4
Future Volume (vph)	0	0	4	623	0	342	0	2948	105	77	442	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	425		0	0		175	275		200
Storage Lanes	0		1	2		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	3275	0	1599	0	5009	1560	1796	4875	1607
Flt Permitted				0.950						0.044		
Satd. Flow (perm)	0	0	1611	3275	0	1599	0	5009	1560	83	4875	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			3247			1414	
Travel Time (s)		29.6			32.4			40.3			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	692	0	380	0	3276	117	86	491	4
Number of Detectors			1	1		1		2	1	1	2	1
Detector Template			Right	Left		Right		Thru	Right	Left	Thru	Right
Leading Detector (ft)			20	20		20		100	20	20	100	20
Trailing Detector (ft)			0	0		0		0	0	0	0	0
Detector 1 Position(ft)			0	0		0		0	0	0	0	0
Detector 1 Size(ft)			20	20		20		6	20	20	6	20
Detector 1 Type			Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			1 2 6 8			8			2	6		6
Detector Phase			1 2 6 8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)				7.0		7.0		14.0	7.0	7.0	14.0	14.0
Minimum Split (s)				15.1		14.8		24.5	15.1	14.8	24.5	24.5
Total Split (s)				33.0		15.2		91.8	33.0	15.2	107.0	107.0
Total Split (%)				23.6%		10.9%		65.6%	23.6%	10.9%	76.4%	76.4%
Maximum Green (s)				26.0		8.2		84.8	26.0	8.2	100.0	100.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)				2.0		2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				-2.0		-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode				None		None		Min	None	None	Min	Min
Act Effct Green (s)			139.5	28.0		42.7		86.8	119.8	101.5	101.5	101.5
Actuated g/C Ratio			1.00	0.20		0.31		0.62	0.86	0.73	0.73	0.73
v/c Ratio			0.00	1.05		0.78		1.05	0.09	0.48	0.14	0.00
Control Delay			0.0	102.8		56.3		58.4	1.7	27.1	5.9	5.2
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			0.0	102.8		56.3		58.4	1.7	27.1	5.9	5.2
LOS			A	F		E		E	A	C	A	A
Approach Delay					86.3			56.4			9.0	
Approach LOS					F			E			A	
Queue Length 50th (ft)			0	~355		314		~1192	12	22	44	1
Queue Length 95th (ft)			0	#479		444		#1263	21	80	56	4
Internal Link Dist (ft)		1005			2057			3167			1334	
Turn Bay Length (ft)				425					175	275		200
Base Capacity (vph)			1593	657		495		3115	1339	185	3563	1174
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			0.00	1.05		0.77		1.05	0.09	0.46	0.14	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 139.5			
Natural Cycle: 140			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 57.3		Intersection LOS: E	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: US 401 & Driveway/Banks Road

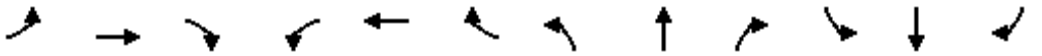


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	466	0	236	0	0	0	0	0	768	365
Future Volume (vph)	0	0	466	0	236	0	0	0	0	0	768	365
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			2%	
Storage Length (ft)	0		500	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Flt Permitted												
Satd. Flow (perm)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		2263			223			1091			202	
Travel Time (s)		34.3			6.1			13.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	0%	2%	2%	2%	2%	2%	2%	2%	8%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	518	0	262	0	0	0	0	0	853	406
Number of Detectors			1		2						2	1
Detector Template			Right		Thru						Thru	Right
Leading Detector (ft)			20		100						100	20
Trailing Detector (ft)			0		0						0	0
Detector 1 Position(ft)			0		0						0	0
Detector 1 Size(ft)			20		6						6	20
Detector 1 Type			Cl+Ex		Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0		0.0						0.0	0.0
Detector 1 Queue (s)			0.0		0.0						0.0	0.0
Detector 1 Delay (s)			0.0		0.0						0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			25.0		25.0						35.0	35.0
Total Split (%)			41.7%		41.7%						58.3%	58.3%
Maximum Green (s)			18.0		18.0						28.0	28.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			18.3		18.3						31.7	31.7
Actuated g/C Ratio			0.30		0.30						0.53	0.53
v/c Ratio			0.60		0.46						0.34	0.52
Control Delay			20.6		18.8						5.3	8.8
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			20.6		18.8						5.3	8.8
LOS			C		B						A	A
Approach Delay		20.6			18.8						6.4	
Approach LOS		C			B						A	
Queue Length 50th (ft)			84		106						36	47
Queue Length 95th (ft)			131		m109						33	48
Internal Link Dist (ft)		2183			143			1011			122	
Turn Bay Length (ft)			500									
Base Capacity (vph)			950		623						2518	776
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.55		0.42						0.34	0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 33 (55%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 99.6%		ICU Level of Service F	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: US 401 & Hilltop Needmore Road

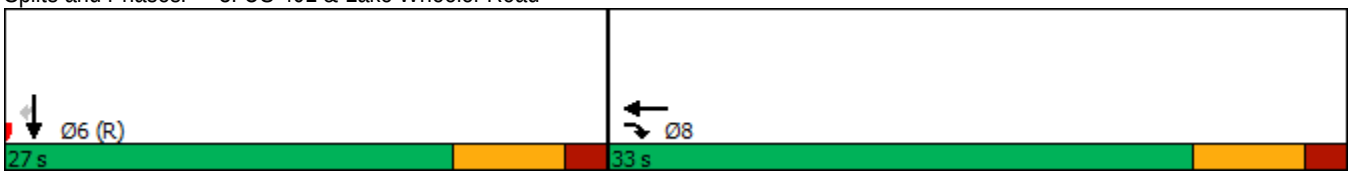


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	382	0	610	0	0	0	0	0	726	223
Future Volume (vph)	0	0	382	0	610	0	0	0	0	0	726	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		1052			183			1038			175	
Travel Time (s)		15.9			5.0			12.9			2.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	9%	40%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	424	0	678	0	0	0	0	0	807	248
Number of Detectors			1		2						2	1
Detector Template			Right		Thru						Thru	Right
Leading Detector (ft)			20		100						100	20
Trailing Detector (ft)			0		0						0	0
Detector 1 Position(ft)			0		0						0	0
Detector 1 Size(ft)			20		6						6	20
Detector 1 Type			Cl+Ex		Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0		0.0						0.0	0.0
Detector 1 Queue (s)			0.0		0.0						0.0	0.0
Detector 1 Delay (s)			0.0		0.0						0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			33.0		33.0						27.0	27.0
Total Split (%)			55.0%		55.0%						45.0%	45.0%
Maximum Green (s)			26.0		26.0						20.0	20.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	0.0
Total Lost Time (s)			5.0		5.0						5.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			27.0		27.0						23.0	21.0
Actuated g/C Ratio			0.45		0.45						0.38	0.35
v/c Ratio			0.34		0.81						0.44	0.62
Control Delay			11.3		18.5						8.0	15.6
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			11.3		18.5						8.0	15.6
LOS			B		B						A	B
Approach Delay		11.3			18.5						9.8	
Approach LOS		B			B						A	
Queue Length 50th (ft)			51		235						78	67
Queue Length 95th (ft)			81		m306						45	53
Internal Link Dist (ft)		972			103			958			95	
Turn Bay Length (ft)												
Base Capacity (vph)			1302		870						1825	404
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.33		0.78						0.44	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 56 (93%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: US 401 & Lake Wheeler Road



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	222	782	2252	9	144	772
Future Volume (vph)	222	782	2252	9	144	772
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125		200	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	5085	1583	1770	4759
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	5085	1583	1770	4759
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	1526		7004			1194
Travel Time (s)	23.1		86.8			14.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	2%	2%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	247	869	2502	10	160	858
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	25.0	14.0	25.0	25.0	14.0	25.0
Total Split (s)	25.0	36.0	59.0	25.0	36.0	95.0
Total Split (%)	20.8%	30.0%	49.2%	20.8%	30.0%	79.2%
Maximum Green (s)	18.0	29.0	52.0	18.0	29.0	88.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0

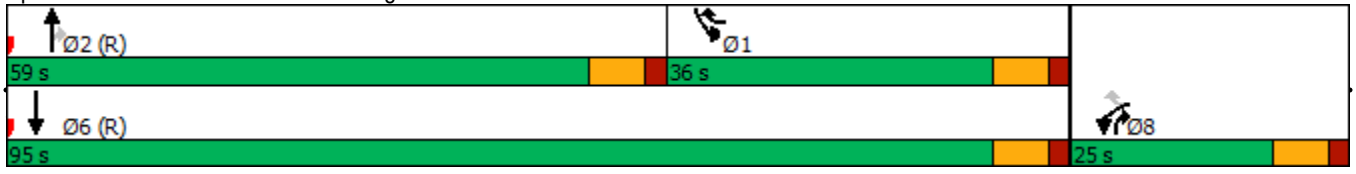
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	None	None	C-Min
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	19.5	55.5	54.5	79.0	31.0	90.5
Actuated g/C Ratio	0.16	0.46	0.45	0.66	0.26	0.75
v/c Ratio	0.85	1.16	1.08	0.01	0.35	0.24
Control Delay	74.1	119.6	64.2	4.2	35.9	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	119.6	64.2	4.2	35.9	3.6
LOS	E	F	E	A	D	A
Approach Delay	109.5		64.0			8.6
Approach LOS	F		E			A
Queue Length 50th (ft)	187	~793	~786	1	110	73
Queue Length 95th (ft)	#322	#1040	#878	m3	167	43
Internal Link Dist (ft)	1446		6924			1114
Turn Bay Length (ft)		125		200	300	
Base Capacity (vph)	300	746	2310	1036	457	3590
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	1.16	1.08	0.01	0.35	0.24

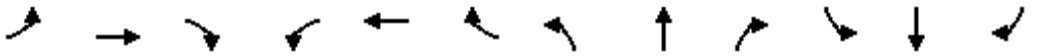
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 101 (84%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.16
Intersection Signal Delay: 62.8 Intersection LOS: E
Intersection Capacity Utilization 100.3% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: US 401 & Dwight Rowland Road





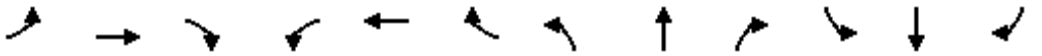
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	4	253	4	4	4	295	2109	6	4	807	133
Future Volume (vph)	137	4	253	4	4	4	295	2109	6	4	807	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.955							0.850
Flt Protected		0.954			0.984		0.950			0.950		
Satd. Flow (prot)	0	1787	1576	0	1794	0	1710	4963	0	1796	4915	1607
Flt Permitted		0.723			0.909		0.256			0.063		
Satd. Flow (perm)	0	1354	1576	0	1658	0	461	4963	0	119	4915	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			7004	
Travel Time (s)		40.4			25.8			20.1			86.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	156	281	0	12	0	328	2350	0	4	897	148
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	14.9	24.5	24.5		14.9	24.2		24.2	24.2	24.2
Total Split (s)	33.0	33.0	35.0	33.0	33.0		35.0	87.0		52.0	52.0	52.0
Total Split (%)	27.5%	27.5%	29.2%	27.5%	27.5%		29.2%	72.5%		43.3%	43.3%	43.3%
Maximum Green (s)	26.0	26.0	28.0	26.0	26.0		28.0	80.0		45.0	45.0	45.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		20.9	42.2		20.9		89.1	89.1		67.8	67.8	67.8
Actuated g/C Ratio		0.17	0.35		0.17		0.74	0.74		0.56	0.56	0.56
v/c Ratio		0.66	0.51		0.04		0.64	0.64		0.06	0.32	0.16
Control Delay		59.0	32.4		38.2		7.8	5.9		15.2	12.2	11.7
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		59.0	32.4		38.2		7.8	5.9		15.2	12.2	11.7
LOS		E	C		D		A	A		B	B	B
Approach Delay		41.9			38.2			6.1			12.1	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		114	174		8		40	120		1	101	30
Queue Length 95th (ft)		176	197		24		m55	m182		m5	169	m85
Internal Link Dist (ft)		1993			866			1540			6924	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		315	734		386		654	3684		67	2776	907
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		0.50	0.38		0.03		0.50	0.64		0.06	0.32	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 51 (43%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 5: US 401 & Mill Creek Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1081	158	399	637	52	436	59	1091	168	28	63
Future Volume (vph)	4	1081	158	399	637	52	436	59	1091	168	28	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	0		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.963			0.959	
Satd. Flow (prot)	1832	3592	1518	1702	3263	0	1602	1634	1552	0	1859	1177
Flt Permitted	0.361			0.950			0.950	0.963			0.186	
Satd. Flow (perm)	696	3592	1518	1702	3263	0	1602	1634	1552	0	360	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2277			632			1056			648	
Travel Time (s)		34.5			9.6			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Shared Lane Traffic (%)							44%					
Lane Group Flow (vph)	4	1201	176	443	766	0	271	279	1212	0	218	70
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	14.6
Total Split (s)	14.6	35.0		36.0	56.4		24.0	24.0	36.0	25.0	25.0	14.6
Total Split (%)	12.2%	29.2%		30.0%	47.0%		20.0%	20.0%	30.0%	20.8%	20.8%	12.2%
Maximum Green (s)	7.6	28.0		29.0	49.4		17.0	17.0	29.0	18.0	18.0	7.6

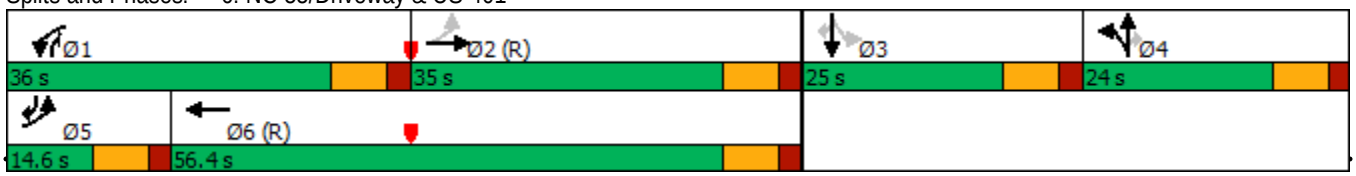
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	39.3	30.0	120.0	31.0	54.5		19.0	19.0	55.0		20.0	29.3
Actuated g/C Ratio	0.33	0.25	1.00	0.26	0.45		0.16	0.16	0.46		0.17	0.24
v/c Ratio	0.01	1.34	0.12	1.01	0.52		1.07	1.08	1.70		3.63	0.24
Control Delay	15.0	189.8	0.1	85.9	25.0		124.7	127.0	348.8		1240.8	23.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	15.0	189.8	0.1	85.9	25.0		124.7	127.0	348.8		1240.8	23.0
LOS	B	F	A	F	C		F	F	F		F	C
Approach Delay		165.1			47.3			279.2			944.8	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	1	~633	0	~323	196		~244	~253	~1380		~303	29
Queue Length 95th (ft)	m3	#758	0	#544	353		#424	#435	#1640		#461	57
Internal Link Dist (ft)		2197			552			976			568	
Turn Bay Length (ft)	175		275						650			150
Base Capacity (vph)	320	898	1518	439	1481		253	258	711		60	290
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.01	1.34	0.12	1.01	0.52		1.07	1.08	1.70		3.63	0.24

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 3.63
Intersection Signal Delay: 226.1 Intersection LOS: F
Intersection Capacity Utilization 120.7% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: NC 55/Driveway & US 401



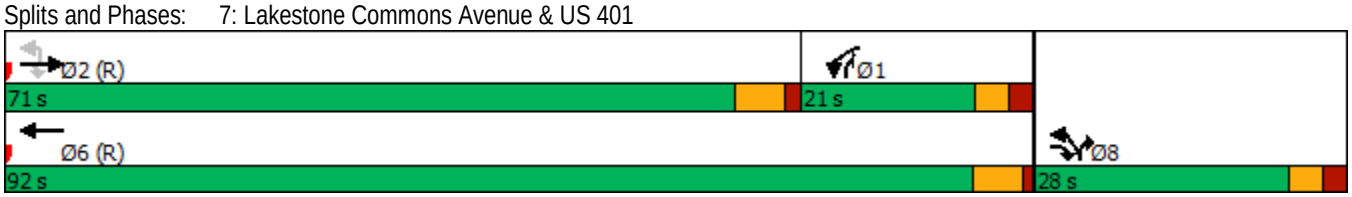
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1064	34	71	996	113	132
Future Volume (vph)	4	1064	34	71	996	113	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.236			0.950		0.950	
Satd. Flow (perm)	451	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2277	1303	
Travel Time (s)		35.0			34.5	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1182	38	79	1107	126	147
Number of Detectors	1	2	1	1	2	1	1
Detector Template	Left	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	20	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94		
Detector 2 Size(ft)		6			6		
Detector 2 Type		Cl+Ex			Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)		0.0			0.0		
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	71.0	71.0	28.0	21.0	92.0	28.0	
Total Split (%)	59.2%	59.2%	23.3%	17.5%	76.7%	23.3%	
Maximum Green (s)	65.1	65.1	22.7	15.6	86.5	22.7	

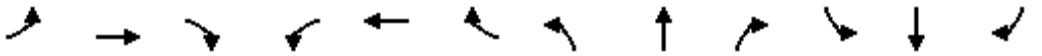
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	76.9	76.9	95.8	14.2	96.1	13.9	32.8
Actuated g/C Ratio	0.64	0.64	0.80	0.12	0.80	0.12	0.27
v/c Ratio	0.01	0.52	0.03	0.37	0.42	0.61	0.33
Control Delay	4.8	6.0	1.2	37.2	2.0	62.2	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	6.0	1.2	37.2	2.0	62.2	35.4
LOS	A	A	A	D	A	E	D
Approach Delay		5.8			4.4	47.8	
Approach LOS		A			A	D	
Queue Length 50th (ft)	1	107	3	44	53	94	91
Queue Length 95th (ft)	m1	112	m2	m84	m28	152	133
Internal Link Dist (ft)		2228			2197	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	289	2257	1292	248	2638	344	547
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.52	0.03	0.32	0.42	0.37	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 107 (89%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 56.3%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 7: Lakestone Commons Avenue & US 401



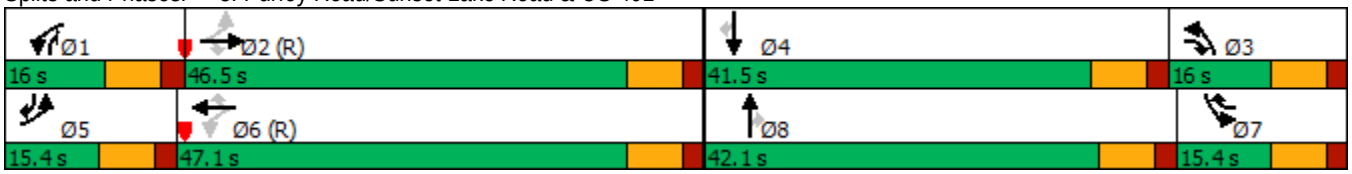


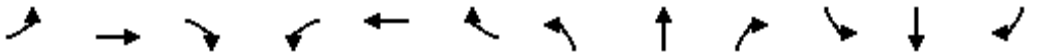
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	847	78	103	775	165	201	486	183	141	264	54
Future Volume (vph)	68	847	78	103	775	165	201	486	183	141	264	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	3646	1615	3450	3556	1591
Flt Permitted	0.230			0.169			0.950			0.950		
Satd. Flow (perm)	428	3470	1508	312	3436	1599	3502	3646	1615	3450	3556	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			801	
Travel Time (s)		15.6			45.0			27.5			15.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	941	87	114	861	183	223	540	203	157	293	60
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2	3	1	6	7	3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	3	1	6	7	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	7.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.4	40.9	15.2	15.6	43.9	15.1	15.2	38.3	15.6	15.1	41.5	15.4
Total Split (s)	15.4	46.5	16.0	16.0	47.1	15.4	16.0	42.1	16.0	15.4	41.5	15.4
Total Split (%)	12.8%	38.8%	13.3%	13.3%	39.3%	12.8%	13.3%	35.1%	13.3%	12.8%	34.6%	12.8%
Maximum Green (s)	8.4	39.5	9.0	9.0	40.1	8.4	9.0	35.1	9.0	8.4	34.5	8.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	None	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			24.0			24.0			22.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	60.6	50.7	72.0	63.4	54.4	68.2	21.3	25.8	36.5	12.7	17.2	27.1
Actuated g/C Ratio	0.50	0.42	0.60	0.53	0.45	0.57	0.18	0.22	0.30	0.11	0.14	0.23
v/c Ratio	0.23	0.64	0.10	0.39	0.55	0.20	0.36	0.69	0.41	0.43	0.57	0.17
Control Delay	10.2	18.2	2.5	13.5	20.9	6.7	44.3	47.9	21.8	53.5	52.2	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	18.2	2.5	13.5	20.9	6.7	44.3	47.9	21.8	53.5	52.2	20.5
LOS	B	B	A	B	C	A	D	D	C	D	D	C
Approach Delay		16.4			17.9			41.6			48.9	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	15	108	2	19	190	46	78	204	87	59	113	24
Queue Length 95th (ft)	40	264	18	80	356	37	111	247	116	92	153	40
Internal Link Dist (ft)		720			2228			1334			721	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	335	1467	904	301	1558	896	621	1127	499	369	1081	367
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.64	0.10	0.38	0.55	0.20	0.36	0.48	0.41	0.43	0.27	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 60 (50%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 65.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401





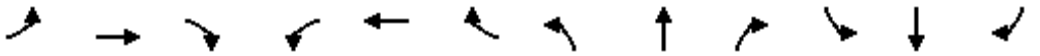
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	922	30	17	912	16	25	4	25	9	4	4
Future Volume (vph)	21	922	30	17	912	16	25	4	25	9	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.958			0.966	
Satd. Flow (prot)	1814	3508	0	1796	3446	0	0	1820	1615	0	1826	1607
Flt Permitted	0.259			0.251				0.743			0.768	
Satd. Flow (perm)	495	3508	0	475	3446	0	0	1412	1615	0	1452	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	1057	0	19	1031	0	0	32	28	0	14	4
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	15.0	79.0		15.0	79.0		26.0	26.0	15.0	26.0	26.0	15.0
Total Split (%)	12.5%	65.8%		12.5%	65.8%		21.7%	21.7%	12.5%	21.7%	21.7%	12.5%
Maximum Green (s)	9.6	73.1		10.1	73.1		20.6	20.6	10.1	20.7	20.7	9.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead				Lag			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	103.2	100.2		103.0	100.1			8.8	16.5		8.8	16.8
Actuated g/C Ratio	0.86	0.84		0.86	0.83			0.07	0.14		0.07	0.14
v/c Ratio	0.04	0.36		0.04	0.36			0.31	0.13		0.13	0.02
Control Delay	3.0	5.0		2.6	2.5			59.9	42.3		53.8	38.8
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	3.0	5.0		2.6	2.5			59.9	42.3		53.8	38.8
LOS	A	A		A	A			E	D		D	D
Approach Delay		4.9			2.5			51.7			50.4	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	4	138		3	86			24	19		10	3
Queue Length 95th (ft)	m5	209		m6	102			56	44		32	12
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	540	2930		522	2875			247	213		254	212
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	0.04	0.36		0.04	0.36			0.13	0.13		0.06	0.02

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 100 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 5.4 Intersection LOS: A
Intersection Capacity Utilization 50.6% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401

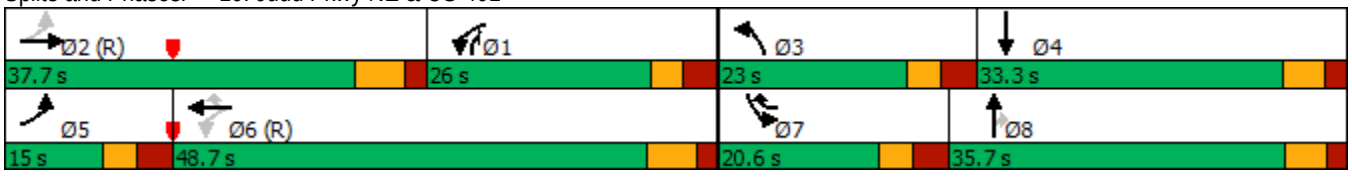


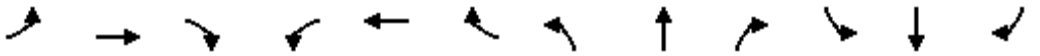
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	420	76	154	519	261	124	174	343	238	116	95
Future Volume (vph)	85	420	76	154	519	261	124	174	343	238	116	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.977				0.850			0.850		0.932	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3367	0	1770	3539	1583	1752	3504	1567	3399	3266	0
Flt Permitted	0.279			0.446			0.950			0.950		
Satd. Flow (perm)	515	3367	0	831	3539	1583	1752	3504	1567	3399	3266	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	551	0	171	577	290	138	193	381	264	235	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	15.0	37.7		26.0	48.7	20.6	23.0	35.7	26.0	20.6	33.3	
Total Split (%)	12.5%	31.4%		21.7%	40.6%	17.2%	19.2%	29.8%	21.7%	17.2%	27.8%	
Maximum Green (s)	8.8	31.3		19.9	42.3	14.3	16.8	30.0	19.9	14.3	27.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	46.1	46.1		58.7	58.7	78.6	15.2	15.2	39.0	14.9	14.9	
Actuated g/C Ratio	0.38	0.38		0.49	0.49	0.66	0.13	0.13	0.32	0.12	0.12	
v/c Ratio	0.30	0.43		0.29	0.33	0.28	0.62	0.44	0.75	0.63	0.58	
Control Delay	21.5	23.6		10.7	9.3	3.5	61.8	50.6	30.4	56.7	55.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.5	23.6		10.7	9.3	3.5	61.8	50.6	30.4	56.7	55.2	
LOS	C	C		B	A	A	E	D	C	E	E	
Approach Delay		23.3			7.9			42.0			56.0	
Approach LOS		C			A			D			E	
Queue Length 50th (ft)	49	157		27	68	16	102	74	167	100	91	
Queue Length 95th (ft)	89	203		74	118	65	168	105	226	145	130	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	318	1294		595	1731	1050	262	896	510	450	770	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.43		0.29	0.33	0.28	0.53	0.22	0.75	0.59	0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 78 (65%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 54.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Judd Pkwy NE & US 401





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	392	15	44	275	314	9	182	32	209	98	34
Future Volume (vph)	74	392	15	44	275	314	9	182	32	209	98	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.994				0.850		0.977			0.970	
Flt Protected	0.950			0.950			0.950			0.950	0.989	
Satd. Flow (prot)	1761	3500	0	1778	1872	1591	1725	1774	0	1698	1715	0
Flt Permitted	0.574			0.367			0.950			0.950	0.989	
Satd. Flow (perm)	1064	3500	0	687	1872	1591	1725	1774	0	1698	1715	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)										18%		
Lane Group Flow (vph)	82	453	0	49	306	349	10	238	0	190	189	0
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	13.0	41.0		13.0	41.0	32.0	34.0	34.0		32.0	32.0	
Total Split (%)	10.8%	34.2%		10.8%	34.2%	26.7%	28.3%	28.3%		26.7%	26.7%	
Maximum Green (s)	7.4	35.3		7.4	35.3	25.8	28.2	28.2		25.8	25.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	

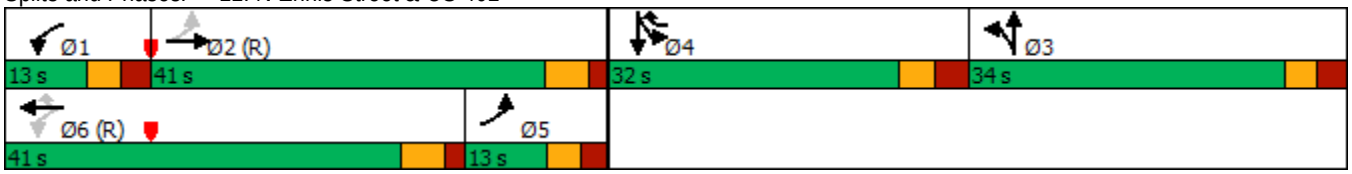
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	50.2	50.2		50.7	50.7	73.9	22.0	22.0		22.1	22.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.62	0.18	0.18		0.18	0.18	
v/c Ratio	0.17	0.31		0.13	0.39	0.36	0.03	0.73		0.61	0.60	
Control Delay	21.1	19.4		21.2	22.6	5.2	37.1	59.0		52.2	51.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.1	19.4		21.2	22.6	5.2	37.1	59.0		52.2	51.7	
LOS	C	B		C	C	A	D	E		D	D	
Approach Delay		19.7			13.9			58.1			52.0	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	28	108		16	140	70	6	175		143	142	
Queue Length 95th (ft)	80	167		m48	274	148	21	247		208	206	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	494	1483		365	800	1052	416	428		391	394	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.17	0.31		0.13	0.38	0.33	0.02	0.56		0.49	0.48	

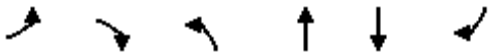
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 65 (54%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 29.2 Intersection LOS: C
Intersection Capacity Utilization 57.9% ICU Level of Service B
Analysis Period (min) 15

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

Splits and Phases: 11: N Ennis Street & US 401





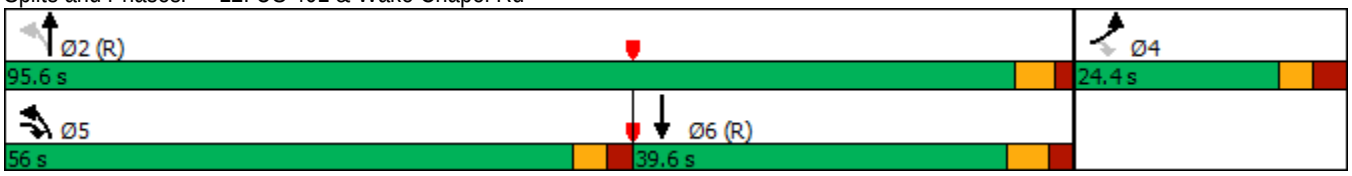
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	108	374	624	397	231	44
Future Volume (vph)	108	374	624	397	231	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.978	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1813	0
Flt Permitted	0.950		0.473			
Satd. Flow (perm)	1787	1599	864	1826	1813	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	416	693	441	306	0
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	24.4	56.0	56.0	95.6	39.6	
Total Split (%)	20.3%	46.7%	46.7%	79.7%	33.0%	
Maximum Green (s)	18.2	50.7	50.7	90.1	33.4	

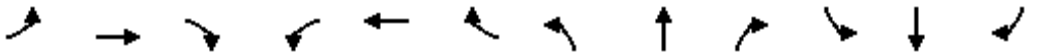
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	14.5	51.2	96.5	95.5	59.7	
Actuated g/C Ratio	0.12	0.43	0.80	0.80	0.50	
v/c Ratio	0.56	0.61	0.75	0.30	0.34	
Control Delay	58.9	29.0	11.2	4.3	8.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.9	29.0	11.2	4.3	8.4	
LOS	E	C	B	A	A	
Approach Delay	35.7			8.5	8.4	
Approach LOS	D			A	A	
Queue Length 50th (ft)	89	250	155	78	43	
Queue Length 95th (ft)	145	212	323	120	58	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	288	951	1072	1453	902	
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	0.42	0.44	0.65	0.30	0.34	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 67.1% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 12: US 401 & Wake Chapel Rd



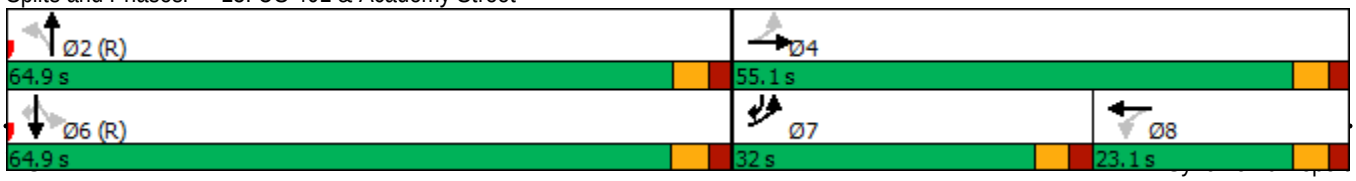


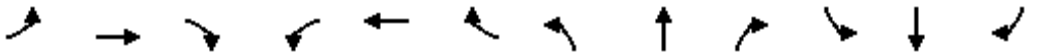
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	158	57	10	49	63	39	579	41	79	278	166
Future Volume (vph)	374	158	57	10	49	63	39	579	41	79	278	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.960			0.915			0.990				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1779	0	1761	1696	0	1796	1821	0	1787	1881	1599
Flt Permitted	0.394			0.610			0.504			0.191		
Satd. Flow (perm)	730	1779	0	1131	1696	0	953	1821	0	359	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2068			1972			854			1797	
Travel Time (s)		56.4			53.8			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	416	239	0	11	124	0	43	689	0	88	309	184
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	32.0	55.1		23.1	23.1		64.9	64.9		64.9	64.9	32.0
Total Split (%)	26.7%	45.9%		19.3%	19.3%		54.1%	54.1%		54.1%	54.1%	26.7%
Maximum Green (s)	26.9	50.0		18.0	18.0		59.5	59.5		59.3	59.3	26.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	49.3	49.3		13.8	13.8		60.7	60.7		60.5	60.7	96.7
Actuated g/C Ratio	0.41	0.41		0.12	0.12		0.51	0.51		0.50	0.51	0.81
v/c Ratio	0.74	0.33		0.08	0.64		0.09	0.75		0.49	0.33	0.14
Control Delay	36.0	24.8		46.7	64.9		12.9	21.2		30.1	15.9	2.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.0	24.8		46.7	64.9		12.9	21.2		30.1	15.9	2.4
LOS	D	C		D	E		B	C		C	B	A
Approach Delay		31.9			63.4			20.7			13.8	
Approach LOS		C			E			C			B	
Queue Length 50th (ft)	222	112		8	93		10	377		46	109	5
Queue Length 95th (ft)	#350	187		26	153		m34	578		118	212	63
Internal Link Dist (ft)		1988			1892			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	565	768		170	255		495	946		186	977	1293
Starvation Cap Reductn	0	0		0	0		0	1		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.74	0.31		0.06	0.49		0.09	0.73		0.47	0.32	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 56 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 25.0		Intersection LOS: C	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 13: US 401 & Academy Street



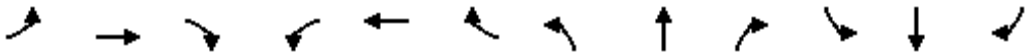


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	3	3	10	12	255	9	427	45	47	218	9
Future Volume (vph)	8	3	3	10	12	255	9	427	45	47	218	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.973			0.857			0.986			0.994	
Flt Protected		0.971		0.950			0.950			0.950		
Satd. Flow (prot)	0	1768	0	1787	1614	0	1735	1801	0	1823	1870	0
Flt Permitted		0.826		0.748			0.594			0.408		
Satd. Flow (perm)	0	1504	0	1407	1614	0	1085	1801	0	783	1870	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1404			1928			2641			854	
Travel Time (s)		38.3			52.6			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	11	296	0	10	524	0	52	252	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	50.0	50.0		50.0	50.0		70.0	70.0		70.0	70.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	45.1	45.1		44.7	44.7		64.8	64.8		64.6	64.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		28.2		28.2	28.2		81.8	81.8		81.8	81.8	
Actuated g/C Ratio		0.24		0.24	0.24		0.68	0.68		0.68	0.68	
v/c Ratio		0.04		0.03	0.78		0.01	0.43		0.10	0.20	
Control Delay		32.0		31.6	57.0		5.9	10.7		3.7	3.4	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		32.0		31.6	57.0		5.9	10.7		3.7	3.4	
LOS		C		C	E		A	B		A	A	
Approach Delay		32.0			56.1			10.6			3.5	
Approach LOS		C			E			B			A	
Queue Length 50th (ft)		9		7	216		3	176		3	16	
Queue Length 95th (ft)		25		20	287		m5	357		11	39	
Internal Link Dist (ft)		1324			1848			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		564		527	605		739	1228		534	1275	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.03		0.02	0.49		0.01	0.43		0.10	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 116 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 14: US 401 & Vance Street



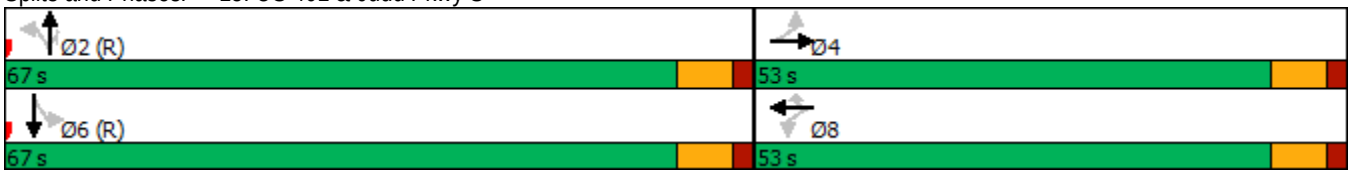
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	273	44	126	78	31	49	445	442	21	171	8
Future Volume (vph)	149	273	44	126	78	31	49	445	442	21	171	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	100		125	50		0	150		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850			0.850		0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1815	0	1761	1853	1575	1752	1845	1568	1770	1850	0
Flt Permitted	0.701			0.251			0.631			0.415		
Satd. Flow (perm)	1299	1815	0	465	1853	1575	1164	1845	1568	773	1850	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2561			1512			355			505	
Travel Time (s)		38.8			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	352	0	140	87	34	54	494	491	23	199	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	53.0	53.0		53.0	53.0	53.0	67.0	67.0	67.0	67.0	67.0	
Total Split (%)	44.2%	44.2%		44.2%	44.2%	44.2%	55.8%	55.8%	55.8%	55.8%	55.8%	
Maximum Green (s)	46.0	46.0		46.0	46.0	46.0	60.0	60.0	60.0	60.0	60.0	

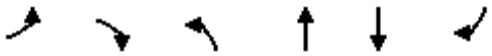
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		7.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	32.1	32.1		30.1	32.1	32.1	77.9	77.9	77.9	77.9	77.9	
Actuated g/C Ratio	0.27	0.27		0.25	0.27	0.27	0.65	0.65	0.65	0.65	0.65	
v/c Ratio	0.48	0.73		1.21	0.18	0.08	0.07	0.41	0.48	0.05	0.17	
Control Delay	40.1	48.0		187.5	32.2	29.8	9.9	11.9	13.5	5.0	4.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.1	48.0		187.5	32.2	29.8	9.9	11.9	13.5	5.0	4.9	
LOS	D	D		F	C	C	A	B	B	A	A	
Approach Delay		45.5			115.2			12.5			4.9	
Approach LOS		D			F			B			A	
Queue Length 50th (ft)	110	251		~135	52	20	14	158	167	3	25	
Queue Length 95th (ft)	154	309		#228	82	40	36	245	351	10	50	
Internal Link Dist (ft)		2481			1432			275			425	
Turn Bay Length (ft)	75			100		125	50			150		
Base Capacity (vph)	519	726		178	741	630	755	1197	1017	501	1200	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.32	0.48		0.79	0.12	0.05	0.07	0.41	0.48	0.05	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.21
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 72.4% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	247	14	9	666	358	76
Future Volume (vph)	247	14	9	666	358	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.993					0.850
Flt Protected	0.955		0.950			
Satd. Flow (prot)	1802	0	1805	3505	3539	1615
Flt Permitted	0.955		0.950			
Satd. Flow (perm)	1802	0	1805	3505	3539	1615
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2406	1444	
Travel Time (s)	43.2			46.9	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	0	10	740	398	84
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.6%		ICU Level of Service A	
Analysis Period (min) 15			

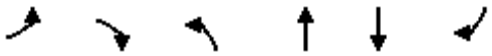
Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	247	14	9	666	358	76
Future Vol, veh/h	247	14	9	666	358	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	274	16	10	740	398	84

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	788	199	482	0	-	0
Stage 1	398	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	332	815	1091	-	-	-
Stage 1	653	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	815	1091	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	659	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	54.3	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1091	-	340	-	-
HCM Lane V/C Ratio	0.009	-	0.853	-	-
HCM Control Delay (s)	8.3	-	54.3	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0	-	7.8	-	-

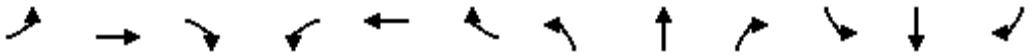


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	365	737	656	437	21
Future Volume (vph)	32	365	737	656	437	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	2			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	0.95
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	3400	3505	3514	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	3400	3505	3514	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2775	
Travel Time (s)	27.4			15.8	34.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	406	819	729	509	0
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	14.0	14.0	
Minimum Split (s)	25.0	14.0	14.0	25.0	25.0	
Total Split (s)	26.0	54.0	54.0	94.0	40.0	
Total Split (%)	21.7%	45.0%	45.0%	78.3%	33.3%	
Maximum Green (s)	19.0	47.0	47.0	87.0	33.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	10.2	48.1	38.4	107.4	61.9	
Actuated g/C Ratio	0.08	0.40	0.32	0.90	0.52	
v/c Ratio	0.23	0.63	0.75	0.23	0.28	
Control Delay	54.5	31.9	40.9	1.8	13.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.5	31.9	40.9	1.8	13.2	
LOS	D	C	D	A	B	
Approach Delay	33.7			22.5	13.2	
Approach LOS	C			C	B	
Queue Length 50th (ft)	27	229	291	46	94	
Queue Length 95th (ft)	60	276	329	70	174	
Internal Link Dist (ft)	2133			1196	2695	
Turn Bay Length (ft)			150			
Base Capacity (vph)	315	727	1388	3135	1813	
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	0.11	0.56	0.59	0.23	0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 5 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 22.6		Intersection LOS: C	
Intersection Capacity Utilization 52.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: US 401 & Piney Grove Rawls Rd



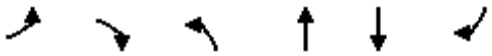
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	40	60	43	16	206	19	1136	22	118	641	43
Future Volume (vph)	51	40	60	43	16	206	19	1136	22	118	641	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.909			0.861			0.997			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1693	0	1770	1604	0	1752	3494	0	1770	3507	0
Flt Permitted	0.434			0.685			0.363			0.950		
Satd. Flow (perm)	808	1693	0	1276	1604	0	670	3494	0	1770	3507	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	111	0	48	247	0	21	1286	0	131	760	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		5.0	14.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		12.0	25.0	
Total Split (s)	26.0	26.0		26.0	26.0		48.0	48.0		16.0	64.0	
Total Split (%)	28.9%	28.9%		28.9%	28.9%		53.3%	53.3%		17.8%	71.1%	
Maximum Green (s)	19.0	19.0		19.0	19.0		41.0	41.0		9.0	57.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	18.2	18.2		18.2	18.2		38.0	38.0		10.7	53.8	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.46	0.46		0.13	0.65	
v/c Ratio	0.32	0.30		0.17	0.70		0.07	0.80		0.57	0.33	
Control Delay	34.0	30.5		29.2	41.9		13.5	23.4		47.0	6.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.0	30.5		29.2	41.9		13.5	23.4		47.0	6.9	
LOS	C	C		C	D		B	C		D	A	
Approach Delay		31.7			39.9			23.2			12.8	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	27	51		22	126		6	303		71	87	
Queue Length 95th (ft)	63	99		52	210		19	390		#140	117	
Internal Link Dist (ft)		2800			3220			2228			1196	
Turn Bay Length (ft)							275			150		
Base Capacity (vph)	210	440		331	417		356	1861		241	2563	
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	0.27	0.25		0.15	0.59		0.06	0.69		0.54	0.30	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 22.1 Intersection LOS: C
Intersection Capacity Utilization 74.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 18: US 401 & Rawls Church Road



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	53	7	1169	695	48
Future Volume (vph)	8	53	7	1169	695	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.883				0.990	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1633	0	1805	3505	3508	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1633	0	1805	3505	3508	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1978			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	8	1299	825	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	53	7	1169	695	48
Future Vol, veh/h	8	53	7	1169	695	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	9	59	8	1299	772	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1465	413	825	0	-	0
Stage 1	799	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	119	588	814	-	-	-
Stage 1	403	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	118	588	814	-	-	-
Mov Cap-2 Maneuver	118	-	-	-	-	-
Stage 1	399	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	814	-	386	-	-
HCM Lane V/C Ratio	0.01	-	0.176	-	-
HCM Control Delay (s)	9.5	-	16.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	60	303	963	53	66	794
Future Volume (vph)	60	303	963	53	66	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3477	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3477	0	1770	3539
Link Speed (mph)	55		45			45
Link Distance (ft)	2952		1355			6809
Travel Time (s)	36.6		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	337	1129	0	73	882
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			

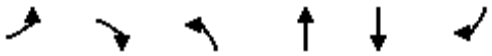
Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	303	963	53	66	794
Future Vol, veh/h	60	303	963	53	66	794
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	67	337	1070	59	73	882

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1687	565	0	0	1129	0
Stage 1	1100	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	85	468	-	-	615	-
Stage 1	280	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	75	468	-	-	615	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	52.9	0	0.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	75	468	615	-
HCM Lane V/C Ratio	-	-	0.889	0.719	0.119	-
HCM Control Delay (s)	-	-	168.8	30	11.6	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	4.5	5.7	0.4	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	7	11	974	664	190
Future Volume (vph)	42	7	11	974	664	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.980				0.967	
Flt Protected	0.959		0.950			
Satd. Flow (prot)	1751	0	1752	3505	3422	0
Flt Permitted	0.959		0.950			
Satd. Flow (perm)	1751	0	1752	3505	3422	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2900			4214	1355	
Travel Time (s)	79.1			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	12	1082	949	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.9%		ICU Level of Service A	
Analysis Period (min) 15			

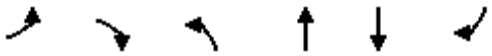
Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	7	11	974	664	190
Future Vol, veh/h	42	7	11	974	664	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	47	8	12	1082	738	211

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1409	475	949	0	-	0
Stage 1	844	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.16	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.23	-	-	-
Pot Cap-1 Maneuver	130	536	713	-	-	-
Stage 1	382	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	536	713	-	-	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	376	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44.5	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	713	-	144	-	-
HCM Lane V/C Ratio	0.017	-	0.378	-	-
HCM Control Delay (s)	10.1	-	44.5	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	45	49	31	853	581	6
Future Volume (vph)	45	49	31	853	581	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.930				0.998	
Flt Protected	0.977		0.950			
Satd. Flow (prot)	1693	0	1770	3539	3532	0
Flt Permitted	0.977		0.950			
Satd. Flow (perm)	1693	0	1770	3539	3532	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1843			2358	4214	
Travel Time (s)	50.3			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	0	34	948	653	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	49	31	853	581	6
Future Vol, veh/h	45	49	31	853	581	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	54	34	948	646	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1192	327	653	0	-	0
Stage 1	650	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	180	669	930	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	173	669	930	-	-	-
Mov Cap-2 Maneuver	173	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	547	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.1	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	930	-	282	-	-
HCM Lane V/C Ratio	0.037	-	0.37	-	-
HCM Control Delay (s)	9	-	25.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	1.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	88	16	814	102	8	584
Future Volume (vph)	88	16	814	102	8	584
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.979		0.983			
Flt Protected	0.959				0.950	
Satd. Flow (prot)	1749	0	3456	0	1805	3539
Flt Permitted	0.959				0.950	
Satd. Flow (perm)	1749	0	3456	0	1805	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1341		4391			2358
Travel Time (s)	36.6		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	116	0	1017	0	9	649
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.3%		ICU Level of Service A	
Analysis Period (min) 15			

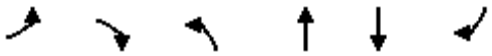
Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	16	814	102	8	584
Future Vol, veh/h	88	16	814	102	8	584
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	98	18	904	113	9	649

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1304	509	0	0	1017	0
Stage 1	961	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	152	509	-	-	690	-
Stage 1	332	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	150	509	-	-	690	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	332	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	63.7	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	168	690	-
HCM Lane V/C Ratio	-	-	0.688	0.013	-
HCM Control Delay (s)	-	-	63.7	10.3	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.1	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	74	98	24	838	626	10
Future Volume (vph)	74	98	24	838	626	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.923					0.850
Flt Protected	0.979		0.950			
Satd. Flow (prot)	1683	0	1805	3505	3539	1615
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1683	0	1805	3505	3539	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2276			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	27	931	696	11
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	74	98	24	838	626	10
Future Vol, veh/h	74	98	24	838	626	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	82	109	27	931	696	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1216	348	707	0	-	0
Stage 1	696	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	173	648	901	-	-	-
Stage 1	456	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	168	648	901	-	-	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.2	0.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	901	-	291	-	-
HCM Lane V/C Ratio	0.03	-	0.657	-	-
HCM Control Delay (s)	9.1	-	38.2	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	4.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	28	173	688	17	121	603
Future Volume (vph)	28	173	688	17	121	603
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.884			0.850		
Flt Protected	0.993				0.950	
Satd. Flow (prot)	1668	0	3505	1615	1805	3539
Flt Permitted	0.993				0.950	
Satd. Flow (perm)	1668	0	3505	1615	1805	3539
Link Speed (mph)	35		55			55
Link Distance (ft)	1130		2530			954
Travel Time (s)	22.0		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	0	764	19	134	670
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	173	688	17	121	603
Future Vol, veh/h	28	173	688	17	121	603
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	31	192	764	19	134	670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1367	382	0	0	783	0
Stage 1	764	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	141	622	-	-	844	-
Stage 1	426	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	119	622	-	-	844	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	433	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.8	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	844	-
HCM Lane V/C Ratio	-	-	0.571	0.159	-
HCM Control Delay (s)	-	-	25.8	10.1	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	3.4	0.6	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	128	669	15	14	579
Future Volume (vph)	93	128	669	15	14	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.922		0.997			
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1681	0	3497	0	1805	3539
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1681	0	3497	0	1805	3539
Link Speed (mph)	25		55			55
Link Distance (ft)	2127		1122			5420
Travel Time (s)	58.0		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	245	0	760	0	16	643
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

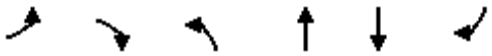
Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	128	669	15	14	579
Future Vol, veh/h	93	128	669	15	14	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	103	142	743	17	16	643

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1106	380	0	0	760	0
Stage 1	752	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	205	618	-	-	861	-
Stage 1	426	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	618	-	-	861	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	668	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.8	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	861	-
HCM Lane V/C Ratio	-	-	0.744	0.018	-
HCM Control Delay (s)	-	-	41.8	9.3	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	5.7	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	130	49	512	660	11
Future Volume (vph)	24	130	49	512	660	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.886				0.998	
Flt Protected	0.992		0.950			
Satd. Flow (prot)	1637	0	1805	3505	3533	0
Flt Permitted	0.992		0.950			
Satd. Flow (perm)	1637	0	1805	3505	3533	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2371			4450	1122	
Travel Time (s)	35.9			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	54	569	745	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.3%		ICU Level of Service A	
Analysis Period (min) 15			

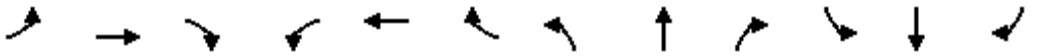
Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	130	49	512	660	11
Future Vol, veh/h	24	130	49	512	660	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	27	144	54	569	733	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1132	373	745	0	-	0
Stage 1	739	-	-	-	-	-
Stage 2	393	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	197	624	872	-	-	-
Stage 1	433	-	-	-	-	-
Stage 2	651	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	624	872	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	651	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	872	-	456	-	-
HCM Lane V/C Ratio	0.062	-	0.375	-	-
HCM Control Delay (s)	9.4	-	17.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-

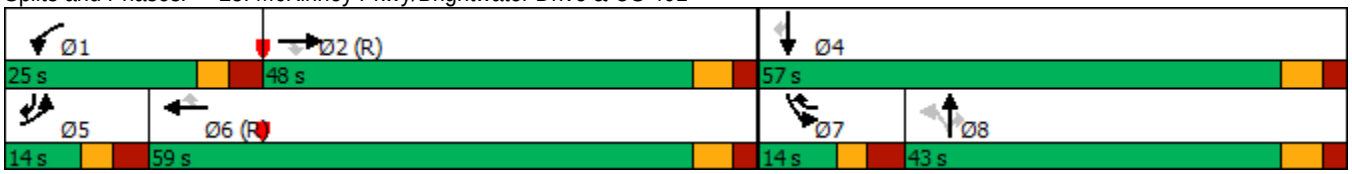


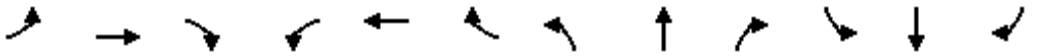
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	633	88	114	526	73	194	12	23	27	5	3
Future Volume (vph)	4	633	88	114	526	73	194	12	23	27	5	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.754			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1390	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	703	98	127	584	81	216	13	26	30	6	3
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	14.0	48.0	48.0	25.0	59.0	14.0	43.0	43.0	43.0	14.0	57.0	14.0
Total Split (%)	10.8%	36.9%	36.9%	19.2%	45.4%	10.8%	33.1%	33.1%	33.1%	10.8%	43.8%	10.8%
Maximum Green (s)	7.4	41.6	41.6	18.6	52.6	7.4	36.5	36.5	36.5	7.4	50.5	7.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag	Lag	Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	61.2	61.2	15.8	79.2	93.0	27.0	27.0	27.0	8.8	38.1	51.7
Actuated g/C Ratio	0.07	0.47	0.47	0.12	0.61	0.72	0.21	0.21	0.21	0.07	0.29	0.40
v/c Ratio	0.02	0.42	0.13	0.58	0.27	0.07	0.75	0.03	0.08	0.13	0.01	0.00
Control Delay	57.0	26.7	24.6	65.6	7.9	7.1	63.7	37.4	38.7	58.2	26.6	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	26.7	24.6	65.6	7.9	7.1	63.7	37.4	38.7	58.2	26.6	18.3
LOS	E	C	C	E	A	A	E	D	D	E	C	B
Approach Delay		26.6			17.0			59.8			50.3	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	1	210	47	98	41	9	172	9	18	12	4	2
Queue Length 95th (ft)	7	324	103	160	211	61	243	25	40	28	12	7
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	242	1665	760	282	2146	1165	406	539	458	241	748	637
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.42	0.13	0.45	0.27	0.07	0.53	0.02	0.06	0.12	0.01	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 47 (36%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 27.6		Intersection LOS: C	
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401



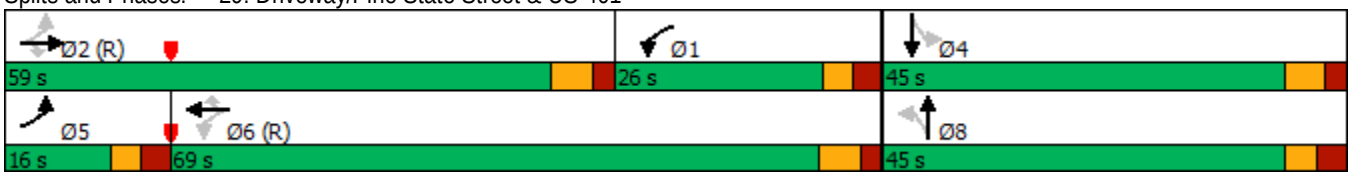


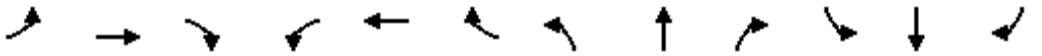
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	636	65	171	561	96	113	4	60	80	4	39
Future Volume (vph)	43	636	65	171	561	96	113	4	60	80	4	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.858			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1582	0	1778	1616	0
Flt Permitted	0.368			0.383			0.726			0.711		
Satd. Flow (perm)	696	3522	1607	735	3540	1631	1339	1582	0	1331	1616	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	707	72	190	623	107	126	71	0	89	47	0
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	16.0	59.0	59.0	26.0	69.0	69.0	45.0	45.0		45.0	45.0	
Total Split (%)	12.3%	45.4%	45.4%	20.0%	53.1%	53.1%	34.6%	34.6%		34.6%	34.6%	
Maximum Green (s)	10.2	52.8	52.8	20.1	62.8	62.8	38.8	38.8		38.8	38.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	87.6	87.6	87.6	90.6	90.6	90.6	18.8	18.8		18.8	18.8	
Actuated g/C Ratio	0.67	0.67	0.67	0.70	0.70	0.70	0.14	0.14		0.14	0.14	
v/c Ratio	0.09	0.30	0.07	0.33	0.25	0.09	0.65	0.31		0.46	0.20	
Control Delay	1.3	3.0	1.4	2.8	1.7	1.7	67.2	51.5		57.3	48.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	1.3	3.0	1.4	2.8	1.7	1.7	67.2	51.5		57.3	48.6	
LOS	A	A	A	A	A	A	E	D		E	D	
Approach Delay		2.8			1.9			61.5			54.3	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	1	9	2	12	22	7	102	54		70	35	
Queue Length 95th (ft)	4	16	5	m31	m50	m18	161	96		118	68	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	562	2374	1083	758	2468	1137	412	486		409	497	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.09	0.30	0.07	0.25	0.25	0.09	0.31	0.15		0.22	0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 3 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 29: Driveway/Pine State Street & US 401





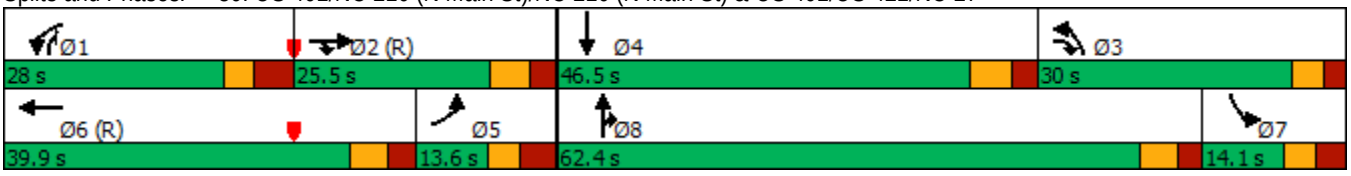
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	284	337	496	395	97	377	723	438	105	464	144
Future Volume (vph)	52	284	337	496	395	97	377	723	438	105	464	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		600	450		625	600		0	125		0
Storage Lanes	1		2	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.970				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3416	0	1752	1844	1567	1787	3446	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3416	0	1752	1844	1567	1787	3446	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	316	374	551	547	0	419	803	487	117	676	0
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	13.6	25.5		28.0	39.9		30.0	62.4		14.1	46.5	
Total Split (%)	10.5%	19.6%		21.5%	30.7%		23.1%	48.0%		10.8%	35.8%	
Maximum Green (s)	7.0	19.1		21.2	33.4		24.6	56.3		8.0	40.0	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-0.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		6.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	12.0	18.5	50.8	22.0	32.2		35.2	58.7	79.5	9.9	33.4	
Actuated g/C Ratio	0.09	0.14	0.39	0.17	0.25		0.27	0.45	0.61	0.08	0.26	
v/c Ratio	0.36	0.63	0.34	0.95	0.65		0.89	0.97	0.51	0.87	0.76	
Control Delay	48.9	47.5	12.2	81.0	48.4		67.7	59.1	9.6	107.2	50.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	48.9	47.5	12.2	81.0	48.4		67.7	59.1	9.6	107.2	50.4	
LOS	D	D	B	F	D		E	E	A	F	D	
Approach Delay		29.9			64.7			47.1			58.8	
Approach LOS		C			E			D			E	
Queue Length 50th (ft)	49	141	47	240	227		345	653	123	100	279	
Queue Length 95th (ft)	98	187	162	#352	273		#634	#938	178	#223	323	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		600	450			600			125		
Base Capacity (vph)	163	558	1133	578	954		473	832	957	135	1100	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.36	0.57	0.33	0.95	0.57		0.89	0.97	0.51	0.87	0.61	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 126 (97%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 135
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 50.7 Intersection LOS: D
Intersection Capacity Utilization 83.0% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	128	949
Future Volume (vph)	0	0	0	0	128	949
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	6408
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	196		175			940
Travel Time (s)	4.5		2.2			11.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	142	1054
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.5%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	0	0	0	3134	0	938
Future Volume (vph)	0	0	0	3134	0	938
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.76
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	0	3574
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	0	3574
Link Speed (mph)	55			30	55	
Link Distance (ft)	535			538	3247	
Travel Time (s)	6.6			12.2	40.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3482	0	1042
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

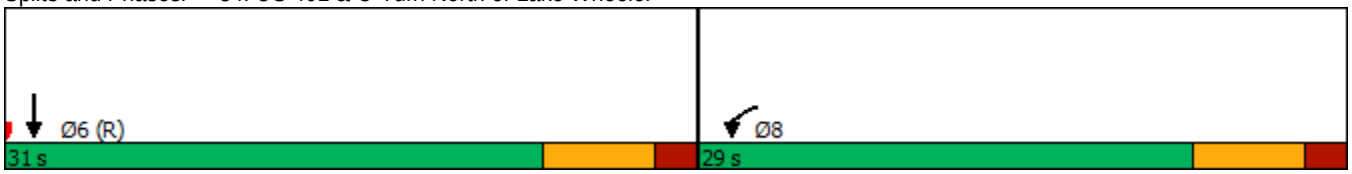
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	221	0	0	0	0	939
Future Volume (vph)	221	0	0	0	0	939
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5034
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5034
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	104		881			535
Travel Time (s)	2.8		10.9			6.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	246	0	0	0	0	1043
Number of Detectors	1					2
Detector Template	Left					Thru
Leading Detector (ft)	20					100
Trailing Detector (ft)	0					0
Detector 1 Position(ft)	0					0
Detector 1 Size(ft)	20					6
Detector 1 Type	Cl+Ex					Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0					0.0
Detector 1 Queue (s)	0.0					0.0
Detector 1 Delay (s)	0.0					0.0
Detector 2 Position(ft)						94
Detector 2 Size(ft)						6
Detector 2 Type						Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)						0.0
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	29.0					31.0
Total Split (%)	48.3%					51.7%
Maximum Green (s)	22.0					24.0
Yellow Time (s)	5.0					5.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	15.6					34.4
Actuated g/C Ratio	0.26					0.57
v/c Ratio	0.54					0.36
Control Delay	20.4					8.0
Queue Delay	0.0					0.0
Total Delay	20.4					8.0
LOS	C					A
Approach Delay	20.4					8.0
Approach LOS	C					A
Queue Length 50th (ft)	77					65
Queue Length 95th (ft)	m82					110
Internal Link Dist (ft)	24		801			455
Turn Bay Length (ft)						
Base Capacity (vph)	708					2887
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.35					0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 24 (40%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	
Analysis Period (min) 15			

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

Splits and Phases: 34: US 401 & U-Turn North of Lake Wheeler

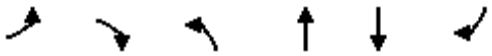


Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	0	0	221	3134	0	0
Future Volume (vph)	0	0	221	3134	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	25			55	30	
Link Distance (ft)	104			1061	538	
Travel Time (s)	2.8			13.2	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	246	3482	0	0
Sign Control	Stop			Free	Stop	

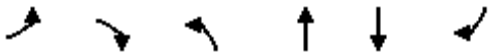
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	159	948
Future Volume (vph)	0	0	0	0	159	948
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	0	0		0	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	3433	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	3433	5085
Link Speed (mph)	25		55			55
Link Distance (ft)	102		712			1038
Travel Time (s)	2.8		8.8			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	177	1053
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	159	0	0	3130	0	0
Future Volume (vph)	159	0	0	3130	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	102			705	888	
Travel Time (s)	2.8			8.7	11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	177	0	0	3478	0	0
Number of Detectors	1			2		
Detector Template	Left			Thru		
Leading Detector (ft)	20			100		
Trailing Detector (ft)	0			0		
Detector 1 Position(ft)	0			0		
Detector 1 Size(ft)	20			6		
Detector 1 Type	Cl+Ex			Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0		
Detector 1 Queue (s)	0.0			0.0		
Detector 1 Delay (s)	0.0			0.0		
Detector 2 Position(ft)				94		
Detector 2 Size(ft)				6		
Detector 2 Type				Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)				0.0		
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	14.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	25.0			95.0		
Total Split (%)	20.8%			79.2%		
Maximum Green (s)	18.0			88.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	C-Min			Min		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.1			93.9		
Actuated g/C Ratio	0.13			0.78		
v/c Ratio	0.38			0.87		
Control Delay	47.8			5.7		
Queue Delay	0.0			0.0		
Total Delay	47.8			5.7		
LOS	D			A		
Approach Delay	47.8			5.7		
Approach LOS	D			A		
Queue Length 50th (ft)	68			163		
Queue Length 95th (ft)	103			m145		
Internal Link Dist (ft)	22			625	808	
Turn Bay Length (ft)						
Base Capacity (vph)	572			3977		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.31			0.87		

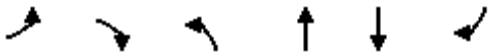
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 87 (73%), Referenced to phase 4:EBL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			

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

Splits and Phases: 37: US 401 & U-Turn South

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	0	0	0	3130	0	948
Future Volume (vph)	0	0	0	3130	0	948
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.76	1.00	0.91
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	0	0	3610	0	5085
Flt Permitted						
Satd. Flow (perm)	0	0	0	3610	0	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	705		1194			712
Travel Time (s)	16.0		14.8			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3478	0	1053
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 76.3%		ICU Level of Service D	
Analysis Period (min) 15			

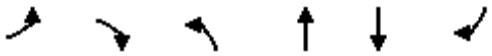


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	610	2679	0	0
Future Volume (vph)	0	0	610	2679	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	183			888	161	
Travel Time (s)	4.2			11.0	2.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	678	2977	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			

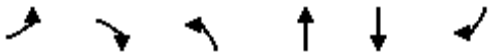
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	27	1133
Future Volume (vph)	0	0	0	0	27	1133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1752	6344
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1752	6344
Link Speed (mph)	30		55			55
Link Distance (ft)	216		202			881
Travel Time (s)	4.9		2.5			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	30	1259
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	236	3066	0	0
Future Volume (vph)	0	0	236	3066	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	223			894	213	
Travel Time (s)	5.1			11.1	2.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	262	3407	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	205	2926	0	0
Future Volume (vph)	0	0	205	2926	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	25			55	55	
Link Distance (ft)	100			1119	395	
Travel Time (s)	2.7			13.9	4.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	228	3251	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	382	852
Future Volume (vph)	0	0	0	0	382	852
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	5085
Link Speed (mph)	25		55			55
Link Distance (ft)	103		405			1091
Travel Time (s)	2.8		5.0			13.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	424	947
Sign Control	Free		Free			Free

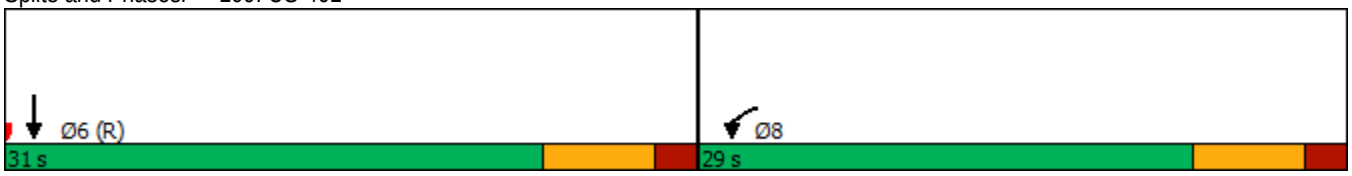
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 82.7%		ICU Level of Service E	
Analysis Period (min) 15			

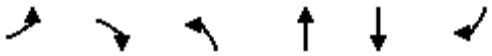
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	205	0	0	0	0	872
Future Volume (vph)	205	0	0	0	0	872
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5085
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5085
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	100		940			405
Travel Time (s)	2.7		11.7			5.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	228	0	0	0	0	969
Number of Detectors	1					2
Detector Template	Left					Thru
Leading Detector (ft)	20					100
Trailing Detector (ft)	0					0
Detector 1 Position(ft)	0					0
Detector 1 Size(ft)	20					6
Detector 1 Type	Cl+Ex					Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0					0.0
Detector 1 Queue (s)	0.0					0.0
Detector 1 Delay (s)	0.0					0.0
Detector 2 Position(ft)						94
Detector 2 Size(ft)						6
Detector 2 Type						Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)						0.0
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	29.0					31.0
Total Split (%)	48.3%					51.7%
Maximum Green (s)	22.0					24.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Min
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	15.0					35.0
Actuated g/C Ratio	0.25					0.58
v/c Ratio	0.52					0.33
Control Delay	20.7					6.4
Queue Delay	0.0					0.0
Total Delay	20.7					6.4
LOS	C					A
Approach Delay	20.7					6.4
Approach LOS	C					A
Queue Length 50th (ft)	98					55
Queue Length 95th (ft)	m102					71
Internal Link Dist (ft)	20		860			325
Turn Bay Length (ft)						
Base Capacity (vph)	708					2966
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.32					0.33

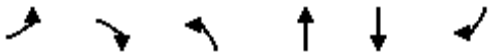
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 55 (92%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 109: US 401





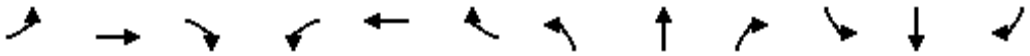
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	382	0	0	2920	0	0
Future Volume (vph)	382	0	0	2920	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	103			395	894	
Travel Time (s)	2.8			4.9	11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	424	0	0	3244	0	0
Number of Detectors	1			2		
Detector Template	Left			Thru		
Leading Detector (ft)	20			100		
Trailing Detector (ft)	0			0		
Detector 1 Position(ft)	0			0		
Detector 1 Size(ft)	20			6		
Detector 1 Type	Cl+Ex			Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0		
Detector 1 Queue (s)	0.0			0.0		
Detector 1 Delay (s)	0.0			0.0		
Detector 2 Position(ft)				94		
Detector 2 Size(ft)				6		
Detector 2 Type				Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)				0.0		
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	5.0			5.0		
Minimum Split (s)	22.5			22.5		
Total Split (s)	36.0			84.0		
Total Split (%)	30.0%			70.0%		
Maximum Green (s)	31.5			79.5		
Yellow Time (s)	3.5			3.5		
All-Red Time (s)	1.0			1.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	4.5			4.5		
Lead/Lag						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Max		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	30.6			80.4		
Actuated g/C Ratio	0.26			0.67		
v/c Ratio	0.94			0.95		
Control Delay	68.9			16.7		
Queue Delay	0.0			0.3		
Total Delay	68.9			17.0		
LOS	E			B		
Approach Delay	68.9			17.0		
Approach LOS	E			B		
Queue Length 50th (ft)	270			348		
Queue Length 95th (ft)	#489			#610		
Internal Link Dist (ft)	23			315	814	
Turn Bay Length (ft)						
Base Capacity (vph)	464			3407		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			18		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.91			0.96		

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 110: US 401

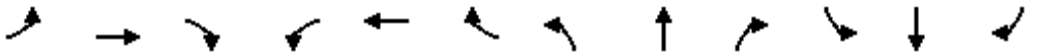


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	27	0	0	0	358	0	2997	69	0	0	0
Future Volume (vph)	0	27	0	0	0	358	0	2997	69	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	175		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00
Frt						0.850		0.997				
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5070	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5070	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		216			1034			213			1061	
Travel Time (s)		5.9			15.7			2.6			13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	0	398	0	3407	0	0	0	0
Number of Detectors		2				1		2				
Detector Template		Thru				Right		Thru				
Leading Detector (ft)		100				20		100				
Trailing Detector (ft)		0				0		0				
Detector 1 Position(ft)		0				0		0				
Detector 1 Size(ft)		6				20		6				
Detector 1 Type		Cl+Ex				Cl+Ex		Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)		0.0				0.0		0.0				
Detector 1 Queue (s)		0.0				0.0		0.0				
Detector 1 Delay (s)		0.0				0.0		0.0				
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type		NA				Prot		NA				
Protected Phases		3				3		2				
Permitted Phases												
Detector Phase		3				3		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0				
Minimum Split (s)		14.0				14.0		25.0				
Total Split (s)		26.0				26.0		94.0				
Total Split (%)		21.7%				21.7%		78.3%				
Maximum Green (s)		19.0				19.0		87.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Walk Time (s)								7.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		20.6				20.6		89.4				
Actuated g/C Ratio		0.17				0.17		0.74				
v/c Ratio		0.09				0.83		0.90				
Control Delay		37.7				64.0		3.7				
Queue Delay		0.0				0.0		0.0				
Total Delay		37.7				64.0		3.7				
LOS		D				E		A				
Approach Delay		37.7			64.0			3.7				
Approach LOS		D			E			A				
Queue Length 50th (ft)		17				170		121				
Queue Length 95th (ft)		38				#252		120				
Internal Link Dist (ft)		136			954			133			981	
Turn Bay Length (ft)						300						
Base Capacity (vph)		326				487		3778				
Starvation Cap Reductn		0				0		5				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.09				0.82		0.90				

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 4 (3%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 200: US 401 & Air Park Road

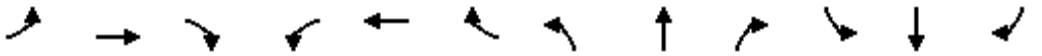


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	128	0	0	0	563	0	2568	111	0	0	0
Future Volume (vph)	0	128	0	0	0	563	0	2568	111	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		100	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			55			55	
Link Distance (ft)		196			1100			161			1119	
Travel Time (s)		5.3			21.4			2.0			13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	0	626	0	2853	123	0	0	0
Number of Detectors		2				1		2	1			
Detector Template		Thru				Right		Thru	Right			
Leading Detector (ft)		100				20		100	20			
Trailing Detector (ft)		0				0		0	0			
Detector 1 Position(ft)		0				0		0	0			
Detector 1 Size(ft)		6				20		6	20			
Detector 1 Type		Cl+Ex				Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)		0.0				0.0		0.0	0.0			
Detector 1 Queue (s)		0.0				0.0		0.0	0.0			
Detector 1 Delay (s)		0.0				0.0		0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type		NA				Prot		NA	Perm			
Protected Phases		3				3		2				
Permitted Phases									2			
Detector Phase		3				3		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0	14.0			
Minimum Split (s)		14.0				14.0		25.0	25.0			
Total Split (s)		39.0				39.0		81.0	81.0			
Total Split (%)		32.5%				32.5%		67.5%	67.5%			
Maximum Green (s)		32.0				32.0		74.0	74.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)		-2.0				-2.0		-2.0	0.0			
Total Lost Time (s)		5.0				5.0		5.0	7.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Min	C-Min			
Walk Time (s)								7.0	7.0			
Flash Dont Walk (s)								11.0	11.0			
Pedestrian Calls (#/hr)								0	0			
Act Effct Green (s)		32.4				32.4		77.6	75.6			
Actuated g/C Ratio		0.27				0.27		0.65	0.63			
v/c Ratio		0.28				0.83		0.87	0.12			
Control Delay		40.7				51.7		9.8	5.9			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		40.7				51.7		9.8	5.9			
LOS		D				D		A	A			
Approach Delay		40.7			51.7			9.7				
Approach LOS		D			D			A				
Queue Length 50th (ft)		83				255		251	14			
Queue Length 95th (ft)		164				333		519	m26			
Internal Link Dist (ft)		116			1020			81			1039	
Turn Bay Length (ft)						300			100			
Base Capacity (vph)		527				789		3287	997			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.27				0.79		0.87	0.12			

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 3 (3%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 85.9%		ICU Level of Service E	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 300: US 401 & Realigned Hilltop Road



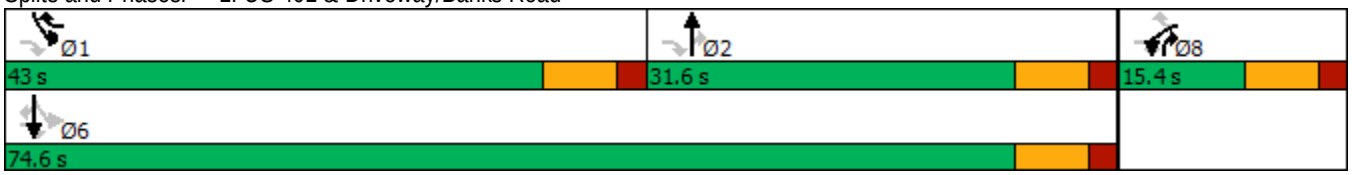
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	212	0	297	0	1147	280	700	2489	4
Future Volume (vph)	0	0	4	212	0	297	0	1147	280	700	2489	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	425		0	0		175	275		200
Storage Lanes	0		1	2		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	3275	0	1599	0	5009	1560	1796	4875	1607
Flt Permitted				0.950						0.128		
Satd. Flow (perm)	0	0	1611	3275	0	1599	0	5009	1560	242	4875	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			3247			1414	
Travel Time (s)		29.6			32.4			40.3			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	236	0	330	0	1274	311	778	2766	4
Number of Detectors			1	1		1		2	1	1	2	1
Detector Template			Right	Left		Right		Thru	Right	Left	Thru	Right
Leading Detector (ft)			20	20		20		100	20	20	100	20
Trailing Detector (ft)			0	0		0		0	0	0	0	0
Detector 1 Position(ft)			0	0		0		0	0	0	0	0
Detector 1 Size(ft)			20	20		20		6	20	20	6	20
Detector 1 Type			Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			1 2 6 8			8			2	6		6
Detector Phase			1 2 6 8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)				7.0		7.0		14.0	7.0	7.0	14.0	14.0
Minimum Split (s)				15.1		14.8		24.5	15.1	14.8	24.5	24.5
Total Split (s)				15.4		43.0		31.6	15.4	43.0	74.6	74.6
Total Split (%)				17.1%		47.8%		35.1%	17.1%	47.8%	82.9%	82.9%
Maximum Green (s)				8.4		36.0		24.6	8.4	36.0	67.6	67.6

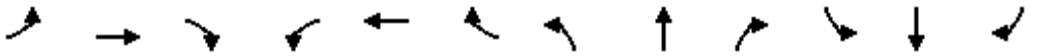
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)				2.0		2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				-2.0		-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode				None		None		Min	None	None	Min	Min
Act Effct Green (s)			88.2	10.4		51.9		26.3	41.6	67.8	67.8	67.8
Actuated g/C Ratio			1.00	0.12		0.59		0.30	0.47	0.77	0.77	0.77
v/c Ratio			0.00	0.61		0.35		0.85	0.42	0.94	0.74	0.00
Control Delay			0.0	45.1		10.7		36.4	18.0	39.6	6.9	2.2
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			0.0	45.1		10.7		36.4	18.0	39.6	6.9	2.2
LOS			A	D		B		D	B	D	A	A
Approach Delay					25.0			32.7			14.1	
Approach LOS					C			C			B	
Queue Length 50th (ft)			0	67		89		249	113	345	235	1
Queue Length 95th (ft)			0	105		140		#307	182	#595	282	2
Internal Link Dist (ft)		1005			2057			3167			1334	
Turn Bay Length (ft)				425					175	275		200
Base Capacity (vph)			1592	386		968		1512	737	856	3852	1269
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			0.00	0.61		0.34		0.84	0.42	0.91	0.72	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 88.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 1: US 401 & Driveway/Banks Road



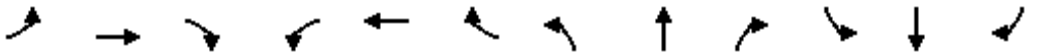


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	742	0	219	0	0	0	0	0	2408	453
Future Volume (vph)	0	0	742	0	219	0	0	0	0	0	2408	453
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			2%	
Storage Length (ft)	0		500	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Flt Permitted												
Satd. Flow (perm)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		2263			223			1091			202	
Travel Time (s)		34.3			6.1			13.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	0%	2%	2%	2%	2%	2%	2%	2%	8%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	824	0	243	0	0	0	0	0	2676	503
Number of Detectors			1		2						2	1
Detector Template			Right		Thru						Thru	Right
Leading Detector (ft)			20		100						100	20
Trailing Detector (ft)			0		0						0	0
Detector 1 Position(ft)			0		0						0	0
Detector 1 Size(ft)			20		6						6	20
Detector 1 Type			Cl+Ex		Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0		0.0						0.0	0.0
Detector 1 Queue (s)			0.0		0.0						0.0	0.0
Detector 1 Delay (s)			0.0		0.0						0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			43.0		43.0						77.0	77.0
Total Split (%)			35.8%		35.8%						64.2%	64.2%
Maximum Green (s)			36.0		36.0						70.0	70.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			37.9		37.9						72.1	72.1
Actuated g/C Ratio			0.32		0.32						0.60	0.60
v/c Ratio			0.92		0.41						0.94	0.57
Control Delay			56.0		28.0						19.4	9.6
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			56.0		28.0						19.4	9.6
LOS			E		C						B	A
Approach Delay		56.0			28.0						17.9	
Approach LOS		E			C						B	
Queue Length 50th (ft)			348		131						676	115
Queue Length 95th (ft)			#480		183						529	m141
Internal Link Dist (ft)		2183			143			1011			122	
Turn Bay Length (ft)			500									
Base Capacity (vph)			899		589						2858	881
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.92		0.41						0.94	0.57

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 17 (14%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: US 401 & Hilltop Needmore Road

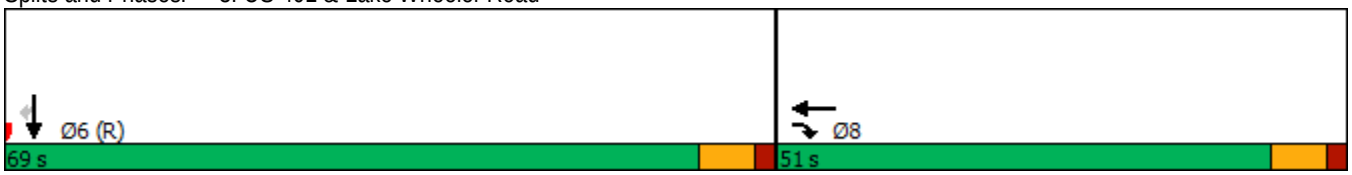


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	954	0	250	0	0	0	0	0	2260	218
Future Volume (vph)	0	0	954	0	250	0	0	0	0	0	2260	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		1052			183			1038			175	
Travel Time (s)		15.9			5.0			12.9			2.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	9%	40%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1060	0	278	0	0	0	0	0	2511	242
Number of Detectors			1		2						2	1
Detector Template			Right		Thru						Thru	Right
Leading Detector (ft)			20		100						100	20
Trailing Detector (ft)			0		0						0	0
Detector 1 Position(ft)			0		0						0	0
Detector 1 Size(ft)			20		6						6	20
Detector 1 Type			Cl+Ex		Cl+Ex						Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)			0.0		0.0						0.0	0.0
Detector 1 Queue (s)			0.0		0.0						0.0	0.0
Detector 1 Delay (s)			0.0		0.0						0.0	0.0
Detector 2 Position(ft)					94						94	
Detector 2 Size(ft)					6						6	
Detector 2 Type					Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			51.0		51.0						69.0	69.0
Total Split (%)			42.5%		42.5%						57.5%	57.5%
Maximum Green (s)			44.0		44.0						62.0	62.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	0.0
Total Lost Time (s)			5.0		5.0						5.0	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			46.0		46.0						64.0	62.0
Actuated g/C Ratio			0.38		0.38						0.53	0.52
v/c Ratio			0.99		0.39						0.99	0.41
Control Delay			63.0		28.5						30.3	12.0
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			63.0		28.5						30.3	12.0
LOS			E		C						C	B
Approach Delay		63.0			28.5						28.7	
Approach LOS		E			C						C	
Queue Length 50th (ft)			459		108						604	77
Queue Length 95th (ft)			#626		236						#821	m104
Internal Link Dist (ft)		972			103			958			95	
Turn Bay Length (ft)												
Base Capacity (vph)			1068		714						2538	596
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.99		0.39						0.99	0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 48 (40%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 37.6		Intersection LOS: D	
Intersection Capacity Utilization 108.1%		ICU Level of Service G	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: US 401 & Lake Wheeler Road



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	53	180	1187	90	583	2286
Future Volume (vph)	53	180	1187	90	583	2286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125		200	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	5085	1583	1770	4759
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	5085	1583	1770	4759
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	1526		7004			1194
Travel Time (s)	23.1		86.8			14.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	2%	2%	9%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	200	1319	100	648	2540
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	25.0	14.0	25.0	25.0	14.0	25.0
Total Split (s)	25.0	55.0	40.0	25.0	55.0	95.0
Total Split (%)	20.8%	45.8%	33.3%	20.8%	45.8%	79.2%
Maximum Green (s)	18.0	48.0	33.0	18.0	48.0	88.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0

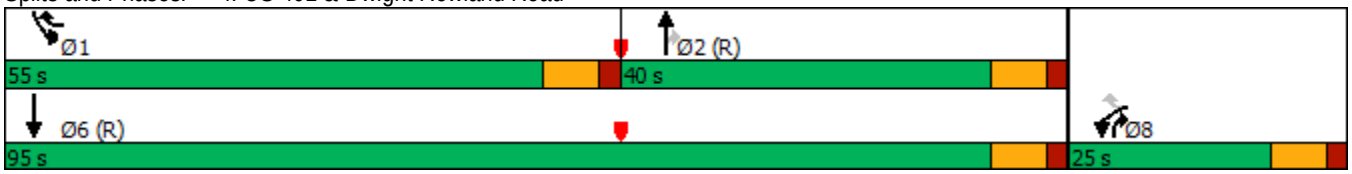
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	None	None	C-Min
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	11.5	67.2	42.8	59.4	50.6	98.5
Actuated g/C Ratio	0.10	0.56	0.36	0.50	0.42	0.82
v/c Ratio	0.34	0.22	0.73	0.13	0.87	0.65
Control Delay	55.4	12.9	26.6	10.4	40.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	12.9	26.6	10.4	40.8	2.0
LOS	E	B	C	B	D	A
Approach Delay	22.6		25.5			9.9
Approach LOS	C		C			A
Queue Length 50th (ft)	44	73	259	23	445	91
Queue Length 95th (ft)	85	98	427	m35	m409	m129
Internal Link Dist (ft)	1446		6924			1114
Turn Bay Length (ft)		125		200	300	
Base Capacity (vph)	300	933	1815	894	778	3904
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.21	0.73	0.11	0.83	0.65

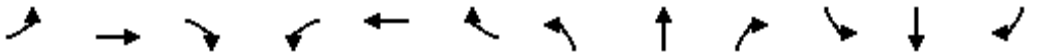
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 112 (93%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 15.1 Intersection LOS: B
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

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

Splits and Phases: 4: US 401 & Dwight Rowland Road





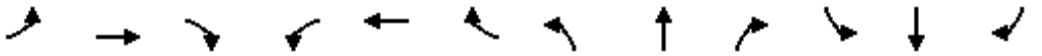
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	16	576	4	4	4	396	1175	7	4	2044	181
Future Volume (vph)	137	16	576	4	4	4	396	1175	7	4	2044	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected		0.957			0.984		0.950			0.950		
Satd. Flow (prot)	0	1795	1576	0	1794	0	1710	4958	0	1796	4915	1607
Flt Permitted		0.740			0.899		0.064			0.197		
Satd. Flow (perm)	0	1388	1576	0	1639	0	115	4958	0	372	4915	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			7004	
Travel Time (s)		40.4			25.8			20.1			86.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	170	640	0	12	0	440	1314	0	4	2271	201
Number of Detectors	1	2	1	1	2		1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	14.9	24.5	24.5		14.9	24.2		24.2	24.2	24.2
Total Split (s)	24.5	24.5	32.6	24.5	24.5		32.6	95.5		62.9	62.9	62.9
Total Split (%)	20.4%	20.4%	27.2%	20.4%	20.4%		27.2%	79.6%		52.4%	52.4%	52.4%
Maximum Green (s)	17.5	17.5	25.6	17.5	17.5		25.6	88.5		55.9	55.9	55.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		18.6	52.1		18.6		91.4	91.4		57.9	57.9	57.9
Actuated g/C Ratio		0.16	0.43		0.16		0.76	0.76		0.48	0.48	0.48
v/c Ratio		0.79	0.94		0.05		0.94	0.35		0.02	0.96	0.26
Control Delay		74.7	55.1		43.1		35.3	6.8		10.5	30.1	12.1
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		74.7	55.1		43.1		35.3	6.8		10.5	30.1	12.1
LOS		E	E		D		D	A		B	C	B
Approach Delay		59.2			43.1			14.0			28.6	
Approach LOS		E			D			B			C	
Queue Length 50th (ft)		127	463		8		291	198		1	537	62
Queue Length 95th (ft)		#234	#707		26		m264	m188		m2	#729	102
Internal Link Dist (ft)		1993			866			1540			6924	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		225	684		266		466	3778		179	2371	775
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		0.76	0.94		0.05		0.94	0.35		0.02	0.96	0.26

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 56 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 28.5 Intersection LOS: C
Intersection Capacity Utilization 93.5% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: US 401 & Mill Creek Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	782	531	993	1441	118	423	47	765	37	71	16
Future Volume (vph)	4	782	531	993	1441	118	423	47	765	37	71	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	0		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.961			0.983	
Satd. Flow (prot)	1832	3592	1518	1702	3263	0	1602	1629	1552	0	1905	1177
Flt Permitted	0.233			0.950			0.950	0.961			0.777	
Satd. Flow (perm)	449	3592	1518	1702	3263	0	1602	1629	1552	0	1506	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2277			632			1056			648	
Travel Time (s)		34.5			9.6			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	4	869	590	1103	1732	0	258	264	850	0	120	18
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	14.6
Total Split (s)	14.6	28.2		44.0	57.6		23.9	23.9	44.0	23.9	23.9	14.6
Total Split (%)	12.2%	23.5%		36.7%	48.0%		19.9%	19.9%	36.7%	19.9%	19.9%	12.2%
Maximum Green (s)	7.6	21.2		37.0	50.6		16.9	16.9	37.0	16.9	16.9	7.6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	26.2	26.2	120.0	39.0	61.8		18.9	18.9	62.9		15.9	29.9
Actuated g/C Ratio	0.22	0.22	1.00	0.32	0.52		0.16	0.16	0.52		0.13	0.25
v/c Ratio	0.02	1.11	0.39	1.99	1.03		1.02	1.03	1.05		0.60	0.06
Control Delay	21.0	97.1	0.6	470.9	39.5		112.9	114.2	73.2		61.4	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	21.0	97.1	0.6	470.9	39.5		112.9	114.2	73.2		61.4	33.4
LOS	C	F	A	F	D		F	F	E		E	C
Approach Delay		57.9			207.4			88.5			57.7	
Approach LOS		E			F			F			E	
Queue Length 50th (ft)	2	~423	0	~1351	~835		~224	~230	~714		88	11
Queue Length 95th (ft)	m3	#566	0	m#1424	m#923		#402	#408	#959		150	29
Internal Link Dist (ft)		2197			552			976			568	
Turn Bay Length (ft)	175		275						650			150
Base Capacity (vph)	208	783	1518	553	1679		252	256	813		237	299
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.02	1.11	0.39	1.99	1.03		1.02	1.03	1.05		0.51	0.06

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 108 (90%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.99
Intersection Signal Delay: 138.1 Intersection LOS: F
Intersection Capacity Utilization 108.7% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: NC 55/Driveway & US 401

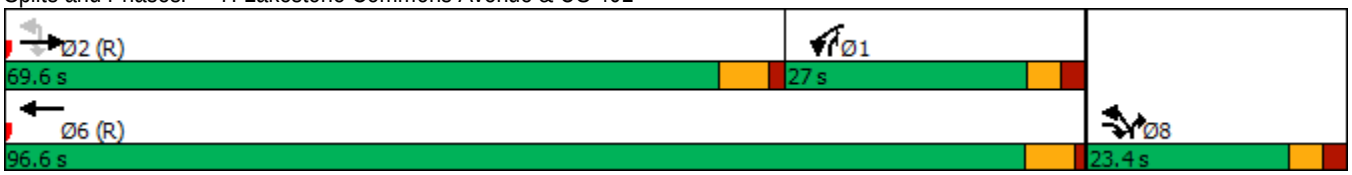
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1296	132	175	1598	137	130
Future Volume (vph)	4	1296	132	175	1598	137	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.091			0.950		0.950	
Satd. Flow (perm)	174	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2277	1303	
Travel Time (s)		35.0			34.5	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1440	147	194	1776	152	144
Number of Detectors	1	2	1	1	2	1	1
Detector Template	Left	Thru	Right	Left	Thru	Left	Right
Leading Detector (ft)	20	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94		
Detector 2 Size(ft)		6			6		
Detector 2 Type		Cl+Ex			Cl+Ex		
Detector 2 Channel							
Detector 2 Extend (s)		0.0			0.0		
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	69.6	69.6	23.4	27.0	96.6	23.4	
Total Split (%)	58.0%	58.0%	19.5%	22.5%	80.5%	19.5%	
Maximum Green (s)	63.7	63.7	18.1	21.6	91.1	18.1	

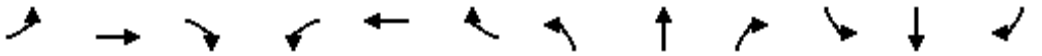
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	72.0	72.0	92.1	17.9	94.9	15.1	37.7
Actuated g/C Ratio	0.60	0.60	0.77	0.15	0.79	0.13	0.31
v/c Ratio	0.04	0.68	0.12	0.72	0.68	0.68	0.29
Control Delay	5.8	9.2	1.8	43.6	2.7	64.8	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	9.2	1.8	43.6	2.7	64.8	31.0
LOS	A	A	A	D	A	E	C
Approach Delay		8.5			6.7	48.3	
Approach LOS		A			A	D	
Queue Length 50th (ft)	1	148	8	136	3	113	82
Queue Length 95th (ft)	m1	m132	m4	m157	m1	181	127
Internal Link Dist (ft)		2228			2197	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	104	2113	1227	329	2606	275	532
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.68	0.12	0.59	0.68	0.55	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 26 (22%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 7: Lakestone Commons Avenue & US 401





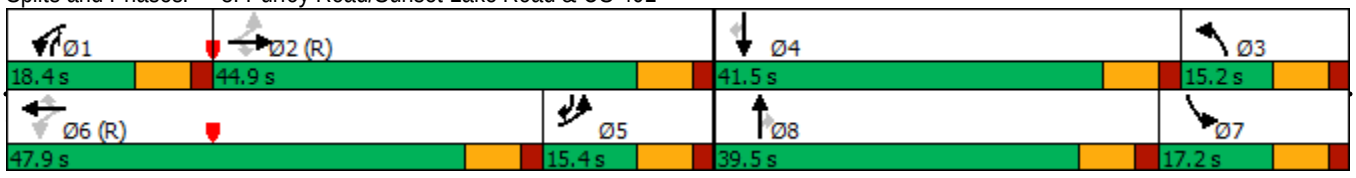
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1101	212	246	1195	257	187	466	142	242	518	87
Future Volume (vph)	110	1101	212	246	1195	257	187	466	142	242	518	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	3646	1615	3450	3556	1591
Flt Permitted	0.135			0.135			0.950			0.950		
Satd. Flow (perm)	251	3470	1508	249	3436	1599	3502	3646	1615	3450	3556	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			801	
Travel Time (s)		15.6			45.0			27.5			15.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	1223	236	273	1328	286	208	518	158	269	576	97
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.4	40.9	40.9	15.6	43.9	43.9	15.2	38.3	15.6	15.1	41.5	15.4
Total Split (s)	15.4	44.9	44.9	18.4	47.9	47.9	15.2	39.5	18.4	17.2	41.5	15.4
Total Split (%)	12.8%	37.4%	37.4%	15.3%	39.9%	39.9%	12.7%	32.9%	15.3%	14.3%	34.6%	12.8%
Maximum Green (s)	8.4	37.9	37.9	11.4	40.9	40.9	8.2	32.5	11.4	10.2	34.5	8.4

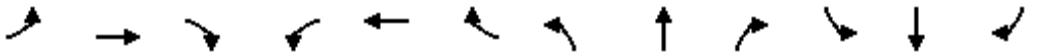
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		21.0	21.0		24.0	24.0		24.0			22.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	40.0	40.0	40.0	48.6	48.6	48.6	13.5	24.8	43.8	16.2	27.5	42.9
Actuated g/C Ratio	0.33	0.33	0.33	0.40	0.40	0.40	0.11	0.21	0.36	0.14	0.23	0.36
v/c Ratio	0.57	1.06	0.47	0.81	0.95	0.44	0.53	0.69	0.27	0.58	0.71	0.17
Control Delay	39.4	68.8	21.4	41.5	40.7	19.5	55.4	48.6	16.2	53.9	47.1	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	68.8	21.4	41.5	40.7	19.5	55.4	48.6	16.2	53.9	47.1	26.0
LOS	D	E	C	D	D	B	E	D	B	D	D	C
Approach Delay		59.5			37.6			44.4			46.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	60	~552	126	146	513	144	78	195	54	101	217	51
Queue Length 95th (ft)	92	#672	145	#354	#737	208	120	242	88	146	261	84
Internal Link Dist (ft)		720			2228			1334			721	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	215	1157	503	338	1391	647	393	1048	589	465	1081	569
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	1.06	0.47	0.81	0.95	0.44	0.53	0.49	0.27	0.58	0.53	0.17

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 46.9 Intersection LOS: D
Intersection Capacity Utilization 80.9% ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401





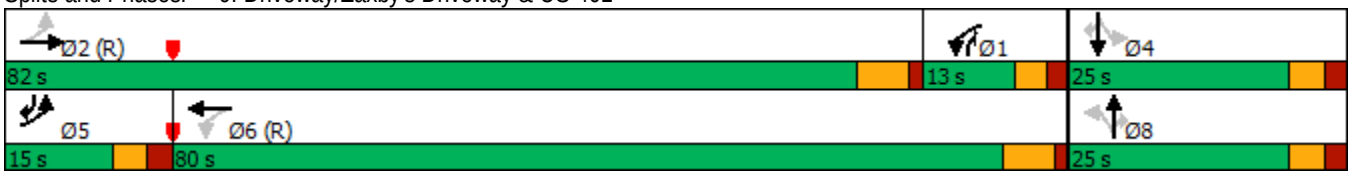
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	1241	75	61	1247	52	49	6	58	51	5	26
Future Volume (vph)	91	1241	75	61	1247	52	49	6	58	51	5	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.994				0.850			0.850
Flt Protected	0.950			0.950				0.958			0.957	
Satd. Flow (prot)	1814	3496	0	1796	3438	0	0	1820	1615	0	1809	1607
Flt Permitted	0.126			0.166				0.706			0.703	
Satd. Flow (perm)	241	3496	0	314	3438	0	0	1341	1615	0	1329	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1462	0	68	1444	0	0	61	64	0	63	29
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	15.0	82.0		13.0	80.0		25.0	25.0	13.0	25.0	25.0	15.0
Total Split (%)	12.5%	68.3%		10.8%	66.7%		20.8%	20.8%	10.8%	20.8%	20.8%	12.5%
Maximum Green (s)	9.6	76.1		8.1	74.1		19.6	19.6	8.1	19.7	19.7	9.6

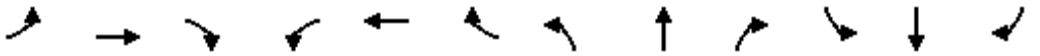
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag				Lag			Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	89.1	90.1		87.6	87.6			11.5	23.3		11.5	22.4
Actuated g/C Ratio	0.74	0.75		0.73	0.73			0.10	0.19		0.10	0.19
v/c Ratio	0.35	0.56		0.20	0.58			0.48	0.21		0.50	0.10
Control Delay	4.1	4.7		1.9	2.5			62.7	38.5		64.0	37.0
Queue Delay	0.0	0.2		0.0	0.1			0.0	0.0		0.0	0.0
Total Delay	4.1	4.9		1.9	2.6			62.7	38.5		64.0	37.0
LOS	A	A		A	A			E	D		E	D
Approach Delay		4.9			2.6			50.3			55.5	
Approach LOS		A			A			D			E	
Queue Length 50th (ft)	5	38		3	34			46	41		47	18
Queue Length 95th (ft)	m22	m348		m1	m23			88	74		91	42
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	311	2628		347	2509			223	303		221	322
Starvation Cap Reductn	0	408		0	235			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	0.32	0.66		0.20	0.64			0.27	0.21		0.29	0.09

Intersection Summary

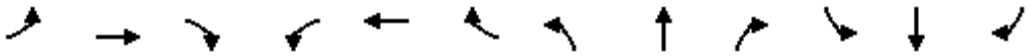
Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 116 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 7.0 Intersection LOS: A
Intersection Capacity Utilization 64.8% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401





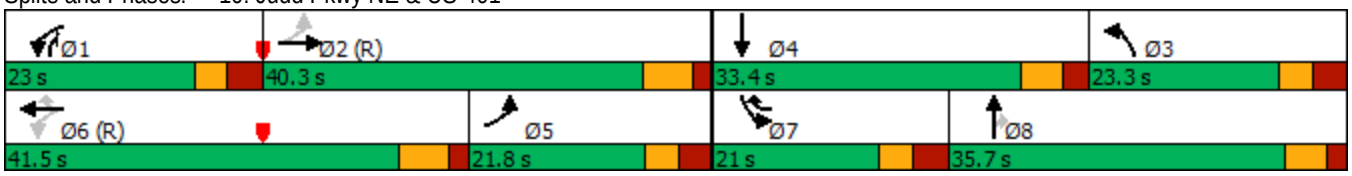
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	754	178	334	670	312	131	257	245	431	337	159
Future Volume (vph)	260	754	178	334	670	312	131	257	245	431	337	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.971				0.850			0.850		0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3349	0	1770	3539	1583	1752	3504	1567	3399	3336	0
Flt Permitted	0.369			0.317			0.950			0.950		
Satd. Flow (perm)	680	3349	0	590	3539	1583	1752	3504	1567	3399	3336	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1036	0	371	744	347	146	286	272	479	551	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	21.8	40.3		23.0	41.5	21.0	23.3	35.7	23.0	21.0	33.4	
Total Split (%)	18.2%	33.6%		19.2%	34.6%	17.5%	19.4%	29.8%	19.2%	17.5%	27.8%	
Maximum Green (s)	15.6	33.9		16.9	35.1	14.7	17.1	30.0	16.9	14.7	27.5	

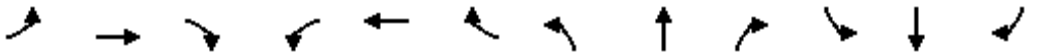


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag	Lead	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	35.3	35.3		36.8	36.8	52.8	15.6	24.9	53.7	16.0	25.4	
Actuated g/C Ratio	0.29	0.29		0.31	0.31	0.44	0.13	0.21	0.45	0.13	0.21	
v/c Ratio	0.72	1.05		0.90	0.69	0.50	0.64	0.39	0.39	1.06	0.78	
Control Delay	32.1	64.0		46.1	23.3	14.6	62.5	41.5	24.3	108.0	52.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.1	64.0		46.1	23.3	14.6	62.5	41.5	24.3	108.0	52.9	
LOS	C	E		D	C	B	E	D	C	F	D	
Approach Delay		57.0			27.0			39.2			78.5	
Approach LOS		E			C			D			E	
Queue Length 50th (ft)	129	~466		231	244	159	108	98	138	~209	210	
Queue Length 95th (ft)	m#207	m#550		#421	315	314	176	135	209	#317	270	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	399	985		414	1093	696	267	896	701	453	789	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.72	1.05		0.90	0.68	0.50	0.55	0.32	0.39	1.06	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 57 (48%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 49.4		Intersection LOS: D	
Intersection Capacity Utilization 83.4%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 10: Judd Pkwy NE & US 401





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	517	9	49	697	281	12	141	38	451	182	175
Future Volume (vph)	134	517	9	49	697	281	12	141	38	451	182	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.997				0.850		0.968			0.935	
Flt Protected	0.950			0.950			0.950			0.950	0.994	
Satd. Flow (prot)	1761	3511	0	1778	1872	1591	1725	1758	0	1698	1661	0
Flt Permitted	0.126			0.278			0.950			0.950	0.994	
Satd. Flow (perm)	234	3511	0	520	1872	1591	1725	1758	0	1698	1661	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)										10%		
Lane Group Flow (vph)	149	584	0	54	774	312	13	199	0	451	446	0
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	12.6	43.6		12.6	43.6	33.0	30.8	30.8		33.0	33.0	
Total Split (%)	10.5%	36.3%		10.5%	36.3%	27.5%	25.7%	25.7%		27.5%	27.5%	
Maximum Green (s)	7.0	37.9		7.0	37.9	26.8	25.0	25.0		26.8	26.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	

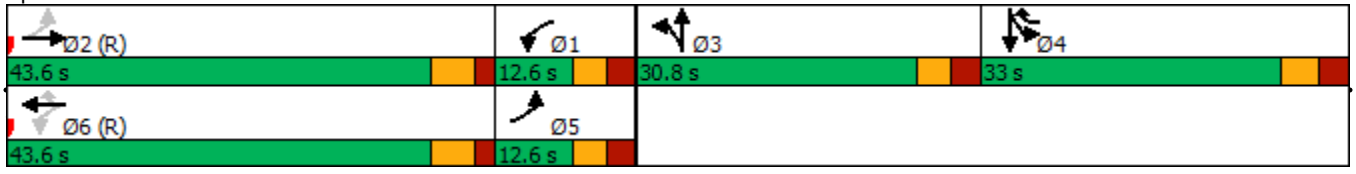
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	39.1	33.0		48.7	38.6	77.9	19.5	19.5		34.3	34.3	
Actuated g/C Ratio	0.33	0.28		0.41	0.32	0.65	0.16	0.16		0.29	0.29	
v/c Ratio	0.87	0.60		0.14	1.29	0.30	0.05	0.70		0.93	0.94	
Control Delay	87.8	39.7		10.3	160.6	2.0	39.8	59.9		69.9	72.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	87.8	39.7		10.3	160.6	2.0	39.8	59.9		69.9	72.1	
LOS	F	D		B	F	A	D	E		E	E	
Approach Delay		49.5			110.1			58.7			71.0	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	80	206		14	~776	18	9	147		358	355	
Queue Length 95th (ft)	#187	262		m20	#980	45	26	215		#644	#642	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	172	1203		375	602	1032	370	377		485	474	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.87	0.49		0.14	1.29	0.30	0.04	0.53		0.93	0.94	

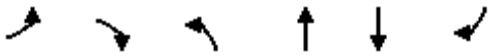
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 108 (90%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 79.8 Intersection LOS: E
Intersection Capacity Utilization 93.1% ICU Level of Service F
Analysis Period (min) 15

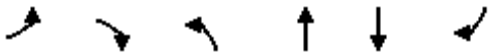
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: N Ennis Street & US 401





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	521	434	579	766	73
Future Volume (vph)	87	521	434	579	766	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1831	0
Flt Permitted	0.950		0.081			
Satd. Flow (perm)	1787	1599	148	1826	1831	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	579	482	643	932	0
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	24.2	31.0	31.0	95.8	64.8	
Total Split (%)	20.2%	25.8%	25.8%	79.8%	54.0%	
Maximum Green (s)	18.0	25.7	25.7	90.3	58.6	

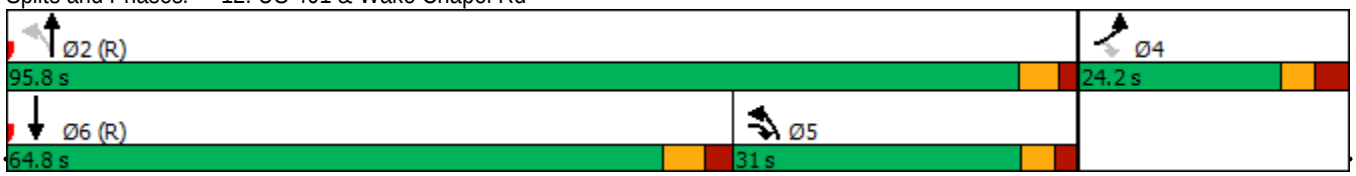


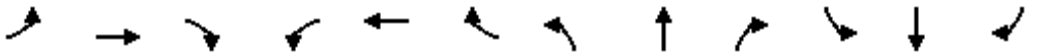
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	13.0	44.9	98.0	97.0	66.0	
Actuated g/C Ratio	0.11	0.37	0.82	0.81	0.55	
v/c Ratio	0.50	0.97	1.01	0.44	0.93	
Control Delay	58.7	66.7	71.9	2.9	11.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.7	66.7	71.9	2.9	11.7	
LOS	E	E	E	A	B	
Approach Delay	65.6			32.5	11.7	
Approach LOS	E			C	B	
Queue Length 50th (ft)	72	436	~330	47	137	
Queue Length 95th (ft)	123	#624	m#392	m175	m115	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	285	598	477	1475	1006	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.97	1.01	0.44	0.93	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: US 401 & Wake Chapel Rd



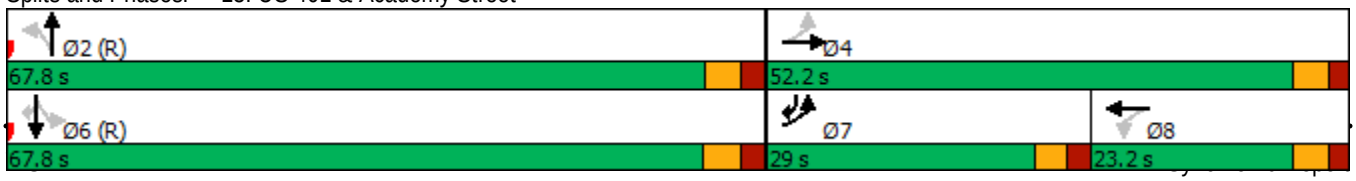


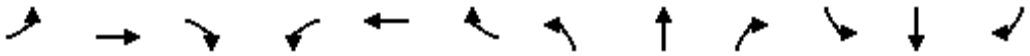
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	357	159	75	37	150	55	49	536	30	69	787	463
Future Volume (vph)	357	159	75	37	150	55	49	536	30	69	787	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.960			0.992				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1764	0	1761	1779	0	1796	1824	0	1787	1881	1599
Flt Permitted	0.211			0.599			0.067			0.246		
Satd. Flow (perm)	391	1764	0	1110	1779	0	127	1824	0	463	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2068			1972			854			1797	
Travel Time (s)		56.4			53.8			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	397	260	0	41	228	0	54	629	0	77	874	514
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100		20	100	20
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	29.0	52.2		23.2	23.2		67.8	67.8		67.8	67.8	29.0
Total Split (%)	24.2%	43.5%		19.3%	19.3%		56.5%	56.5%		56.5%	56.5%	24.2%
Maximum Green (s)	23.9	47.1		18.1	18.1		62.4	62.4		62.2	62.2	23.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	48.0	48.0		17.6	17.6		62.0	62.0		61.8	62.0	92.9
Actuated g/C Ratio	0.40	0.40		0.15	0.15		0.52	0.52		0.52	0.52	0.77
v/c Ratio	0.89	0.37		0.25	0.88		0.83	0.67		0.32	0.90	0.42
Control Delay	53.3	27.4		49.5	82.1		103.6	26.6		21.2	34.9	4.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	53.3	27.4		49.5	82.1		103.6	26.6		21.2	34.9	4.8
LOS	D	C		D	F		F	C		C	C	A
Approach Delay		43.1			77.1			32.7			23.6	
Approach LOS		D			E			C			C	
Queue Length 50th (ft)	239	142		28	174		38	488		35	599	107
Queue Length 95th (ft)	#431	213		64	#311		#124	539		m37	m630	m108
Internal Link Dist (ft)		1988			1892			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	446	705		168	269		66	954		241	984	1237
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.89	0.37		0.24	0.85		0.82	0.66		0.32	0.89	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 24 (20%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 97.4%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 13: US 401 & Academy Street



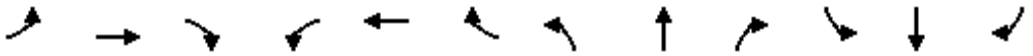


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	21	18	36	10	126	6	394	32	219	681	17
Future Volume (vph)	10	21	18	36	10	126	6	394	32	219	681	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.861			0.989			0.996	
Flt Protected		0.990		0.950			0.950			0.950		
Satd. Flow (prot)	0	1760	0	1787	1622	0	1735	1806	0	1823	1874	0
Flt Permitted		0.927		0.770			0.311			0.468		
Satd. Flow (perm)	0	1648	0	1449	1622	0	568	1806	0	898	1874	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1404			1928			2641			854	
Travel Time (s)		38.3			52.6			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	40	151	0	7	474	0	243	776	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	33.0	33.0		33.0	33.0		87.0	87.0		87.0	87.0	
Total Split (%)	27.5%	27.5%		27.5%	27.5%		72.5%	72.5%		72.5%	72.5%	
Maximum Green (s)	28.1	28.1		27.7	27.7		81.8	81.8		81.6	81.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.8		16.8	16.8		93.2	93.2		93.2	93.2	
Actuated g/C Ratio		0.14		0.14	0.14		0.78	0.78		0.78	0.78	
v/c Ratio		0.23		0.20	0.67		0.02	0.34		0.35	0.53	
Control Delay		46.5		45.9	62.8		3.2	4.2		2.0	2.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.3	
Total Delay		46.5		45.9	62.8		3.2	4.2		2.0	2.5	
LOS		D		D	E		A	A		A	A	
Approach Delay		46.5			59.2			4.2			2.4	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		38		28	112		1	50		13	43	
Queue Length 95th (ft)		73		58	175		m2	81		m16	m50	
Internal Link Dist (ft)		1324			1848			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		384		338	378		441	1403		697	1456	
Starvation Cap Reductn		0		0	0		0	0		0	203	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.14		0.12	0.40		0.02	0.34		0.35	0.62	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 79 (66%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 14: US 401 & Vance Street



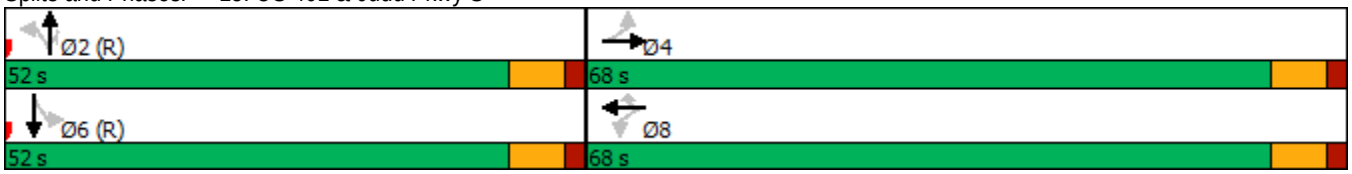
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	290	72	374	212	53	57	390	378	63	523	74
Future Volume (vph)	59	290	72	374	212	53	57	390	378	63	523	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	100		125	50		0	150		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.970				0.850			0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1798	0	1761	1853	1575	1752	1845	1568	1770	1827	0
Flt Permitted	0.577			0.427			0.085			0.314		
Satd. Flow (perm)	1069	1798	0	791	1853	1575	157	1845	1568	585	1827	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2548			1513			355			505	
Travel Time (s)		38.6			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	402	0	416	236	59	63	433	420	70	663	0
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	68.0	68.0		68.0	68.0	68.0	52.0	52.0	52.0	52.0	52.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%	56.7%	43.3%	43.3%	43.3%	43.3%	43.3%	
Maximum Green (s)	61.0	61.0		61.0	61.0	61.0	45.0	45.0	45.0	45.0	45.0	

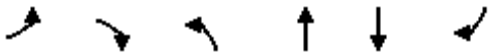
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		7.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	63.0	63.0		61.0	63.0	63.0	47.0	47.0	47.0	47.0	47.0	
Actuated g/C Ratio	0.52	0.52		0.51	0.52	0.52	0.39	0.39	0.39	0.39	0.39	
v/c Ratio	0.12	0.43		1.03	0.24	0.07	1.03	0.60	0.68	0.31	0.93	
Control Delay	15.2	19.2		84.7	16.3	14.5	158.7	25.6	29.4	15.6	41.7	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.2	19.2		84.7	16.3	14.5	158.7	25.6	29.4	15.6	41.7	
LOS	B	B		F	B	B	F	C	C	B	D	
Approach Delay		18.6			56.2			36.5			39.2	
Approach LOS		B			E			D			D	
Queue Length 50th (ft)	25	184		~347	96	22	~53	278	281	25	499	
Queue Length 95th (ft)	50	263		#546	146	44	#146	203	221	52	#714	
Internal Link Dist (ft)		2468			1433			275			425	
Turn Bay Length (ft)	75			100		125	50			150		
Base Capacity (vph)	561	943		402	972	826	61	722	614	229	715	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.43		1.03	0.24	0.07	1.03	0.60	0.68	0.31	0.93	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 4 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 39.2 Intersection LOS: D
Intersection Capacity Utilization 97.4% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	185	18	14	554	855	261
Future Volume (vph)	185	18	14	554	855	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.988					0.850
Flt Protected	0.956		0.950			
Satd. Flow (prot)	1795	0	1805	3505	3539	1615
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1795	0	1805	3505	3539	1615
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2406	1444	
Travel Time (s)	43.2			46.9	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	0	16	616	950	290
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	27.6

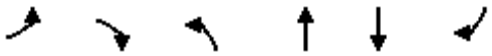
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	185	18	14	554	855	261
Future Vol, veh/h	185	18	14	554	855	261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	206	20	16	616	950	290

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1290	475	1240	0	-	0
Stage 1	950	-	-	-	-	-
Stage 2	340	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	~ 158	541	569	-	-	-
Stage 1	341	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 154	541	569	-	-	-
Mov Cap-2 Maneuver	~ 154	-	-	-	-	-
Stage 1	331	-	-	-	-	-
Stage 2	698	-	-	-	-	-

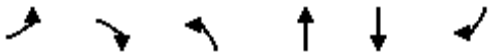
Approach	EB	NB	SB
HCM Control Delay, s	255.3	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	569	-	164	-	-
HCM Lane V/C Ratio	0.027	-	1.375	-	-
HCM Control Delay (s)	11.5	-	255.3	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	13.8	-	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	741	457	549	733	61
Future Volume (vph)	21	741	457	549	733	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	2			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	0.95
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	3400	3505	3497	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	3400	3505	3497	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2775	
Travel Time (s)	27.4			15.8	34.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	823	508	610	882	0
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (ft)	20	20	20	100	100	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	20	20	20	6	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	14.0	14.0	
Minimum Split (s)	25.0	14.0	14.0	25.0	25.0	
Total Split (s)	25.0	52.0	52.0	95.0	43.0	
Total Split (%)	20.8%	43.3%	43.3%	79.2%	35.8%	
Maximum Green (s)	18.0	45.0	45.0	88.0	36.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	



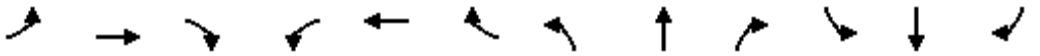
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Walk Time (s)	7.0			7.0	7.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	9.6	63.3	54.3	108.0	46.7	
Actuated g/C Ratio	0.08	0.53	0.45	0.90	0.39	
v/c Ratio	0.16	0.97	0.33	0.19	0.65	
Control Delay	53.7	51.9	15.3	0.4	25.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	51.9	15.3	0.4	25.4	
LOS	D	D	B	A	C	
Approach Delay	51.9			7.2	25.4	
Approach LOS	D			A	C	
Queue Length 50th (ft)	17	527	161	0	267	
Queue Length 95th (ft)	44	#883	56	22	m270	
Internal Link Dist (ft)	2133			1196	2695	
Turn Bay Length (ft)			150			
Base Capacity (vph)	300	852	1538	3154	1360	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.08	0.97	0.33	0.19	0.65	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 72 (60%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 26.1 Intersection LOS: C
Intersection Capacity Utilization 76.4% ICU Level of Service D
Analysis Period (min) 15

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 17: US 401 & Piney Grove Rawls Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	33	28	26	38	111	41	870	55	197	1207	70
Future Volume (vph)	26	33	28	26	38	111	41	870	55	197	1207	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.932			0.888			0.991			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	1770	1654	0	1752	3473	0	1770	3511	0
Flt Permitted	0.464			0.713			0.145			0.950		
Satd. Flow (perm)	864	1736	0	1328	1654	0	267	3473	0	1770	3511	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	68	0	29	165	0	46	1028	0	219	1419	0
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		5.0	14.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		12.0	25.0	
Total Split (s)	26.0	26.0		26.0	26.0		65.0	65.0		29.0	94.0	
Total Split (%)	21.7%	21.7%		21.7%	21.7%		54.2%	54.2%		24.2%	78.3%	
Maximum Green (s)	19.0	19.0		19.0	19.0		58.0	58.0		22.0	87.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	

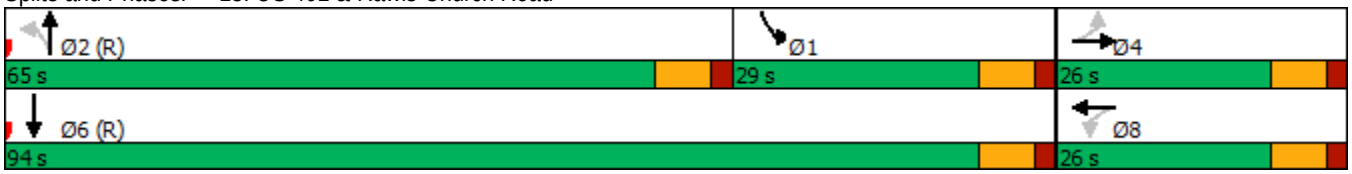
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	18.2	18.2		18.2	18.2		65.1	65.1		21.7	91.8	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.54	0.54		0.18	0.76	
v/c Ratio	0.22	0.26		0.14	0.66		0.32	0.55		0.69	0.53	
Control Delay	47.6	46.3		44.3	60.3		26.6	20.5		53.6	7.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.6	46.3		44.3	60.3		26.6	20.5		53.6	7.0	
LOS	D	D		D	E		C	C		D	A	
Approach Delay		46.7			57.9			20.8			13.2	
Approach LOS		D			E			C			B	
Queue Length 50th (ft)	20	47		20	121		19	267		160	115	
Queue Length 95th (ft)	49	89		48	193		60	376		m195	m344	
Internal Link Dist (ft)		2800			3220			2228			1196	
Turn Bay Length (ft)							275			150		
Base Capacity (vph)	152	305		234	291		146	1911		366	2688	
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	0.19	0.22		0.12	0.57		0.32	0.54		0.60	0.53	

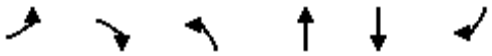
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 99 (83%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 19.9 Intersection LOS: B
Intersection Capacity Utilization 78.6% ICU Level of Service D
Analysis Period (min) 15

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

Splits and Phases: 18: US 401 & Rawls Church Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	13	6	952	1251	11
Future Volume (vph)	14	13	6	952	1251	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.937				0.999	
Flt Protected	0.974		0.950			
Satd. Flow (prot)	1700	0	1805	3505	3536	0
Flt Permitted	0.974		0.950			
Satd. Flow (perm)	1700	0	1805	3505	3536	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1976			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	7	1058	1402	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	13	6	952	1251	11
Future Vol, veh/h	14	13	6	952	1251	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	16	14	7	1058	1390	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1939	701	1402	0	-	0
Stage 1	1396	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	57	381	493	-	-	-
Stage 1	195	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	56	381	493	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	192	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	59.5	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	493	-	95	-	-
HCM Lane V/C Ratio	0.014	-	0.316	-	-
HCM Control Delay (s)	12.4	-	59.5	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	75	120	861	69	239	1040
Future Volume (vph)	75	120	861	69	239	1040
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.989			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3466	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3466	0	1770	3539
Link Speed (mph)	55		45			45
Link Distance (ft)	2957		1355			6809
Travel Time (s)	36.7		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	83	133	1034	0	266	1156
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	42.9

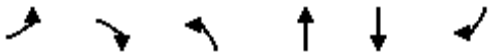
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	75	120	861	69	239	1040
Future Vol, veh/h	75	120	861	69	239	1040
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	83	133	957	77	266	1156

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2106	517	0	0	1034	0
Stage 1	996	-	-	-	-	-
Stage 2	1110	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 44	503	-	-	668	-
Stage 1	318	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 26	503	-	-	668	-
Mov Cap-2 Maneuver	~ 26	-	-	-	-	-
Stage 1	318	-	-	-	-	-
Stage 2	167	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 511.9	0	2.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	26	503	668	-
HCM Lane V/C Ratio	-	-	3.205	0.265	0.398	-
HCM Control Delay (s)	-	-	$ 1307.4	14.7	13.9	-
HCM Lane LOS	-	-	F	B	B	-
HCM 95th %tile Q(veh)	-	-	10.2	1.1	1.9	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	107	11	8	823	1005	109
Future Volume (vph)	107	11	8	823	1005	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.988				0.985	
Flt Protected	0.957		0.950			
Satd. Flow (prot)	1761	0	1752	3505	3486	0
Flt Permitted	0.957		0.950			
Satd. Flow (perm)	1761	0	1752	3505	3486	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2836			4214	1355	
Travel Time (s)	77.3			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	131	0	9	914	1238	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	17.4

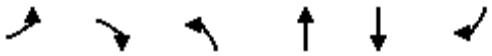
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	107	11	8	823	1005	109
Future Vol, veh/h	107	11	8	823	1005	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	119	12	9	914	1117	121

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1653	619	1238	0	-	0
Stage 1	1178	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.16	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.23	-	-	-
Pot Cap-1 Maneuver	~ 89	432	553	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 88	432	553	-	-	-
Mov Cap-2 Maneuver	~ 88	-	-	-	-	-
Stage 1	251	-	-	-	-	-
Stage 2	592	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 304.1	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	553	-	95	-	-
HCM Lane V/C Ratio	0.016	-	1.38	-	-
HCM Control Delay (s)	11.6	-	$ 304.1	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0	-	9.6	-	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	32	50	778	907	11
Future Volume (vph)	40	32	50	778	907	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.939				0.998	
Flt Protected	0.973		0.950			
Satd. Flow (prot)	1702	0	1770	3539	3532	0
Flt Permitted	0.973		0.950			
Satd. Flow (perm)	1702	0	1770	3539	3532	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1856			2358	4214	
Travel Time (s)	50.6			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	56	864	1020	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	32	50	778	907	11
Future Vol, veh/h	40	32	50	778	907	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	36	56	864	1008	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1558	510	1020	0	-	0
Stage 1	1014	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	103	509	676	-	-	-
Stage 1	311	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	94	509	676	-	-	-
Mov Cap-2 Maneuver	94	-	-	-	-	-
Stage 1	285	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	55.4	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	676	-	147	-	-
HCM Lane V/C Ratio	0.082	-	0.544	-	-
HCM Control Delay (s)	10.8	-	55.4	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	2.7	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	114	8	757	106	9	902
Future Volume (vph)	114	8	757	106	9	902
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.991		0.982			
Flt Protected	0.955				0.950	
Satd. Flow (prot)	1763	0	3454	0	1805	3539
Flt Permitted	0.955				0.950	
Satd. Flow (perm)	1763	0	3454	0	1805	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1355		4391			2358
Travel Time (s)	37.0		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	959	0	10	1002
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	9.8

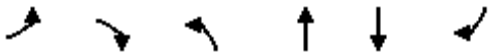
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	114	8	757	106	9	902
Future Vol, veh/h	114	8	757	106	9	902
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	127	9	841	118	10	1002

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1421	480	0	0	959	0
Stage 1	900	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	127	532	-	-	725	-
Stage 1	357	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 125	532	-	-	725	-
Mov Cap-2 Maneuver	~ 125	-	-	-	-	-
Stage 1	357	-	-	-	-	-
Stage 2	553	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	150.8	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	132	725	-
HCM Lane V/C Ratio	-	-	1.027	0.014	-
HCM Control Delay (s)	-	-	150.8	10	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	7.4	0	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	28	39	65	888	911	58
Future Volume (vph)	28	39	65	888	911	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.922					0.850
Flt Protected	0.979		0.950			
Satd. Flow (prot)	1681	0	1805	3505	3539	1615
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1681	0	1805	3505	3539	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2280			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	72	987	1012	64
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	39	65	888	911	58
Future Vol, veh/h	28	39	65	888	911	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	31	43	72	987	1012	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1650	506	1076	0	-	0
Stage 1	1012	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	90	512	656	-	-	-
Stage 1	312	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	80	512	656	-	-	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	278	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	47.1	0.8	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	656	-	157	-	-
HCM Lane V/C Ratio	0.11	-	0.474	-	-
HCM Control Delay (s)	11.2	-	47.1	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.4	-	2.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	26	178	776	18	150	800
Future Volume (vph)	26	178	776	18	150	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.882			0.850		
Flt Protected	0.994				0.950	
Satd. Flow (prot)	1666	0	3505	1615	1805	3539
Flt Permitted	0.994				0.950	
Satd. Flow (perm)	1666	0	3505	1615	1805	3539
Link Speed (mph)	35		55			55
Link Distance (ft)	1133		2530			954
Travel Time (s)	22.1		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	227	0	862	20	167	889
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	178	776	18	150	800
Future Vol, veh/h	26	178	776	18	150	800
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	29	198	862	20	167	889

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1641	431	0	0	882	0
Stage 1	862	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	93	578	-	-	775	-
Stage 1	379	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	73	578	-	-	775	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	379	-	-	-	-	-
Stage 2	328	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	43.7	0	1.7
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	307	775	-
HCM Lane V/C Ratio	-	-	0.738	0.215	-
HCM Control Delay (s)	-	-	43.7	10.9	-
HCM Lane LOS	-	-	E	B	-
HCM 95th %tile Q(veh)	-	-	5.5	0.8	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	44	33	916	78	94	770
Future Volume (vph)	44	33	916	78	94	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.942		0.988			
Flt Protected	0.972				0.950	
Satd. Flow (prot)	1706	0	3471	0	1805	3539
Flt Permitted	0.972				0.950	
Satd. Flow (perm)	1706	0	3471	0	1805	3539
Link Speed (mph)	25		55			55
Link Distance (ft)	2094		1122			5420
Travel Time (s)	57.1		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	1105	0	104	856
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

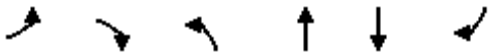
Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	33	916	78	94	770
Future Vol, veh/h	44	33	916	78	94	770
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	49	37	1018	87	104	856

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1698	553	0	0	1105	0
Stage 1	1062	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	83	477	-	-	639	-
Stage 1	294	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	69	477	-	-	639	-
Mov Cap-2 Maneuver	69	-	-	-	-	-
Stage 1	294	-	-	-	-	-
Stage 2	409	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	108	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	109	639	-
HCM Lane V/C Ratio	-	-	0.785	0.163	-
HCM Control Delay (s)	-	-	108	11.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.4	0.6	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	101	174	757	792	23
Future Volume (vph)	16	101	174	757	792	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.884				0.996	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1635	0	1805	3505	3527	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1635	0	1805	3505	3527	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2381			4450	1122	
Travel Time (s)	36.1			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	130	0	193	841	906	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

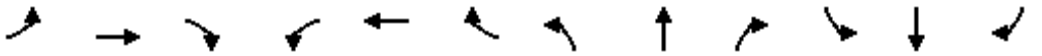
Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	101	174	757	792	23
Future Vol, veh/h	16	101	174	757	792	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	18	112	193	841	880	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1700	453	906	0	-	0
Stage 1	893	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	83	554	759	-	-	-
Stage 1	360	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	62	554	759	-	-	-
Mov Cap-2 Maneuver	62	-	-	-	-	-
Stage 1	269	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.8	2.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	759	-	266	-	-
HCM Lane V/C Ratio	0.255	-	0.489	-	-
HCM Control Delay (s)	11.4	-	30.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	1	-	2.5	-	-

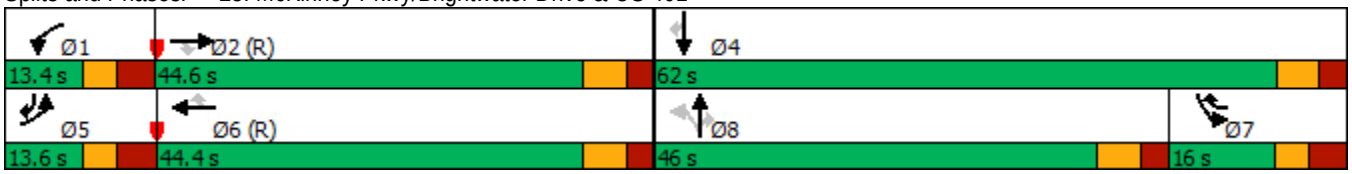


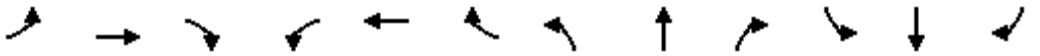
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	623	161	38	791	41	319	10	101	177	10	4
Future Volume (vph)	4	623	161	38	791	41	319	10	101	177	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.750			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1383	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	692	179	42	879	46	354	11	112	197	11	4
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	13.6	44.6	44.6	13.4	44.4	16.0	46.0	46.0	46.0	16.0	62.0	13.6
Total Split (%)	11.3%	37.2%	37.2%	11.2%	37.0%	13.3%	38.3%	38.3%	38.3%	13.3%	51.7%	11.3%
Maximum Green (s)	7.0	38.2	38.2	7.0	38.0	9.4	39.5	39.5	39.5	9.4	55.5	7.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	45.9	45.9	8.6	54.1	69.9	36.3	36.3	36.3	11.8	53.2	66.8
Actuated g/C Ratio	0.07	0.38	0.38	0.07	0.45	0.58	0.30	0.30	0.30	0.10	0.44	0.56
v/c Ratio	0.02	0.51	0.29	0.32	0.55	0.05	0.85	0.02	0.24	0.58	0.01	0.00
Control Delay	52.0	32.3	30.4	55.1	18.3	4.7	57.5	26.4	31.3	59.1	16.4	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	32.3	30.4	55.1	18.3	4.7	57.5	26.4	31.3	59.1	16.4	10.0
LOS	D	C	C	E	B	A	E	C	C	E	B	A
Approach Delay		32.0			19.2			50.6			55.9	
Approach LOS		C			B			D			E	
Queue Length 50th (ft)	1	235	105	30	226	4	252	6	64	74	4	1
Queue Length 95th (ft)	7	297	168	66	393	21	363	19	107	117	15	6
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	250	1372	626	130	1587	933	477	636	540	343	898	885
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.50	0.29	0.32	0.55	0.05	0.74	0.02	0.21	0.57	0.01	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 72 (60%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 32.6		Intersection LOS: C	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401



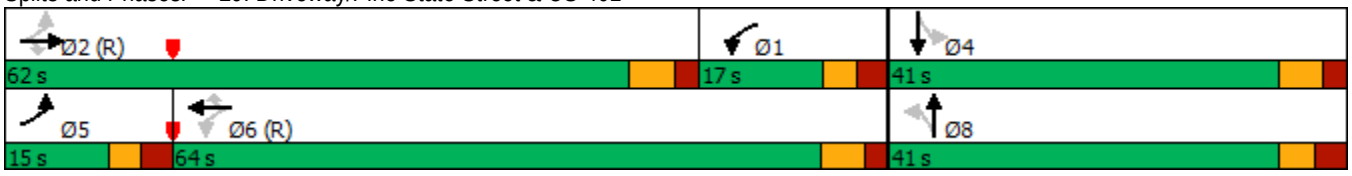


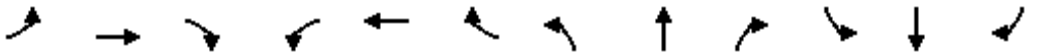
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	859	46	100	728	69	97	4	80	79	4	45
Future Volume (vph)	51	859	46	100	728	69	97	4	80	79	4	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.856			0.861	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1579	0	1778	1612	0
Flt Permitted	0.290			0.300			0.722			0.669		
Satd. Flow (perm)	548	3522	1607	576	3540	1631	1331	1579	0	1252	1612	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	954	51	111	809	77	108	93	0	88	54	0
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	15.0	62.0	62.0	17.0	64.0	64.0	41.0	41.0		41.0	41.0	
Total Split (%)	12.5%	51.7%	51.7%	14.2%	53.3%	53.3%	34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	9.2	55.8	55.8	11.1	57.8	57.8	34.8	34.8		34.8	34.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	80.8	80.8	80.8	83.1	83.1	83.1	16.3	16.3		16.3	16.3	
Actuated g/C Ratio	0.67	0.67	0.67	0.69	0.69	0.69	0.14	0.14		0.14	0.14	
v/c Ratio	0.13	0.40	0.05	0.23	0.33	0.07	0.60	0.43		0.52	0.25	
Control Delay	2.8	3.9	2.4	1.4	0.9	0.9	61.6	52.6		57.9	47.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	2.8	3.9	2.4	1.4	0.9	0.9	61.6	52.6		57.9	47.1	
LOS	A	A	A	A	A	A	E	D		E	D	
Approach Delay		3.8			0.9			57.4			53.8	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	4	92	4	3	11	2	80	67		64	38	
Queue Length 95th (ft)	m20	113	m19	m7	m23	m5	133	114		113	73	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	472	2371	1082	543	2451	1129	399	473		375	483	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.12	0.40	0.05	0.20	0.33	0.07	0.27	0.20		0.23	0.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 25 (21%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 54.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 29: Driveway/Pine State Street & US 401





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	369	534	567	390	144	434	645	584	61	464	54
Future Volume (vph)	149	369	534	567	390	144	434	645	584	61	464	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		600	450		625	600		0	125		0
Storage Lanes	1		2	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.960				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3381	0	1752	1844	1567	1787	3517	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3381	0	1752	1844	1567	1787	3517	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	410	593	630	593	0	482	717	649	68	576	0
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	14.0	26.4		28.1	40.5		19.0	52.4		13.1	46.5	
Total Split (%)	11.7%	22.0%		23.4%	33.8%		15.8%	43.7%		10.9%	38.8%	
Maximum Green (s)	7.4	20.0		21.3	34.0		13.6	46.3		7.0	40.0	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-0.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		6.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	16.0	21.4	46.6	22.1	28.5		28.0	50.0	72.1	8.1	27.5	
Actuated g/C Ratio	0.13	0.18	0.39	0.18	0.24		0.23	0.42	0.60	0.07	0.23	
v/c Ratio	0.71	0.65	0.55	1.00	0.74		1.18	0.93	0.69	0.57	0.72	
Control Delay	57.4	39.3	16.0	85.4	47.8		144.0	54.8	14.4	72.9	47.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	57.4	39.3	16.0	85.4	47.8		144.0	54.8	14.4	72.9	47.6	
LOS	E	D	B	F	D		F	D	B	E	D	
Approach Delay		30.1			67.2			63.9			50.3	
Approach LOS		C			E			E			D	
Queue Length 50th (ft)	130	166	136	~254	224		~447	542	204	52	217	
Queue Length 95th (ft)	#301	196	235	#378	269		#732	#802	294	#109	261	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		600	450			600			125		
Base Capacity (vph)	235	631	1083	629	1000		409	768	941	120	1216	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.65	0.55	1.00	0.59		1.18	0.93	0.69	0.57	0.47	

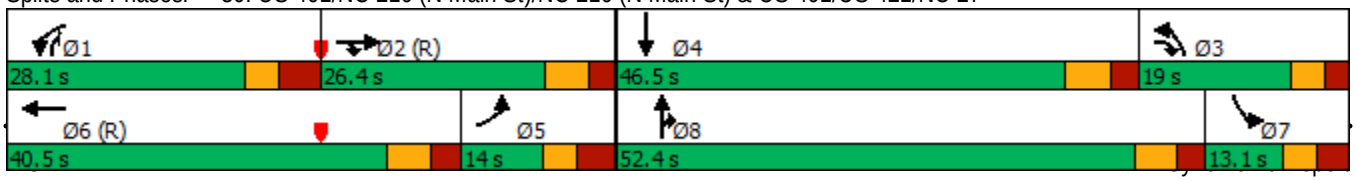
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 23 (19%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 54.8 Intersection LOS: D
Intersection Capacity Utilization 82.8% ICU Level of Service E
Analysis Period (min) 15

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

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

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	482	2478
Future Volume (vph)	0	0	0	0	482	2478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	6408
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	196		175			940
Travel Time (s)	4.5		2.2			11.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	536	2753
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations				↑↑↑		↱↱↱
Traffic Volume (vph)	0	0	0	1443	0	2757
Future Volume (vph)	0	0	0	1443	0	2757
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.76
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	0	3574
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	0	3574
Link Speed (mph)	55			30	55	
Link Distance (ft)	535			538	3247	
Travel Time (s)	6.6			12.2	40.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1603	0	3063
Sign Control	Stop			Free	Free	

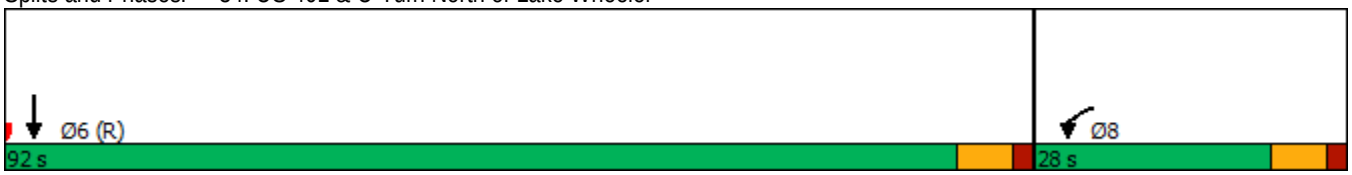
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.6%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	186	0	0	0	0	2757
Future Volume (vph)	186	0	0	0	0	2757
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5034
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5034
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	104		881			535
Travel Time (s)	2.8		10.9			6.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	207	0	0	0	0	3063
Number of Detectors	1					2
Detector Template	Left					Thru
Leading Detector (ft)	20					100
Trailing Detector (ft)	0					0
Detector 1 Position(ft)	0					0
Detector 1 Size(ft)	20					6
Detector 1 Type	Cl+Ex					Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0					0.0
Detector 1 Queue (s)	0.0					0.0
Detector 1 Delay (s)	0.0					0.0
Detector 2 Position(ft)						94
Detector 2 Size(ft)						6
Detector 2 Type						Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)						0.0
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	28.0					92.0
Total Split (%)	23.3%					76.7%
Maximum Green (s)	21.0					85.0
Yellow Time (s)	5.0					5.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	20.0					90.0
Actuated g/C Ratio	0.17					0.75
v/c Ratio	0.70					0.81
Control Delay	60.1					12.4
Queue Delay	0.0					0.0
Total Delay	60.1					12.4
LOS	E					B
Approach Delay	60.1					12.4
Approach LOS	E					B
Queue Length 50th (ft)	148					501
Queue Length 95th (ft)	227					607
Internal Link Dist (ft)	24		801			455
Turn Bay Length (ft)						
Base Capacity (vph)	339					3773
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.61					0.81

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 3 (3%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 88.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 34: US 401 & U-Turn North of Lake Wheeler

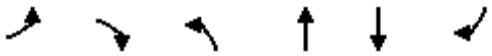


Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	0	0	186	1443	0	0
Future Volume (vph)	0	0	186	1443	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	25			55	30	
Link Distance (ft)	104			1061	538	
Travel Time (s)	2.8			13.2	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	207	1603	0	0
Sign Control	Stop			Free	Stop	

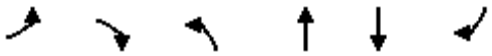
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	209	3005
Future Volume (vph)	0	0	0	0	209	3005
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	300	
Storage Lanes	0	0		0	2	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	3433	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	3433	5085
Link Speed (mph)	25		55			55
Link Distance (ft)	102		712			1038
Travel Time (s)	2.8		8.8			12.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	232	3339
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	209	0	0	1479	0	0
Future Volume (vph)	209	0	0	1479	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	102			705	888	
Travel Time (s)	2.8			8.7	11.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	232	0	0	1643	0	0
Number of Detectors	1			2		
Detector Template	Left			Thru		
Leading Detector (ft)	20			100		
Trailing Detector (ft)	0			0		
Detector 1 Position(ft)	0			0		
Detector 1 Size(ft)	20			6		
Detector 1 Type	Cl+Ex			Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0		
Detector 1 Queue (s)	0.0			0.0		
Detector 1 Delay (s)	0.0			0.0		
Detector 2 Position(ft)				94		
Detector 2 Size(ft)				6		
Detector 2 Type				Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)				0.0		
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	14.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	25.0			35.0		
Total Split (%)	41.7%			58.3%		
Maximum Green (s)	18.0			28.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						

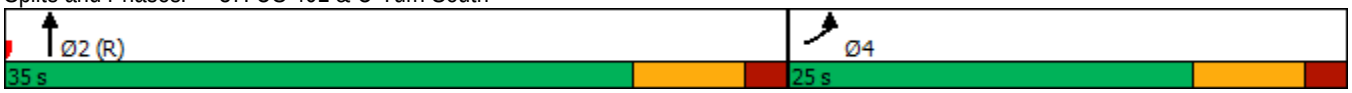


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Min		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.0			34.0		
Actuated g/C Ratio	0.27			0.57		
v/c Ratio	0.25			0.57		
Control Delay	16.9			7.1		
Queue Delay	0.0			0.0		
Total Delay	16.9			7.1		
LOS	B			A		
Approach Delay	16.9			7.1		
Approach LOS	B			A		
Queue Length 50th (ft)	44			66		
Queue Length 95th (ft)	m44			168		
Internal Link Dist (ft)	22			625	808	
Turn Bay Length (ft)						
Base Capacity (vph)	1144			2881		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.20			0.57		

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 11 (18%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 51.1%		ICU Level of Service A	
Analysis Period (min) 15			

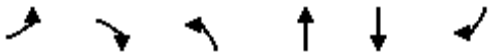
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 37: US 401 & U-Turn South



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	0	0	0	1480	0	3006
Future Volume (vph)	0	0	0	1480	0	3006
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.76	1.00	0.91
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	0	0	3610	0	5085
Flt Permitted						
Satd. Flow (perm)	0	0	0	3610	0	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	705		1194			712
Travel Time (s)	16.0		14.8			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1644	0	3340
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			

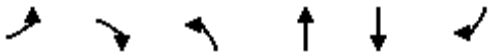


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	250	1436	0	0
Future Volume (vph)	0	0	250	1436	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	183			888	161	
Travel Time (s)	4.2			11.0	2.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	278	1596	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 116.5%		ICU Level of Service H	
Analysis Period (min) 15			

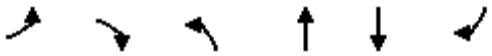
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	82	2861
Future Volume (vph)	0	0	0	0	82	2861
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1752	6344
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1752	6344
Link Speed (mph)	30		55			55
Link Distance (ft)	216		202			881
Travel Time (s)	4.9		2.5			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	91	3179
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 71.9%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	219	1559	0	0
Future Volume (vph)	0	0	219	1559	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	223			894	213	
Travel Time (s)	5.1			11.1	2.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	243	1732	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 114.3%		ICU Level of Service H	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	187	1453	0	0
Future Volume (vph)	0	0	187	1453	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	25			55	55	
Link Distance (ft)	100			1119	395	
Travel Time (s)	2.7			13.9	4.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	208	1614	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	400	2750
Future Volume (vph)	0	0	0	0	400	2750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	5085
Link Speed (mph)	25		55			55
Link Distance (ft)	103		405			1091
Travel Time (s)	2.8		5.0			13.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	444	3056
Sign Control	Free		Free			Free

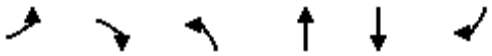
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.3%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	187	0	0	0	0	2773
Future Volume (vph)	187	0	0	0	0	2773
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5085
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5085
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	100		940			405
Travel Time (s)	2.7		11.7			5.0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	0	0	0	0	3081
Number of Detectors	1					2
Detector Template	Left					Thru
Leading Detector (ft)	20					100
Trailing Detector (ft)	0					0
Detector 1 Position(ft)	0					0
Detector 1 Size(ft)	20					6
Detector 1 Type	Cl+Ex					Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0					0.0
Detector 1 Queue (s)	0.0					0.0
Detector 1 Delay (s)	0.0					0.0
Detector 2 Position(ft)						94
Detector 2 Size(ft)						6
Detector 2 Type						Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)						0.0
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	28.0					92.0
Total Split (%)	23.3%					76.7%
Maximum Green (s)	21.0					85.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0

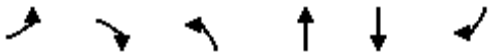
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	20.1					89.9
Actuated g/C Ratio	0.17					0.75
v/c Ratio	0.71					0.81
Control Delay	55.8					5.0
Queue Delay	0.0					0.0
Total Delay	55.8					5.0
LOS	E					A
Approach Delay	55.8					5.0
Approach LOS	E					A
Queue Length 50th (ft)	157					223
Queue Length 95th (ft)	231					238
Internal Link Dist (ft)	20		860			325
Turn Bay Length (ft)						
Base Capacity (vph)	339					3811
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.61					0.81

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 109: US 401



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	400	0	0	1378	0	0
Future Volume (vph)	400	0	0	1378	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	103			395	894	
Travel Time (s)	2.8			4.9	11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	444	0	0	1531	0	0
Number of Detectors	1			2		
Detector Template	Left			Thru		
Leading Detector (ft)	20			100		
Trailing Detector (ft)	0			0		
Detector 1 Position(ft)	0			0		
Detector 1 Size(ft)	20			6		
Detector 1 Type	Cl+Ex			Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0		
Detector 1 Queue (s)	0.0			0.0		
Detector 1 Delay (s)	0.0			0.0		
Detector 2 Position(ft)				94		
Detector 2 Size(ft)				6		
Detector 2 Type				Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)				0.0		
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	29.0			31.0		
Total Split (%)	48.3%			51.7%		
Maximum Green (s)	22.0			24.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						

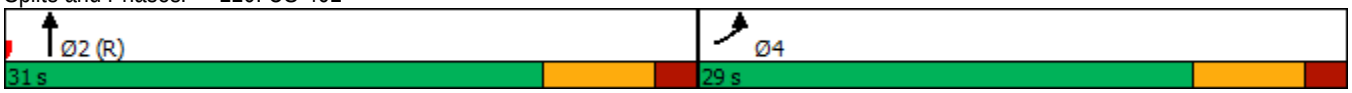


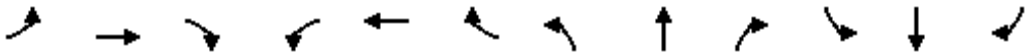
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Max		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	20.9			29.1		
Actuated g/C Ratio	0.35			0.48		
v/c Ratio	0.72			0.62		
Control Delay	19.0			7.6		
Queue Delay	0.0			0.0		
Total Delay	19.0			7.6		
LOS	B			A		
Approach Delay	19.0			7.6		
Approach LOS	B			A		
Queue Length 50th (ft)	170			67		
Queue Length 95th (ft)	m172			77		
Internal Link Dist (ft)	23			315	814	
Turn Bay Length (ft)						
Base Capacity (vph)	708			2466		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.63			0.62		

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 35 (58%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 10.1		Intersection LOS: B	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

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

Splits and Phases: 110: US 401



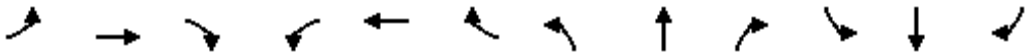


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	82	0	0	0	230	0	1399	160	0	0	0
Future Volume (vph)	0	82	0	0	0	230	0	1399	160	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	175		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00
Frt						0.850		0.985				
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5009	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5009	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		216			1034			213			1061	
Travel Time (s)		5.9			15.7			2.6			13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	0	256	0	1732	0	0	0	0
Number of Detectors		2				1		2				
Detector Template		Thru				Right		Thru				
Leading Detector (ft)		100				20		100				
Trailing Detector (ft)		0				0		0				
Detector 1 Position(ft)		0				0		0				
Detector 1 Size(ft)		6				20		6				
Detector 1 Type		Cl+Ex				Cl+Ex		Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)		0.0				0.0		0.0				
Detector 1 Queue (s)		0.0				0.0		0.0				
Detector 1 Delay (s)		0.0				0.0		0.0				
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type		NA				Prot		NA				
Protected Phases		3				3		2				
Permitted Phases												
Detector Phase		3				3		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0				
Minimum Split (s)		14.0				14.0		25.0				
Total Split (s)		18.0				18.0		42.0				
Total Split (%)		30.0%				30.0%		70.0%				
Maximum Green (s)		11.0				11.0		35.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Walk Time (s)								7.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		12.0				12.0		38.0				
Actuated g/C Ratio		0.20				0.20		0.63				
v/c Ratio		0.25				0.46		0.55				
Control Delay		22.8				23.8		3.7				
Queue Delay		0.0				0.0		0.0				
Total Delay		22.8				23.8		3.7				
LOS		C				C		A				
Approach Delay		22.8			23.8			3.7				
Approach LOS		C			C			A				
Queue Length 50th (ft)		42				46		99				
Queue Length 95th (ft)		m49				78		57				
Internal Link Dist (ft)		136			954			133			981	
Turn Bay Length (ft)						300						
Base Capacity (vph)		405				606		3180				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.22				0.42		0.54				

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 36 (60%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 47.0%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 200: US 401 & Air Park Road

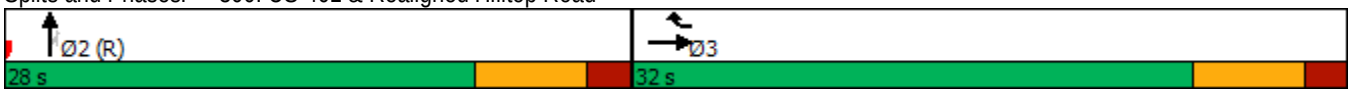


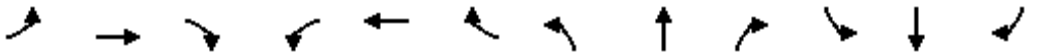
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	482	0	0	0	442	0	1198	240	0	0	0
Future Volume (vph)	0	482	0	0	0	442	0	1198	240	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	0		100	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			55			55	
Link Distance (ft)		196			1100			161			1119	
Travel Time (s)		5.3			21.4			2.0			13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	536	0	0	0	491	0	1331	267	0	0	0
Number of Detectors		2				1		2	1			
Detector Template		Thru				Right		Thru	Right			
Leading Detector (ft)		100				20		100	20			
Trailing Detector (ft)		0				0		0	0			
Detector 1 Position(ft)		0				0		0	0			
Detector 1 Size(ft)		6				20		6	20			
Detector 1 Type		Cl+Ex				Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)		0.0				0.0		0.0	0.0			
Detector 1 Queue (s)		0.0				0.0		0.0	0.0			
Detector 1 Delay (s)		0.0				0.0		0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6						6				
Detector 2 Type		Cl+Ex						Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0						0.0				
Turn Type		NA				Prot		NA	Perm			
Protected Phases		3				3		2				
Permitted Phases									2			
Detector Phase		3				3		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0	14.0			
Minimum Split (s)		14.0				14.0		25.0	25.0			
Total Split (s)		32.0				32.0		28.0	28.0			
Total Split (%)		53.3%				53.3%		46.7%	46.7%			
Maximum Green (s)		25.0				25.0		21.0	21.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)		-2.0				-2.0		-2.0	0.0			
Total Lost Time (s)		5.0				5.0		5.0	7.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Min	C-Min			
Walk Time (s)								7.0	7.0			
Flash Dont Walk (s)								11.0	11.0			
Pedestrian Calls (#/hr)								0	0			
Act Effct Green (s)		24.7				24.7		25.3	23.3			
Actuated g/C Ratio		0.41				0.41		0.42	0.39			
v/c Ratio		0.70				0.43		0.62	0.43			
Control Delay		16.9				13.4		10.7	12.6			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		16.9				13.4		10.7	12.6			
LOS		B				B		B	B			
Approach Delay		16.9			13.4			11.0				
Approach LOS		B			B			B				
Queue Length 50th (ft)		194				63		139	62			
Queue Length 95th (ft)		m273				98		173	110			
Internal Link Dist (ft)		116			1020			81			1039	
Turn Bay Length (ft)						300			100			
Base Capacity (vph)		838				1254		2147	616			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.64				0.39		0.62	0.43			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 20 (33%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 300: US 401 & Realigned Hilltop Road



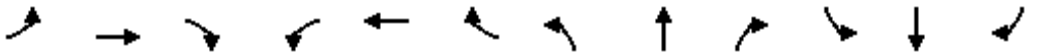


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	685	0	275	0	3178	142	75	445	4
Future Volume (vph)	0	0	4	685	0	275	0	3178	142	75	445	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	425		0	0		175	275		200
Storage Lanes	0		1	2		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	3275	0	1599	0	5009	1560	1796	4875	1607
Flt Permitted				0.950						0.033		
Satd. Flow (perm)	0	0	1611	3275	0	1599	0	5009	1560	62	4875	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			1440			1414	
Travel Time (s)		29.6			32.4			17.9			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Adj. Flow (vph)	0	0	4	761	0	306	0	3531	158	83	494	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	761	0	306	0	3531	158	83	494	4
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			1 2 6 8			8			2	6		6
Detector Phase			1 2 6 8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)				7.0		7.0		14.0	7.0	7.0	14.0	14.0
Minimum Split (s)				15.1		14.8		24.5	15.1	14.8	24.5	24.5
Total Split (s)				43.5		15.2		121.3	43.5	15.2	136.5	136.5
Total Split (%)				24.2%		8.4%		67.4%	24.2%	8.4%	75.8%	75.8%
Maximum Green (s)				36.5		8.2		114.3	36.5	8.2	129.5	129.5
Yellow Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)				2.0		2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				-2.0		-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag						Lead		Lag		Lead		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode				None		None		C-Min	None	None	C-Min	C-Min
Act Effct Green (s)			180.0	38.5		53.3		116.7	160.2	131.5	131.5	131.5
Actuated g/C Ratio			1.00	0.21		0.30		0.65	0.89	0.73	0.73	0.73
v/c Ratio			0.00	1.09		0.65		1.09	0.11	0.60	0.14	0.00
Control Delay			0.0	123.7		62.5		66.3	1.3	49.9	7.4	6.5
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			0.0	123.7		62.5		66.3	1.3	49.9	7.4	6.5
LOS			A	F		E		E	A	D	A	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					106.2			63.5			13.4	
Approach LOS					F			E			B	
Queue Length 50th (ft)			0	~517		316		~1718	17	44	59	1
Queue Length 95th (ft)			0	#652		434		#1746	m17	110	72	5
Internal Link Dist (ft)		1005			2057			1360			1334	
Turn Bay Length (ft)				425					175	275		200
Base Capacity (vph)			1611	700		477		3248	1388	143	3561	1174
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			0.00	1.09		0.64		1.09	0.11	0.58	0.14	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 163 (91%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 66.5		Intersection LOS: E	
Intersection Capacity Utilization 89.4%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: US 401 & Driveway/Banks Road

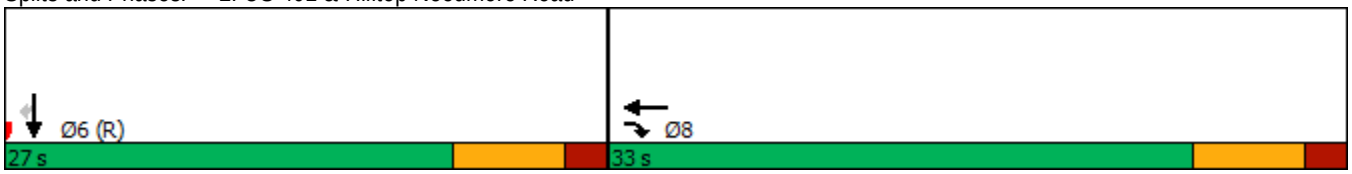


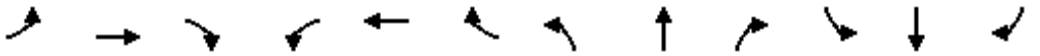
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	208	0	584	0	0	0	0	0	553	304
Future Volume (vph)	0	0	208	0	584	0	0	0	0	0	553	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			2%	
Storage Length (ft)	100		500	0		0	175		0	150		0
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Flt Permitted												
Satd. Flow (perm)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		2263			219			1091			200	
Travel Time (s)		34.3			6.0			13.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	0%	2%	2%	2%	2%	2%	2%	2%	8%	9%
Adj. Flow (vph)	0	0	231	0	649	0	0	0	0	0	614	338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	231	0	649	0	0	0	0	0	614	338
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			33.0		33.0						27.0	27.0
Total Split (%)			55.0%		55.0%						45.0%	45.0%
Maximum Green (s)			26.0		26.0						20.0	20.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			26.3		26.3						23.7	23.7
Actuated g/C Ratio			0.44		0.44						0.40	0.40
v/c Ratio			0.19		0.80						0.33	0.58
Control Delay			10.2		22.9						10.7	16.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			10.2		22.9						10.7	16.8
LOS			B		C						B	B
Approach Delay		10.2			22.9						12.9	
Approach LOS		B			C						B	
Queue Length 50th (ft)			26		180						35	54
Queue Length 95th (ft)			45		#305						48	181
Internal Link Dist (ft)		2183			139			1011			120	
Turn Bay Length (ft)			500									
Base Capacity (vph)			1326		869						1879	579
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.17		0.75						0.33	0.58

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 3 (5%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: US 401 & Hilltop Needmore Road



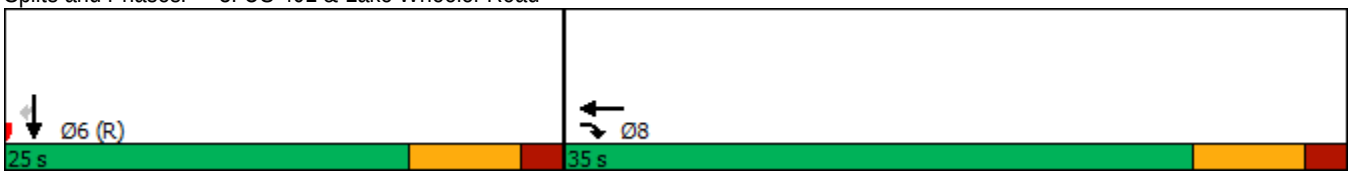


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	545	0	605	0	0	0	0	0	678	148
Future Volume (vph)	0	0	545	0	605	0	0	0	0	0	678	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		2	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		1052			173			1038			137	
Travel Time (s)		15.9			4.7			12.9			1.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	9%	40%
Adj. Flow (vph)	0	0	606	0	672	0	0	0	0	0	753	164
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	606	0	672	0	0	0	0	0	753	164
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			35.0		35.0						25.0	25.0
Total Split (%)			58.3%		58.3%						41.7%	41.7%
Maximum Green (s)			28.0		28.0						18.0	18.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	0.0
Total Lost Time (s)			5.0		5.0						5.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			28.8		28.8						21.2	19.2
Actuated g/C Ratio			0.48		0.48						0.35	0.32
v/c Ratio			0.45		0.75						0.45	0.45
Control Delay			11.3		18.7						10.2	14.5
Queue Delay			0.0		0.0						0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			11.3		18.7						10.2	14.5
LOS			B		B						B	B
Approach Delay		11.3			18.7						11.0	
Approach LOS		B			B						B	
Queue Length 50th (ft)			68		162						52	32
Queue Length 95th (ft)			111		292						61	56
Internal Link Dist (ft)		972			93			958			57	
Turn Bay Length (ft)												
Base Capacity (vph)			1410		942						1708	375
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.43		0.71						0.44	0.44

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 28 (47%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 79.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: US 401 & Lake Wheeler Road

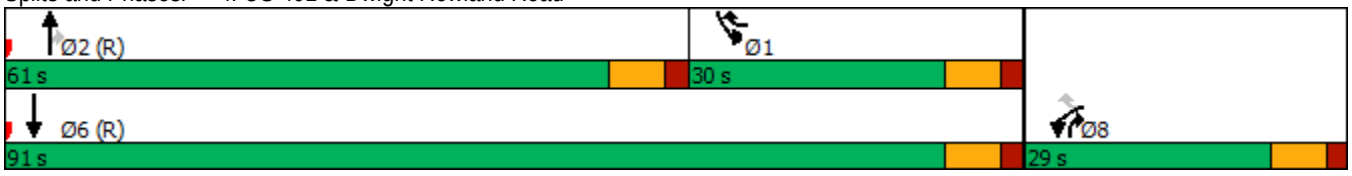


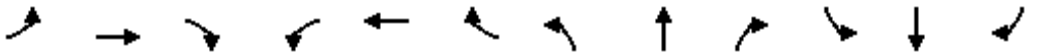
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	259	525	1930	9	73	747
Future Volume (vph)	259	525	1930	9	73	747
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125		200	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	5085	1583	1770	4759
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	5085	1583	1770	4759
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	1526		7004			1194
Travel Time (s)	23.1		86.8			14.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	2%	2%	9%
Adj. Flow (vph)	288	583	2144	10	81	830
Shared Lane Traffic (%)						
Lane Group Flow (vph)	288	583	2144	10	81	830
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	25.0	14.0	25.0	25.0	14.0	25.0
Total Split (s)	29.0	30.0	61.0	29.0	30.0	91.0
Total Split (%)	24.2%	25.0%	50.8%	24.2%	25.0%	75.8%
Maximum Green (s)	22.0	23.0	54.0	22.0	23.0	84.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	None	None	C-Max
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	23.0	53.0	57.0	85.0	25.0	87.0
Actuated g/C Ratio	0.19	0.44	0.48	0.71	0.21	0.72
v/c Ratio	0.83	0.82	0.89	0.01	0.22	0.24
Control Delay	67.5	40.1	21.6	3.8	39.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	67.5	40.1	21.6	3.8	39.9	4.7
LOS	E	D	C	A	D	A
Approach Delay	49.2		21.5			7.8
Approach LOS	D		C			A
Queue Length 50th (ft)	214	380	384	2	44	37
Queue Length 95th (ft)	#349	543	209	m3	96	62
Internal Link Dist (ft)	1446		6924			1114
Turn Bay Length (ft)		125		200	300	
Base Capacity (vph)	361	712	2416	1108	368	3450
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.82	0.89	0.01	0.22	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 6 (5%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 24.4		Intersection LOS: C	
Intersection Capacity Utilization 78.1%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: US 401 & Dwight Rowland Road



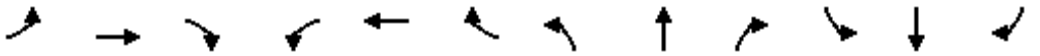


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	4	237	4	4	4	282	1698	6	4	767	167
Future Volume (vph)	146	4	237	4	4	4	282	1698	6	4	767	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1785	1576	0	1794	0	1710	4958	0	1796	4915	1607
Flt Permitted		0.723			0.910		0.270			0.106		
Satd. Flow (perm)	0	1354	1576	0	1659	0	486	4958	0	200	4915	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			7004	
Travel Time (s)		40.4			25.8			20.1			86.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Adj. Flow (vph)	162	4	263	4	4	4	313	1887	7	4	852	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	166	263	0	12	0	313	1894	0	4	852	186
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	14.9	24.5	24.5		14.9	24.2		24.2	24.2	24.2
Total Split (s)	37.0	37.0	39.0	37.0	37.0		39.0	83.0		44.0	44.0	44.0
Total Split (%)	30.8%	30.8%	32.5%	30.8%	30.8%		32.5%	69.2%		36.7%	36.7%	36.7%
Maximum Green (s)	30.0	30.0	32.0	30.0	30.0		32.0	76.0		37.0	37.0	37.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		21.9	43.2		21.9		88.1	88.1		66.8	66.8	66.8
Actuated g/C Ratio		0.18	0.36		0.18		0.73	0.73		0.56	0.56	0.56
v/c Ratio		0.67	0.46		0.04		0.60	0.52		0.04	0.31	0.21
Control Delay		58.3	30.6		37.1		5.4	3.3		13.0	10.2	10.6
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		58.3	30.6		37.1		5.4	3.3		13.0	10.2	10.6
LOS		E	C		D		A	A		B	B	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		41.3			37.1			3.6			10.3	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		121	159		8		23	50		1	74	44
Queue Length 95th (ft)		183	177		23		m43	m117		m5	160	m116
Internal Link Dist (ft)		1993			866			1540			6924	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		361	800		442		703	3638		111	2736	894
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		0.46	0.33		0.03		0.45	0.52		0.04	0.31	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 100 (83%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 10.0		Intersection LOS: A	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 401 & Mill Creek Drive



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	919	266	367	488	52	551	59	905	168	28	63
Future Volume (vph)	4	919	266	367	488	52	551	59	905	168	28	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	0		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.985				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.961			0.959	
Satd. Flow (prot)	1832	3592	1518	1702	3256	0	1602	1629	1552	0	1859	1177
Flt Permitted	0.425			0.950			0.950	0.961			0.539	
Satd. Flow (perm)	820	3592	1518	1702	3256	0	1602	1629	1552	0	1045	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2277			632			1056			648	
Travel Time (s)		34.5			9.6			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Adj. Flow (vph)	4	1021	296	408	542	58	612	66	1006	187	31	70
Shared Lane Traffic (%)							45%					
Lane Group Flow (vph)	4	1021	296	408	600	0	337	341	1006	0	218	70
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	14.6
Total Split (s)	14.6	34.0		34.0	53.4		26.0	26.0	34.0	26.0	26.0	14.6
Total Split (%)	12.2%	28.3%		28.3%	44.5%		21.7%	21.7%	28.3%	21.7%	21.7%	12.2%
Maximum Green (s)	7.6	27.0		27.0	46.4		19.0	19.0	27.0	19.0	19.0	7.6
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	38.0	29.0	120.0	29.0	51.8		21.0	21.0	50.0		21.0	35.0
Actuated g/C Ratio	0.32	0.24	1.00	0.24	0.43		0.18	0.18	0.42		0.18	0.29
v/c Ratio	0.01	1.18	0.19	0.99	0.43		1.20	1.20	1.56		1.20	0.20
Control Delay	14.2	132.6	0.3	77.8	20.9		163.2	160.3	281.2		173.0	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	14.2	132.6	0.3	77.8	20.9		163.2	160.3	281.2		173.0	34.0
LOS	B	F	A	E	C		F	F	F		F	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		102.6			43.9			233.1			139.2	
Approach LOS		F			D			F			F	
Queue Length 50th (ft)	2	~513	0	268	156		~333	~336	~1100		~204	41
Queue Length 95th (ft)	m4	#615	0	#491	221		#529	#531	#1353		#362	81
Internal Link Dist (ft)		2197			552			976			568	
Turn Bay Length (ft)	175		275						650			150
Base Capacity (vph)	344	868	1518	411	1405		280	285	646		182	349
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.01	1.18	0.19	0.99	0.43		1.20	1.20	1.56		1.20	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 32 (27%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.56			
Intersection Signal Delay: 142.4		Intersection LOS: F	
Intersection Capacity Utilization 104.7%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

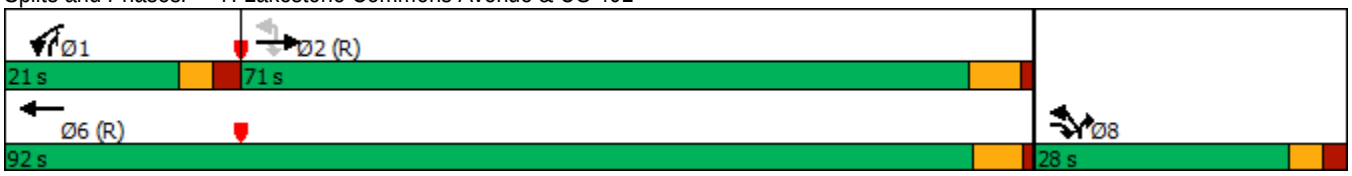
Splits and Phases: 6: NC 55/Driveway & US 401

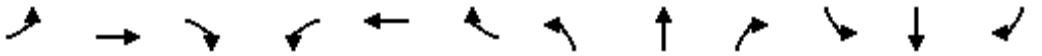
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1064	34	71	956	113	132
Future Volume (vph)	4	1064	34	71	956	113	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.269			0.950		0.950	
Satd. Flow (perm)	514	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2277	1303	
Travel Time (s)		35.0			34.5	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Adj. Flow (vph)	4	1182	38	79	1062	126	147
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1182	38	79	1062	126	147
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	71.0	71.0	28.0	21.0	92.0	28.0	
Total Split (%)	59.2%	59.2%	23.3%	17.5%	76.7%	23.3%	
Maximum Green (s)	65.1	65.1	22.7	15.6	86.5	22.7	
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lag	Lag		Lead			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	79.9	79.9	99.0	11.0	95.8	14.2	29.8
Actuated g/C Ratio	0.67	0.67	0.82	0.09	0.80	0.12	0.25
v/c Ratio	0.01	0.50	0.03	0.48	0.40	0.60	0.37
Control Delay	8.8	10.2	1.8	54.8	2.6	61.3	38.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	10.2	1.8	54.8	2.6	61.3	38.6
LOS	A	B	A	D	A	E	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay		9.9			6.2	49.1	
Approach LOS		A			A	D	
Queue Length 50th (ft)	1	167	3	63	33	94	95
Queue Length 95th (ft)	m2	244	m9	m53	m250	152	140
Internal Link Dist (ft)		2228			2197	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	342	2344	1459	239	2631	344	462
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.50	0.03	0.33	0.40	0.37	0.32

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 29 (24%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Lakestone Commons Avenue & US 401





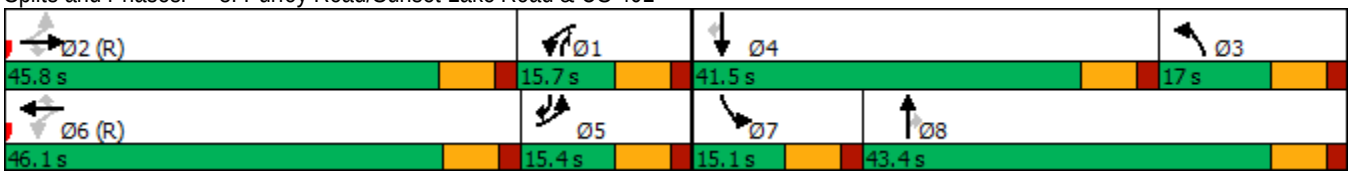
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	765	80	92	806	148	203	507	137	141	261	54
Future Volume (vph)	68	765	80	92	806	148	203	507	137	141	261	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	3646	1615	3450	3556	1591
Flt Permitted	0.197			0.218			0.950			0.950		
Satd. Flow (perm)	367	3470	1508	402	3436	1599	3502	3646	1615	3450	3556	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			801	
Travel Time (s)		15.6			45.0			27.5			15.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Adj. Flow (vph)	76	850	89	102	896	164	226	563	152	157	290	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	850	89	102	896	164	226	563	152	157	290	60
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.4	40.9	40.9	15.6	43.9	43.9	15.2	38.3	15.6	15.1	41.5	15.4
Total Split (s)	15.4	45.8	45.8	15.7	46.1	46.1	17.0	43.4	15.7	15.1	41.5	15.4
Total Split (%)	12.8%	38.2%	38.2%	13.1%	38.4%	38.4%	14.2%	36.2%	13.1%	12.6%	34.6%	12.8%
Maximum Green (s)	8.4	38.8	38.8	8.7	39.1	39.1	10.0	36.4	8.7	8.1	34.5	8.4
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		21.0	21.0		24.0	24.0		24.0			22.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	60.8	50.5	50.5	65.0	55.0	55.0	20.3	26.6	38.6	10.9	17.1	31.5
Actuated g/C Ratio	0.51	0.42	0.42	0.54	0.46	0.46	0.17	0.22	0.32	0.09	0.14	0.26
v/c Ratio	0.25	0.58	0.14	0.29	0.57	0.22	0.38	0.70	0.29	0.50	0.57	0.14
Control Delay	8.5	16.3	13.4	17.2	14.5	12.3	46.0	47.5	19.6	58.0	52.2	32.8

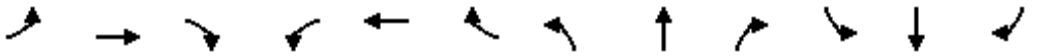
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	16.3	13.4	17.2	14.5	12.3	46.0	47.5	19.6	58.0	52.2	32.8
LOS	A	B	B	B	B	B	D	D	B	E	D	C
Approach Delay		15.5			14.4			42.6			51.7	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	9	74	15	34	198	57	78	212	59	59	112	35
Queue Length 95th (ft)	20	143	42	61	224	96	118	256	97	97	152	68
Internal Link Dist (ft)		720			2228			1334			721	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	311	1459	634	354	1574	732	593	1166	520	315	1081	421
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.58	0.14	0.29	0.57	0.22	0.38	0.48	0.29	0.50	0.27	0.14

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 20 (17%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 27.3 Intersection LOS: C
Intersection Capacity Utilization 64.6% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401



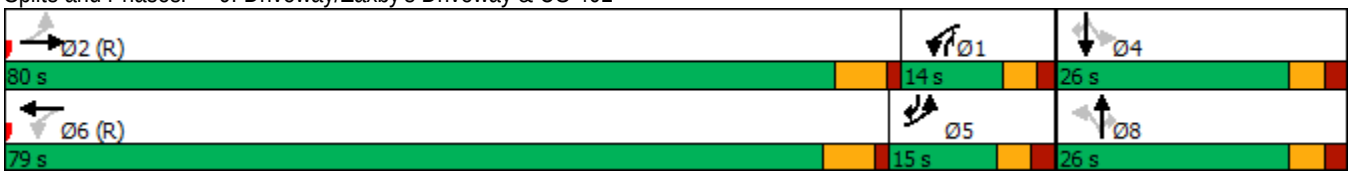


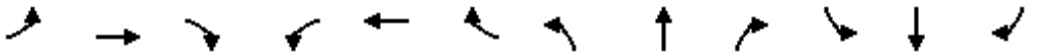
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	876	30	22	962	21	25	4	25	9	4	13
Future Volume (vph)	21	876	30	22	962	21	25	4	25	9	4	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.997				0.850			0.850
Flt Protected	0.950			0.950				0.958			0.966	
Satd. Flow (prot)	1814	3508	0	1796	3446	0	0	1820	1615	0	1826	1607
Flt Permitted	0.241			0.264				0.743			0.768	
Satd. Flow (perm)	460	3508	0	499	3446	0	0	1412	1615	0	1452	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	23	973	33	24	1069	23	28	4	28	10	4	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	23	1006	0	24	1092	0	0	32	28	0	14	14
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	15.0	80.0		14.0	79.0		26.0	26.0	14.0	26.0	26.0	15.0
Total Split (%)	12.5%	66.7%		11.7%	65.8%		21.7%	21.7%	11.7%	21.7%	21.7%	12.5%
Maximum Green (s)	9.6	74.1		9.1	73.1		20.6	20.6	9.1	20.7	20.7	9.6
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead				Lag			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	101.5	96.5		103.8	100.5			8.8	16.9		8.8	16.4
Actuated g/C Ratio	0.85	0.80		0.86	0.84			0.07	0.14		0.07	0.14
v/c Ratio	0.05	0.36		0.05	0.38			0.31	0.12		0.13	0.06
Control Delay	2.3	6.4		0.2	0.6			59.9	41.9		53.8	40.9
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay	2.3	6.4		0.2	0.6			59.9	41.9		53.8	40.9
LOS	A	A		A	A			E	D		D	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.4			0.6			51.5			47.3	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	3	183		0	5			24	18		10	9
Queue Length 95th (ft)	m6	225		m0	6			56	44		32	27
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	509	2819		531	2887			247	214		254	212
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	0.05	0.36		0.05	0.38			0.13	0.13		0.06	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 54 (45%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.38			
Intersection Signal Delay: 5.2		Intersection LOS: A	
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401





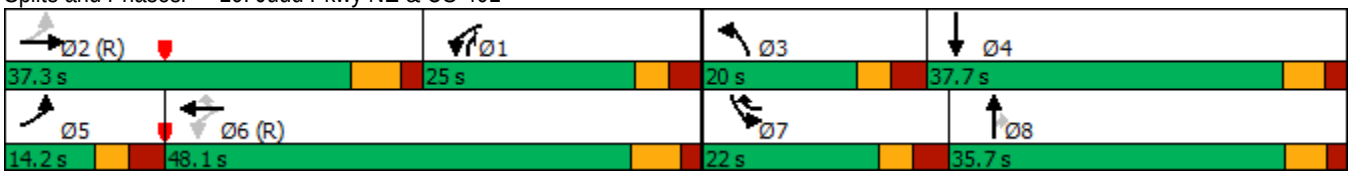
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	360	72	151	563	264	97	141	309	266	118	95
Future Volume (vph)	71	360	72	151	563	264	97	141	309	266	118	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.975				0.850			0.850		0.933	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3361	0	1770	3539	1583	1752	3504	1567	3399	3269	0
Flt Permitted	0.273			0.478			0.950			0.950		
Satd. Flow (perm)	503	3361	0	890	3539	1583	1752	3504	1567	3399	3269	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	79	400	80	168	626	293	108	157	343	296	131	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	480	0	168	626	293	108	157	343	296	237	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	14.2	37.3		25.0	48.1	22.0	20.0	35.7	25.0	22.0	37.7	
Total Split (%)	11.8%	31.1%		20.8%	40.1%	18.3%	16.7%	29.8%	20.8%	18.3%	31.4%	
Maximum Green (s)	8.0	30.9		18.9	41.7	15.7	13.8	30.0	18.9	15.7	31.8	
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	48.3	48.3		63.8	63.8	84.9	13.1	12.3	35.6	16.1	15.3	
Actuated g/C Ratio	0.40	0.40		0.53	0.53	0.71	0.11	0.10	0.30	0.13	0.13	
v/c Ratio	0.25	0.36		0.26	0.33	0.26	0.57	0.44	0.74	0.65	0.57	
Control Delay	17.5	19.4		7.5	6.6	3.4	61.9	53.8	31.3	56.2	54.6	

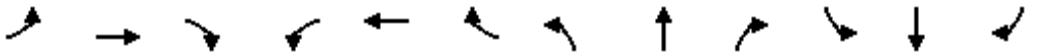
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	17.5	19.4		7.5	6.6	3.4	61.9	53.8	31.3	56.2	54.6	
LOS	B	B		A	A	A	E	D	C	E	D	
Approach Delay		19.1			5.9			42.5			55.5	
Approach LOS		B			A			D			E	
Queue Length 50th (ft)	29	153		35	75	49	80	61	155	112	92	
Queue Length 95th (ft)	46	103		58	93	74	140	92	199	160	131	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	314	1352		648	1880	1135	222	896	469	490	890	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.25	0.36		0.26	0.33	0.26	0.49	0.18	0.73	0.60	0.27	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 26.0 Intersection LOS: C
Intersection Capacity Utilization 51.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 10: Judd Pkwy NE & US 401



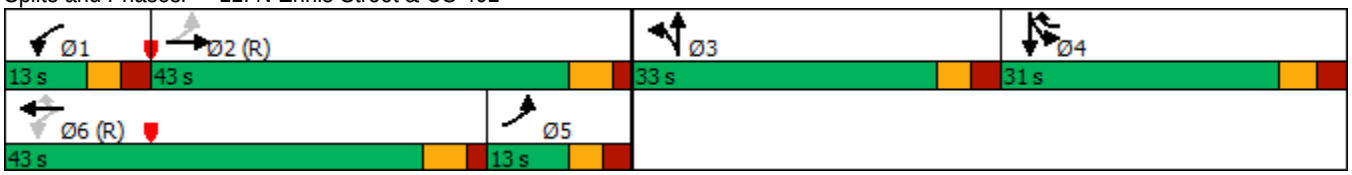


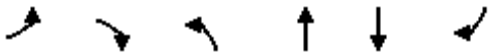
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	356	16	44	290	304	9	185	7	214	98	34
Future Volume (vph)	81	356	16	44	290	304	9	185	7	214	98	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.993				0.850		0.994			0.970	
Flt Protected	0.950			0.950			0.950			0.950	0.988	
Satd. Flow (prot)	1761	3497	0	1778	1872	1591	1725	1805	0	1698	1713	0
Flt Permitted	0.566			0.393			0.950			0.950	0.988	
Satd. Flow (perm)	1049	3497	0	736	1872	1591	1725	1805	0	1698	1713	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	90	396	18	49	322	338	10	206	8	238	109	38
Shared Lane Traffic (%)										19%		
Lane Group Flow (vph)	90	414	0	49	322	338	10	214	0	193	192	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	13.0	43.0		13.0	43.0	31.0	33.0	33.0		31.0	31.0	
Total Split (%)	10.8%	35.8%		10.8%	35.8%	25.8%	27.5%	27.5%		25.8%	25.8%	
Maximum Green (s)	7.4	37.3		7.4	37.3	24.8	27.2	27.2		24.8	24.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	51.7	51.7		49.7	49.7	77.2	20.2	20.2		22.4	22.4	
Actuated g/C Ratio	0.43	0.43		0.41	0.41	0.64	0.17	0.17		0.19	0.19	
v/c Ratio	0.18	0.27		0.13	0.42	0.33	0.03	0.70		0.61	0.60	
Control Delay	20.8	18.7		24.0	28.6	8.1	38.8	59.1		51.9	51.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	20.8	18.7		24.0	28.6	8.1	38.8	59.1		51.9	51.5	
LOS	C	B		C	C	A	D	E		D	D	
Approach Delay		19.0			18.5			58.2			51.7	
Approach LOS		B			B			E			D	
Queue Length 50th (ft)	25	65		25	194	65	7	158		145	144	
Queue Length 95th (ft)	78	161		m64	322	214	21	227		208	207	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	503	1530		376	786	1018	402	421		382	386	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.27		0.13	0.41	0.33	0.02	0.51		0.51	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 67 (56%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: N Ennis Street & US 401



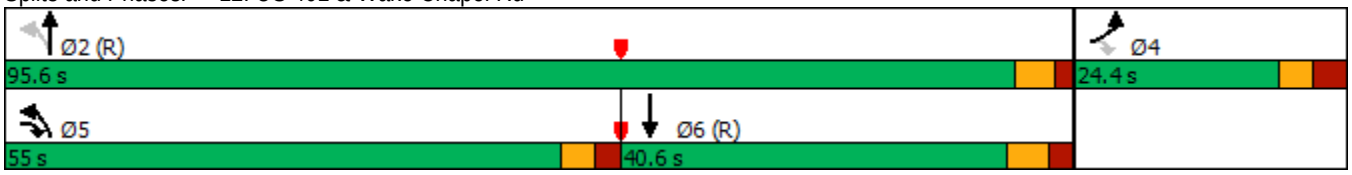


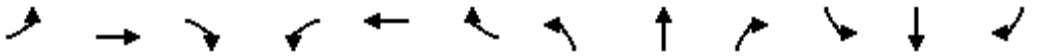
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	113	382	619	368	244	46
Future Volume (vph)	113	382	619	368	244	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.979	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1815	0
Flt Permitted	0.950		0.457			
Satd. Flow (perm)	1787	1599	835	1826	1815	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	126	424	688	409	271	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	424	688	409	322	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	24.4	55.0	55.0	95.6	40.6	
Total Split (%)	20.3%	45.8%	45.8%	79.7%	33.8%	
Maximum Green (s)	18.2	49.7	49.7	90.1	34.4	
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	14.8	51.9	96.2	95.2	59.0	
Actuated g/C Ratio	0.12	0.43	0.80	0.79	0.49	
v/c Ratio	0.58	0.61	0.76	0.28	0.36	
Control Delay	59.5	28.7	12.4	5.5	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.5	28.7	12.4	5.5	4.8	
LOS	E	C	B	A	A	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	35.7			9.8	4.8	
Approach LOS	D			A	A	
Queue Length 50th (ft)	93	250	219	119	41	
Queue Length 95th (ft)	151	225	276	131	48	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	288	941	1052	1449	892	
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	0.44	0.45	0.65	0.28	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 96 (80%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: US 401 & Wake Chapel Rd



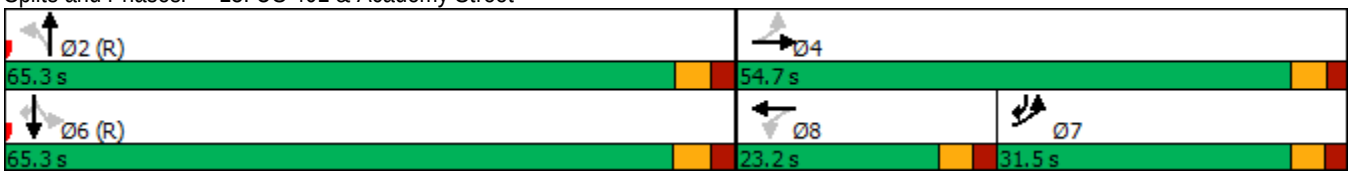


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	151	57	4	42	49	25	576	4	80	283	178
Future Volume (vph)	354	151	57	4	42	49	25	576	4	80	283	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.920			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1777	0	1761	1705	0	1796	1834	0	1787	1881	1599
Flt Permitted	0.637			0.320			0.532			0.300		
Satd. Flow (perm)	1181	1777	0	593	1705	0	1006	1834	0	564	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2068			1972			854			1797	
Travel Time (s)		56.4			53.8			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Adj. Flow (vph)	393	168	63	4	47	54	28	640	4	89	314	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	231	0	4	101	0	28	644	0	89	314	198
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	31.5	54.7		23.2	23.2		65.3	65.3		65.3	65.3	31.5
Total Split (%)	26.3%	45.6%		19.3%	19.3%		54.4%	54.4%		54.4%	54.4%	26.3%
Maximum Green (s)	26.4	49.6		18.1	18.1		59.9	59.9		59.7	59.7	26.4
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lag			Lead	Lead							Lag
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	36.6	36.6		12.5	12.5		73.4	73.4		73.2	73.4	98.0
Actuated g/C Ratio	0.30	0.30		0.10	0.10		0.61	0.61		0.61	0.61	0.82
v/c Ratio	0.87	0.43		0.07	0.57		0.05	0.57		0.26	0.27	0.15
Control Delay	60.2	34.3		48.2	63.0		6.6	9.9		11.2	9.4	2.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	60.2	34.3		48.2	63.0		6.6	9.9		11.2	9.4	2.3
LOS	E	C		D	E		A	A		B	A	A
Approach Delay		50.6			62.5			9.7			7.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)	276	145		3	76		3	166		16	56	15
Queue Length 95th (ft)	327	183		14	129		16	363		62	146	29
Internal Link Dist (ft)		1988			1892			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	561	735		89	258		614	1121		343	1149	1305
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.70	0.31		0.04	0.39		0.05	0.57		0.26	0.27	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 35 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 24.5		Intersection LOS: C	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 13: US 401 & Academy Street



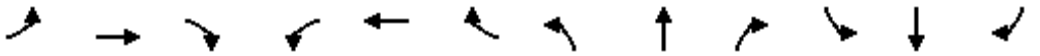
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	4	4	10	12	171	9	434	40	54	218	9
Future Volume (vph)	8	4	4	10	12	171	9	434	40	54	218	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.860			0.987			0.994	
Flt Protected		0.974		0.950			0.950			0.950		
Satd. Flow (prot)	0	1765	0	1787	1620	0	1735	1802	0	1823	1870	0
Flt Permitted		0.845		0.746			0.603			0.428		
Satd. Flow (perm)	0	1531	0	1404	1620	0	1101	1802	0	821	1870	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1404			1928			2641			854	
Travel Time (s)		38.3			52.6			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Adj. Flow (vph)	9	4	4	11	13	190	10	482	44	60	242	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	11	203	0	10	526	0	60	252	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	42.0	42.0		42.0	42.0		78.0	78.0		78.0	78.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		65.0%	65.0%		65.0%	65.0%	
Maximum Green (s)	37.1	37.1		36.7	36.7		72.8	72.8		72.6	72.6	
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		20.7		20.7	20.7		89.3	89.3		89.3	89.3	
Actuated g/C Ratio		0.17		0.17	0.17		0.74	0.74		0.74	0.74	
v/c Ratio		0.06		0.05	0.73		0.01	0.39		0.10	0.18	
Control Delay		38.9		38.3	61.3		2.2	5.4		3.2	3.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay		38.9		38.3	61.3		2.2	5.4		3.2	3.3	
LOS		D		D	E		A	A		A	A	
Approach Delay		38.9			60.1			5.4			3.3	
Approach LOS		D			E			A			A	
Queue Length 50th (ft)		11		7	150		1	187		3	14	
Queue Length 95th (ft)		30		23	218		m2	76		14	42	
Internal Link Dist (ft)		1324			1848			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		472		432	499		818	1340		610	1391	
Starvation Cap Reductn		0		0	0		0	0		0	0	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.04		0.03	0.41		0.01	0.39		0.10	0.18	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 91 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 57.3% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: US 401 & Vance Street



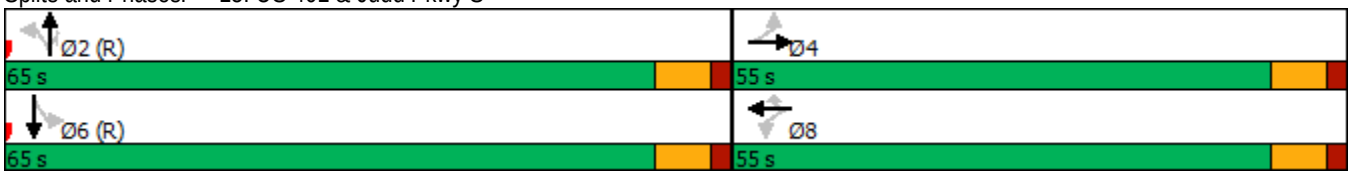
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	332	41	95	90	33	40	454	327	51	169	8
Future Volume (vph)	144	332	41	95	90	33	40	454	327	51	169	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	100		125	50		0	150		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850			0.850		0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1822	0	1761	1853	1575	1752	1845	1568	1770	1850	0
Flt Permitted	0.692			0.208			0.629			0.396		
Satd. Flow (perm)	1283	1822	0	386	1853	1575	1160	1845	1568	738	1850	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2561			1512			355			505	
Travel Time (s)		38.8			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	160	369	46	106	100	37	44	504	363	57	188	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	415	0	106	100	37	44	504	363	57	197	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	55.0	55.0		55.0	55.0	55.0	65.0	65.0	65.0	65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%	45.8%	54.2%	54.2%	54.2%	54.2%	54.2%	
Maximum Green (s)	48.0	48.0		48.0	48.0	48.0	58.0	58.0	58.0	58.0	58.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		7.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	35.8	35.8		33.8	35.8	35.8	74.2	74.2	74.2	74.2	74.2	
Actuated g/C Ratio	0.30	0.30		0.28	0.30	0.30	0.62	0.62	0.62	0.62	0.62	
v/c Ratio	0.42	0.76		0.98	0.18	0.08	0.06	0.44	0.37	0.13	0.17	
Control Delay	35.7	47.1		123.2	30.0	27.5	11.7	14.9	14.2	11.5	10.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.7	47.1		123.2	30.0	27.5	11.7	14.9	14.2	11.5	10.8	
LOS	D	D		F	C	C	B	B	B	B	B	

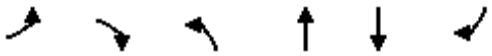
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		43.9			70.3			14.5			11.0	
Approach LOS		D			E			B			B	
Queue Length 50th (ft)	99	290		81	57	21	13	194	132	21	74	
Queue Length 95th (ft)	145	363		#175	89	42	35	335	240	34	87	
Internal Link Dist (ft)		2481			1432			275			425	
Turn Bay Length (ft)	75			100		125	50			150		
Base Capacity (vph)	534	759		154	772	656	716	1140	969	455	1143	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.55		0.69	0.13	0.06	0.06	0.44	0.37	0.13	0.17	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 96 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 74.7% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	197	64	4	588	316	45
Future Volume (vph)	197	64	4	588	316	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.967					0.850
Flt Protected	0.964		0.950			
Satd. Flow (prot)	1771	0	1805	3505	3539	1615
Flt Permitted	0.964		0.950			
Satd. Flow (perm)	1771	0	1805	3505	3539	1615
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2406	1444	
Travel Time (s)	43.2			46.9	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	219	71	4	653	351	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	290	0	4	653	351	50
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.7%		ICU Level of Service A	
Analysis Period (min) 15			

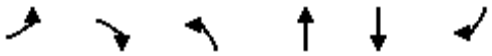
Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	197	64	4	588	316	45
Future Vol, veh/h	197	64	4	588	316	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	219	71	4	653	351	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	686	176	401	0	-	0
Stage 1	351	-	-	-	-	-
Stage 2	335	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	386	843	1169	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	385	843	1169	-	-	-
Mov Cap-2 Maneuver	385	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	702	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.1	0.1	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1169	-	444	-	-
HCM Lane V/C Ratio	0.004	-	0.653	-	-
HCM Control Delay (s)	8.1	-	27.1	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	4.6	-	-

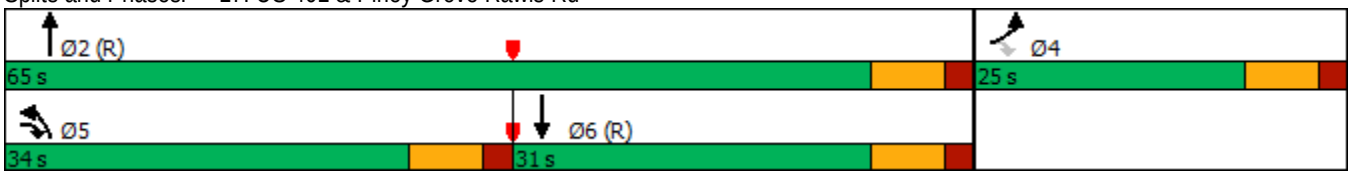


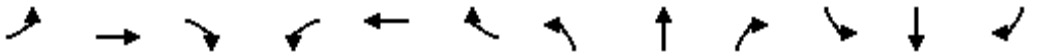
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	46	334	543	846	434	15
Future Volume (vph)	46	334	543	846	434	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	2			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	0.95
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	3400	3505	3522	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	3400	3505	3522	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2775	
Travel Time (s)	27.4			15.8	34.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Adj. Flow (vph)	51	371	603	940	482	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	371	603	940	499	0
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	14.0	14.0	
Minimum Split (s)	25.0	14.0	14.0	25.0	21.0	
Total Split (s)	25.0	34.0	34.0	65.0	31.0	
Total Split (%)	27.8%	37.8%	37.8%	72.2%	34.4%	
Maximum Green (s)	18.0	27.0	27.0	58.0	24.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	10.3	34.7	25.0	77.3	45.3	
Actuated g/C Ratio	0.11	0.39	0.28	0.86	0.50	
v/c Ratio	0.25	0.60	0.64	0.31	0.28	
Control Delay	38.8	24.6	22.9	0.8	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	38.8	24.6	22.9	0.8	9.1	
LOS	D	C	C	A	A	
Approach Delay	26.3			9.4	9.1	
Approach LOS	C			A	A	
Queue Length 50th (ft)	27	151	114	16	58	
Queue Length 95th (ft)	60	193	116	2	90	
Internal Link Dist (ft)	2133			1196	2695	
Turn Bay Length (ft)			150			
Base Capacity (vph)	401	696	1099	3009	1771	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.53	0.55	0.31	0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 64 (71%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 46.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 17: US 401 & Piney Grove Rawls Rd



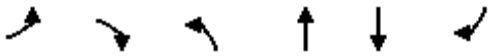


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	26	62	62	13	136	18	1155	4	81	651	43
Future Volume (vph)	81	26	62	62	13	136	18	1155	4	81	651	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.894			0.863						0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1665	0	1770	1608	0	1752	3505	0	1770	3507	0
Flt Permitted	0.552			0.694			0.359			0.950		
Satd. Flow (perm)	1028	1665	0	1293	1608	0	662	3505	0	1770	3507	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	90	29	69	69	14	151	20	1283	4	90	723	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	90	98	0	69	165	0	20	1287	0	90	771	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		5.0	14.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		9.5	25.0	
Total Split (s)	25.0	25.0		25.0	25.0		52.0	52.0		13.0	65.0	
Total Split (%)	27.8%	27.8%		27.8%	27.8%		57.8%	57.8%		14.4%	72.2%	
Maximum Green (s)	18.0	18.0		18.0	18.0		45.0	45.0		8.5	58.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.5	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		2.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	16.0	16.0		16.0	16.0		52.9	52.9		10.7	64.0	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.59	0.59		0.12	0.71	
v/c Ratio	0.49	0.33		0.30	0.58		0.05	0.62		0.43	0.31	
Control Delay	42.0	34.3		34.4	41.6		11.0	15.4		37.4	4.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	42.0	34.3		34.4	41.6		11.0	15.4		37.4	4.7	
LOS	D	C		C	D		B	B		D	A	
Approach Delay		38.0			39.5			15.3			8.1	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	46	49		34	86		5	258		44	76	
Queue Length 95th (ft)	91	90		70	144		17	352		m92	98	
Internal Link Dist (ft)		2800			3220			2228			1196	
Turn Bay Length (ft)							275			150		
Base Capacity (vph)	228	370		287	357		390	2067		219	2493	
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	0.26		0.24	0.46		0.05	0.62		0.41	0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 88 (98%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: US 401 & Rawls Church Road



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	8	53	7	1169	725	48
Future Volume (vph)	8	53	7	1169	725	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.883				0.991	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1633	0	1805	3505	3512	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1633	0	1805	3505	3512	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1978			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	9	59	8	1299	806	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	8	1299	859	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	53	7	1169	725	48
Future Vol, veh/h	8	53	7	1169	725	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	9	59	8	1299	806	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1499	430	859	0	-	0
Stage 1	833	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	113	573	791	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	472	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	112	573	791	-	-	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	791	-	372	-	-
HCM Lane V/C Ratio	0.01	-	0.182	-	-
HCM Control Delay (s)	9.6	-	16.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	59	284	1082	36	72	823
Future Volume (vph)	59	284	1082	36	72	823
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3487	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3487	0	1770	3539
Link Speed (mph)	55		45			45
Link Distance (ft)	2952		1355			6809
Travel Time (s)	36.6		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	66	316	1202	40	80	914
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	316	1242	0	80	914
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11.5

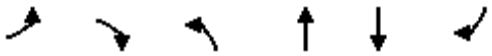
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	284	1082	36	72	823
Future Vol, veh/h	59	284	1082	36	72	823
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	66	316	1202	40	80	914

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1839	621	0	0	1242	0
Stage 1	1222	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	67	430	-	-	556	-
Stage 1	241	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 57	430	-	-	556	-
Mov Cap-2 Maneuver	~ 57	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	76.7	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	57	430	556	-
HCM Lane V/C Ratio	-	-	1.15	0.734	0.144	-
HCM Control Delay (s)	-	-	285.9	33.2	12.6	-
HCM Lane LOS	-	-	F	D	B	-
HCM 95th %tile Q(veh)	-	-	5.5	5.9	0.5	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	72	7	11	1034	720	190
Future Volume (vph)	72	7	11	1034	720	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.988				0.969	
Flt Protected	0.957		0.950			
Satd. Flow (prot)	1761	0	1752	3505	3429	0
Flt Permitted	0.957		0.950			
Satd. Flow (perm)	1761	0	1752	3505	3429	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2900			4214	1355	
Travel Time (s)	79.1			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	80	8	12	1149	800	211
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	0	12	1149	1011	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.7%		ICU Level of Service A	
Analysis Period (min) 15			

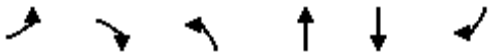
Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	7	11	1034	720	190
Future Vol, veh/h	72	7	11	1034	720	190
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	80	8	12	1149	800	211

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1505	506	1011	0	-	0
Stage 1	906	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.16	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.23	-	-	-
Pot Cap-1 Maneuver	112	512	675	-	-	-
Stage 1	355	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	110	512	675	-	-	-
Mov Cap-2 Maneuver	110	-	-	-	-	-
Stage 1	349	-	-	-	-	-
Stage 2	511	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	94.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	675	-	118	-	-
HCM Lane V/C Ratio	0.018	-	0.744	-	-
HCM Control Delay (s)	10.4	-	94.2	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.2	-	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	49	31	893	601	6
Future Volume (vph)	55	49	31	893	601	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.937				0.998	
Flt Protected	0.974		0.950			
Satd. Flow (prot)	1700	0	1770	3539	3532	0
Flt Permitted	0.974		0.950			
Satd. Flow (perm)	1700	0	1770	3539	3532	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1843			2358	4214	
Travel Time (s)	50.3			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	54	34	992	668	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	34	992	675	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	49	31	893	601	6
Future Vol, veh/h	55	49	31	893	601	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	54	34	992	668	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1236	338	675	0	-	0
Stage 1	672	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	168	658	912	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	162	658	912	-	-	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	452	-	-	-	-	-
Stage 2	533	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	31	0.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	912	-	251	-	-
HCM Lane V/C Ratio	0.038	-	0.46	-	-
HCM Control Delay (s)	9.1	-	31	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	2.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	88	16	833	102	4	603
Future Volume (vph)	88	16	833	102	4	603
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.979		0.984			
Flt Protected	0.959				0.950	
Satd. Flow (prot)	1749	0	3460	0	1805	3539
Flt Permitted	0.959				0.950	
Satd. Flow (perm)	1749	0	3460	0	1805	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1341		4391			2358
Travel Time (s)	36.6		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	98	18	926	113	4	670
Shared Lane Traffic (%)						
Lane Group Flow (vph)	116	0	1039	0	4	670
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.8%		ICU Level of Service A	
Analysis Period (min) 15			

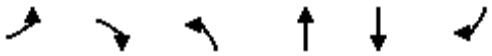
Intersection	
Int Delay, s/veh	4.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	16	833	102	4	603
Future Vol, veh/h	88	16	833	102	4	603
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	98	18	926	113	4	670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1326	520	0	0	1039	0
Stage 1	983	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	147	501	-	-	677	-
Stage 1	323	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	146	501	-	-	677	-
Mov Cap-2 Maneuver	146	-	-	-	-	-
Stage 1	323	-	-	-	-	-
Stage 2	686	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	67.2	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	164	677	-
HCM Lane V/C Ratio	-	-	0.705	0.007	-
HCM Control Delay (s)	-	-	67.2	10.4	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.2	0	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	74	98	23	858	644	10
Future Volume (vph)	74	98	23	858	644	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.923					0.850
Flt Protected	0.979		0.950			
Satd. Flow (prot)	1683	0	1805	3505	3539	1615
Flt Permitted	0.979		0.950			
Satd. Flow (perm)	1683	0	1805	3505	3539	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2276			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	82	109	26	953	716	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	26	953	716	11
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	74	98	23	858	644	10
Future Vol, veh/h	74	98	23	858	644	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	82	109	26	953	716	11

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1245	358	727	0	-	0
Stage 1	716	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	166	638	886	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	555	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	638	886	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	41.6	0.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	886	-	280	-	-
HCM Lane V/C Ratio	0.029	-	0.683	-	-
HCM Control Delay (s)	9.2	-	41.6	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	4.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	26	170	763	17	121	626
Future Volume (vph)	26	170	763	17	121	626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.883			0.850		
Flt Protected	0.993				0.950	
Satd. Flow (prot)	1666	0	3505	1615	1805	3539
Flt Permitted	0.993				0.950	
Satd. Flow (perm)	1666	0	3505	1615	1805	3539
Link Speed (mph)	35		55			55
Link Distance (ft)	1130		2530			954
Travel Time (s)	22.0		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Adj. Flow (vph)	29	189	848	19	134	696
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	0	848	19	134	696
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	170	763	17	121	626
Future Vol, veh/h	26	170	763	17	121	626
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	29	189	848	19	134	696

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1464	424	0	0	867	0
Stage 1	848	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	121	584	-	-	785	-
Stage 1	385	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	584	-	-	785	-
Mov Cap-2 Maneuver	100	-	-	-	-	-
Stage 1	385	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.8	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	356	785	-
HCM Lane V/C Ratio	-	-	0.612	0.171	-
HCM Control Delay (s)	-	-	29.8	10.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	3.9	0.6	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	93	128	669	15	14	579
Future Volume (vph)	93	128	669	15	14	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.922		0.997			
Flt Protected	0.979				0.950	
Satd. Flow (prot)	1681	0	3497	0	1805	3539
Flt Permitted	0.979				0.950	
Satd. Flow (perm)	1681	0	3497	0	1805	3539
Link Speed (mph)	25		55			55
Link Distance (ft)	2127		1122			5420
Travel Time (s)	58.0		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	103	142	743	17	16	643
Shared Lane Traffic (%)						
Lane Group Flow (vph)	245	0	760	0	16	643
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

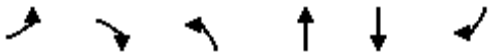
Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	93	128	669	15	14	579
Future Vol, veh/h	93	128	669	15	14	579
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	103	142	743	17	16	643

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1106	380	0	0	760	0
Stage 1	752	-	-	-	-	-
Stage 2	354	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	205	618	-	-	861	-
Stage 1	426	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	201	618	-	-	861	-
Mov Cap-2 Maneuver	201	-	-	-	-	-
Stage 1	426	-	-	-	-	-
Stage 2	668	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.8	0	0.2
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	861	-
HCM Lane V/C Ratio	-	-	0.744	0.018	-
HCM Control Delay (s)	-	-	41.8	9.3	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	5.7	0.1	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	130	48	529	685	11
Future Volume (vph)	49	130	48	529	685	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.902				0.998	
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1658	0	1805	3505	3533	0
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1658	0	1805	3505	3533	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2371			4450	1122	
Travel Time (s)	35.9			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	54	144	53	588	761	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	0	53	588	773	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			

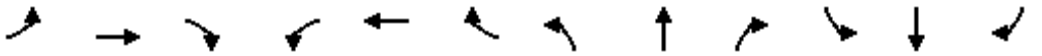
Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	130	48	529	685	11
Future Vol, veh/h	49	130	48	529	685	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	54	144	53	588	761	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1167	387	773	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	187	611	851	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	175	611	851	-	-	-
Mov Cap-2 Maneuver	175	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.3	0.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	851	-	363	-	-
HCM Lane V/C Ratio	0.063	-	0.548	-	-
HCM Control Delay (s)	9.5	-	26.3	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	3.2	-	-



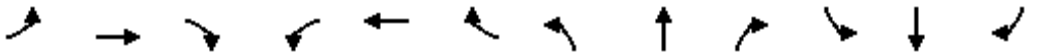
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	633	88	114	526	73	194	12	23	27	5	4
Future Volume (vph)	4	633	88	114	526	73	194	12	23	27	5	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.754			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1390	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	703	98	127	584	81	216	13	26	30	6	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	703	98	127	584	81	216	13	26	30	6	4
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	14.0	57.0	57.0	28.0	71.0	15.0	50.0	50.0	50.0	15.0	65.0	14.0
Total Split (%)	9.3%	38.0%	38.0%	18.7%	47.3%	10.0%	33.3%	33.3%	33.3%	10.0%	43.3%	9.3%
Maximum Green (s)	7.4	50.6	50.6	21.6	64.6	8.4	43.5	43.5	43.5	8.4	58.5	7.4
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	73.0	73.0	17.2	89.7	102.3	30.2	30.2	30.2	9.6	44.9	58.5
Actuated g/C Ratio	0.06	0.49	0.49	0.11	0.60	0.68	0.20	0.20	0.20	0.06	0.30	0.39
v/c Ratio	0.02	0.41	0.12	0.61	0.28	0.07	0.77	0.04	0.08	0.14	0.01	0.01
Control Delay	67.0	27.7	25.1	76.1	8.6	3.0	74.1	44.2	45.7	67.1	32.0	23.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	27.7	25.1	76.1	8.6	3.0	74.1	44.2	45.7	67.1	32.0	23.5
LOS	E	C	C	E	A	A	E	D	D	E	C	C
Approach Delay		27.6			18.9			69.7			57.5	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)	2	226	51	114	62	5	202	10	21	14	4	2
Queue Length 95th (ft)	8	348	109	185	186	24	278	28	45	32	14	9
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	210	1721	785	278	2105	1082	417	553	470	238	748	624
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.41	0.12	0.46	0.28	0.07	0.52	0.02	0.06	0.13	0.01	0.01

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 59 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 53.7% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401



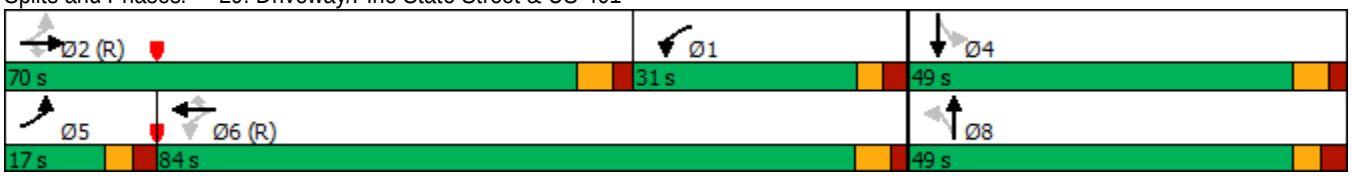
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	636	65	171	561	96	113	4	60	80	4	39
Future Volume (vph)	43	636	65	171	561	96	113	4	60	80	4	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.858			0.863	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1582	0	1778	1616	0
Flt Permitted	0.375			0.383			0.726			0.700		
Satd. Flow (perm)	709	3522	1607	735	3540	1631	1339	1582	0	1310	1616	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	48	707	72	190	623	107	126	4	67	89	4	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	707	72	190	623	107	126	71	0	89	47	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	17.0	70.0	70.0	31.0	84.0	84.0	49.0	49.0		49.0	49.0	
Total Split (%)	11.3%	46.7%	46.7%	20.7%	56.0%	56.0%	32.7%	32.7%		32.7%	32.7%	
Maximum Green (s)	11.2	63.8	63.8	25.1	77.8	77.8	42.8	42.8		42.8	42.8	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	105.2	105.2	105.2	108.7	108.7	108.7	20.7	20.7		20.7	20.7	
Actuated g/C Ratio	0.70	0.70	0.70	0.72	0.72	0.72	0.14	0.14		0.14	0.14	
v/c Ratio	0.09	0.29	0.06	0.32	0.24	0.09	0.68	0.33		0.49	0.21	
Control Delay	3.5	7.4	3.7	2.1	1.1	1.1	78.9	60.5		67.7	57.2	

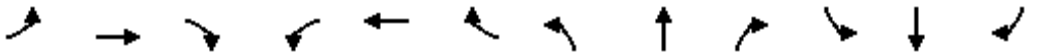
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	3.5	7.4	3.7	2.1	1.1	1.1	78.9	60.5		67.7	57.2	
LOS	A	A	A	A	A	A	E	E		E	E	
Approach Delay		6.9			1.3			72.3			64.1	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	13	237	21	9	15	5	119	64		82	41	
Queue Length 95th (ft)	6	28	8	19	26	m11	182	109		135	78	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	584	2469	1126	804	2565	1182	392	464		384	474	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.08	0.29	0.06	0.24	0.24	0.09	0.32	0.15		0.23	0.10	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 13 (9%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 14.4 Intersection LOS: B
Intersection Capacity Utilization 52.5% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Driveway/Pine State Street & US 401





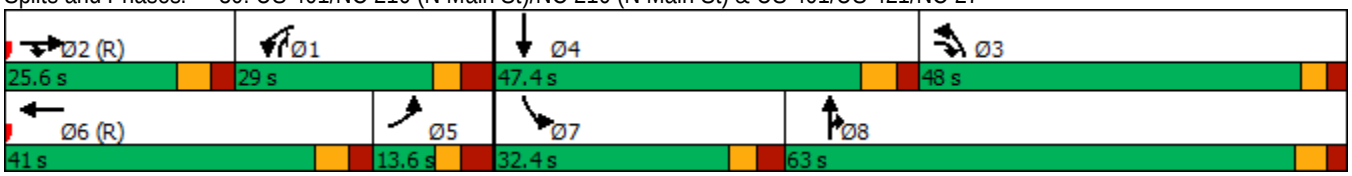
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	277	341	496	383	114	387	696	438	315	455	58
Future Volume (vph)	52	277	341	496	383	114	387	696	438	315	455	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		600	450		625	600		0	125		0
Storage Lanes	1		2	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.966				0.850		0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3402	0	1752	1844	1567	1787	3514	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3402	0	1752	1844	1567	1787	3514	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	58	308	379	551	426	127	430	773	487	350	506	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	308	379	551	553	0	430	773	487	350	570	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	13.6	25.6		29.0	41.0		48.0	63.0		32.4	47.4	
Total Split (%)	9.1%	17.1%		19.3%	27.3%		32.0%	42.0%		21.6%	31.6%	
Maximum Green (s)	7.0	19.2		22.2	34.5		42.6	56.9		26.3	40.9	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-0.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		6.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	11.3	19.1	76.1	24.5	36.0		53.4	58.0	81.3	27.4	32.0	
Actuated g/C Ratio	0.08	0.13	0.51	0.16	0.24		0.36	0.39	0.54	0.18	0.21	
v/c Ratio	0.44	0.68	0.27	0.99	0.68		0.69	1.08	0.57	1.07	0.76	
Control Delay	70.3	47.5	6.9	97.1	57.3		49.2	102.0	14.8	127.1	62.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.3	47.5	6.9	97.1	57.3		49.2	102.0	14.8	127.1	62.1	
LOS	E	D	A	F	E		D	F	B	F	E	
Approach Delay		28.6			77.2			63.4			86.8	
Approach LOS		C			E			E			F	
Queue Length 50th (ft)	60	156	22	~302	271		359	~845	159	~379	278	
Queue Length 95th (ft)	#116	194	48	#422	328		525	#1096	219	#584	327	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		600	450			600			125		
Base Capacity (vph)	133	486	1442	557	878		623	713	849	326	993	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.44	0.63	0.26	0.99	0.63		0.69	1.08	0.57	1.07	0.57	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 124 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 65.8 Intersection LOS: E
Intersection Capacity Utilization 93.3% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1829	0	810
Future Volume (vph)	0	0	0	1829	0	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.76
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	0	3574
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	0	3574
Link Speed (mph)	55			30	55	
Link Distance (ft)	535			538	807	
Travel Time (s)	6.6			12.2	10.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	2032	0	900
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2032	0	900
Sign Control	Stop			Free	Free	

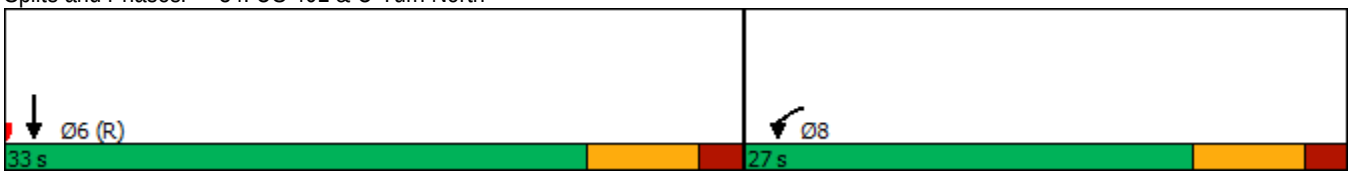
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

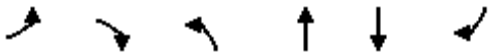
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	74	0	0	0	0	810
Future Volume (vph)	74	0	0	0	0	810
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5034
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5034
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		55			55
Link Distance (ft)	104		883			535
Travel Time (s)	2.4		10.9			6.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	82	0	0	0	0	900
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	0	0	0	900
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	27.0					33.0
Total Split (%)	45.0%					55.0%
Maximum Green (s)	20.0					26.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	10.5					47.1
Actuated g/C Ratio	0.18					0.78
v/c Ratio	0.27					0.23
Control Delay	23.1					3.6
Queue Delay	0.0					0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	23.1					3.6
LOS	C					A
Approach Delay	23.1					3.6
Approach LOS	C					A
Queue Length 50th (ft)	26					39
Queue Length 95th (ft)	56					65
Internal Link Dist (ft)	24		803			455
Turn Bay Length (ft)						
Base Capacity (vph)	649					3951
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.13					0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 3 (5%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 5.2		Intersection LOS: A	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 34: US 401 & U-Turn North



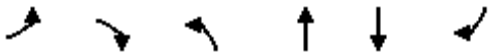


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	74	1829	0	0
Future Volume (vph)	0	0	74	1829	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	30	
Link Distance (ft)	104			1061	538	
Travel Time (s)	2.4			13.2	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	82	2032	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	82	2032	0	0
Sign Control	Stop			Free	Stop	

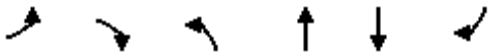
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	0	0	340	883	0	0
Future Volume (vph)	0	0	340	883	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	2		0	0
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	0.97	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	3433	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	3433	5085	0	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	712			1038	102	
Travel Time (s)	8.8			12.9	2.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	378	981	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	378	981	0	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	340	0	0	2488	0	0
Future Volume (vph)	340	0	0	2488	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			55	55	
Link Distance (ft)	102			705	901	
Travel Time (s)	2.3			8.7	11.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	378	0	0	2764	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	378	0	0	2764	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	25.0			65.0		
Total Split (%)	27.8%			72.2%		
Maximum Green (s)	18.0			58.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Min		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.9			63.1		
Actuated g/C Ratio	0.19			0.70		
v/c Ratio	0.59			0.77		
Control Delay	37.0			11.2		
Queue Delay	0.0			0.0		
Total Delay	37.0			11.2		
LOS	D			B		
Approach Delay	37.0			11.2		
Approach LOS	D			B		



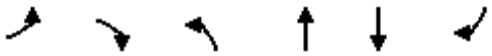
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	102			326		
Queue Length 95th (ft)	141			439		
Internal Link Dist (ft)	22			625	821	
Turn Bay Length (ft)						
Base Capacity (vph)	762			3567		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.50			0.77		

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 74 (82%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 37: US 401 & U-Turn South

Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	0	0	0	2488	0	883
Future Volume (vph)	0	0	0	2488	0	883
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.76	1.00	0.91
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	0	0	3610	0	5085
Flt Permitted						
Satd. Flow (perm)	0	0	0	3610	0	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	705		1194			712
Travel Time (s)	16.0		14.8			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	2764	0	981
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2764	0	981
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.4%		ICU Level of Service B	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	3334	387	679
Future Volume (vph)	0	0	0	3334	387	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			3%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5009	1844	2759
Flt Permitted						
Satd. Flow (perm)	0	0	0	5009	1844	2759
Link Speed (mph)	30			55	55	
Link Distance (ft)	994			500	1440	
Travel Time (s)	22.6			6.2	17.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	3704	430	754
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3704	430	754
Sign Control	Stop			Free	Free	

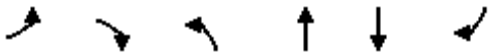
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	0	2123	201	0	0	679
Future Volume (vph)	0	2123	201	0	0	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	2%		0%	
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	5009	1844	0	0	2787
Flt Permitted						
Satd. Flow (perm)	0	5009	1844	0	0	2787
Link Speed (mph)		55	55		55	
Link Distance (ft)		807	500		994	
Travel Time (s)		10.0	6.2		12.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	2359	223	0	0	754
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2359	223	0	0	754
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	133	826
Future Volume (vph)	0	0	0	0	133	826
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	6408
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	165		137			944
Travel Time (s)	3.8		1.7			11.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	148	918
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	148	918
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.6%		ICU Level of Service A	
Analysis Period (min) 15			

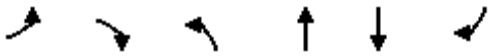


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	605	2223	0	0
Future Volume (vph)	0	0	605	2223	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	173			901	148	
Travel Time (s)	3.9			11.2	1.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	672	2470	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	672	2470	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.0%		ICU Level of Service E	
Analysis Period (min) 15			

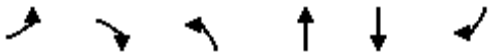
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	27	857
Future Volume (vph)	0	0	0	0	27	857
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1752	6344
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1752	6344
Link Speed (mph)	30		55			55
Link Distance (ft)	213		200			883
Travel Time (s)	4.8		2.5			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	30	952
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	30	952
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.8%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	584	1822	0	0
Future Volume (vph)	0	0	584	1822	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	219			899	208	
Travel Time (s)	5.0			11.1	2.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	649	2024	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	649	2024	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	214	2002	0	0
Future Volume (vph)	0	0	214	2002	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	103			1073	442	
Travel Time (s)	2.3			13.3	5.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	238	2224	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	238	2224	0	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	179	582
Future Volume (vph)	0	0	0	0	179	582
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	104		439			1091
Travel Time (s)	2.4		5.4			13.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	199	647
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	199	647
Sign Control	Stop		Free			Free

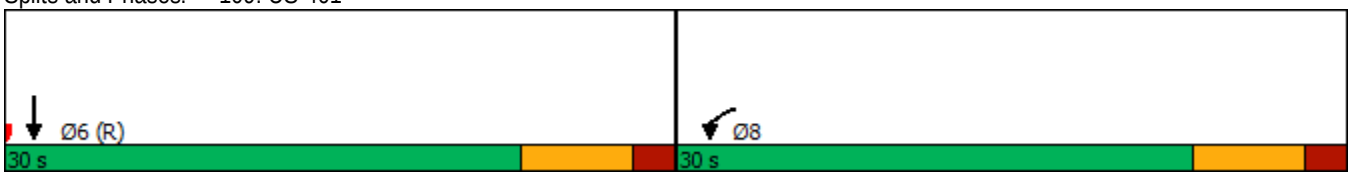
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.3%		ICU Level of Service B	
Analysis Period (min) 15			

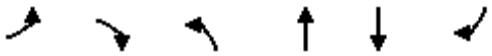
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	214	0	0	0	0	745
Future Volume (vph)	214	0	0	0	0	745
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5085
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5085
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	103		944			439
Travel Time (s)	2.8		11.7			5.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	238	0	0	0	0	828
Shared Lane Traffic (%)						
Lane Group Flow (vph)	238	0	0	0	0	828
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	30.0					30.0
Total Split (%)	50.0%					50.0%
Maximum Green (s)	23.0					23.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	15.4					34.6
Actuated g/C Ratio	0.26					0.58
v/c Ratio	0.53					0.28
Control Delay	22.7					3.7
Queue Delay	0.0					0.0
Total Delay	22.7					3.7
LOS	C					A
Approach Delay	22.7					3.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C					A
Queue Length 50th (ft)	74					19
Queue Length 95th (ft)	117					33
Internal Link Dist (ft)	23		864			359
Turn Bay Length (ft)						
Base Capacity (vph)	737					2935
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.32					0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 28 (47%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 109: US 401



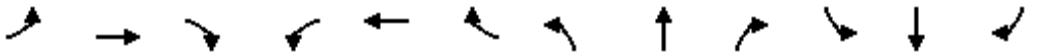


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	179	0	0	2227	0	0
Future Volume (vph)	179	0	0	2227	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	104			442	899	
Travel Time (s)	2.8			5.5	11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	199	0	0	2474	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	199	0	0	2474	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	26.0			64.0		
Total Split (%)	28.9%			71.1%		
Maximum Green (s)	19.0			57.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Max		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.9			63.1		
Actuated g/C Ratio	0.19			0.70		
v/c Ratio	0.60			0.69		
Control Delay	40.6			5.6		
Queue Delay	0.0			0.0		
Total Delay	40.6			5.6		
LOS	D			A		
Approach Delay	40.6			5.6		
Approach LOS	D			A		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	104			137		
Queue Length 95th (ft)	165			154		
Internal Link Dist (ft)	24			362	819	
Turn Bay Length (ft)						
Base Capacity (vph)	413			3563		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.48			0.69		

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 8 (9%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 110: US 401

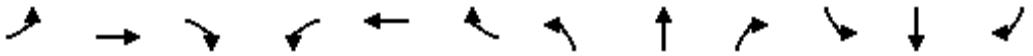


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	27	0	0	0	127	0	1775	47	0	0	0
Future Volume (vph)	0	27	0	0	0	127	0	1775	47	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	175		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00
Frt						0.850		0.996				
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5065	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5065	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		213			1034			208			1061	
Travel Time (s)		5.8			15.7			2.6			13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	30	0	0	0	141	0	1972	52	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	0	141	0	2024	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		3				3		2				
Permitted Phases												
Detector Phase		3				3		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0				
Minimum Split (s)		14.0				14.0		25.0				
Total Split (s)		19.0				19.0		71.0				
Total Split (%)		21.1%				21.1%		78.9%				
Maximum Green (s)		12.0				12.0		64.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Walk Time (s)								7.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		11.9				11.9		68.1				
Actuated g/C Ratio		0.13				0.13		0.76				
v/c Ratio		0.12				0.38		0.53				
Control Delay		34.5				38.3		2.2				
Queue Delay		0.0				0.0		0.0				
Total Delay		34.5				38.3		2.2				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C				D		A				
Approach Delay		34.5			38.3			2.2				
Approach LOS		C			D			A				
Queue Length 50th (ft)		15				42		60				
Queue Length 95th (ft)		39				71		36				
Internal Link Dist (ft)		133			954			128			981	
Turn Bay Length (ft)						300						
Base Capacity (vph)		292				438		3842				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.10				0.32		0.53				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 25 (28%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 4.9		Intersection LOS: A	
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 200: US 401 & Air Park Road



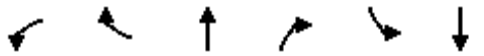
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	133	0	0	0	381	0	1835	388	0	0	0
Future Volume (vph)	0	133	0	0	0	381	0	1835	388	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	100		100	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			55			55	
Link Distance (ft)		165			1100			148			1073	
Travel Time (s)		4.5			21.4			1.8			13.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	148	0	0	0	423	0	2039	431	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	0	423	0	2039	431	0	0	0
Turn Type		NA				Prot		NA	Perm			
Protected Phases		3				3		2				
Permitted Phases									2			
Detector Phase		3				3		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0	14.0			
Minimum Split (s)		14.0				14.0		25.0	25.0			
Total Split (s)		30.0				30.0		60.0	60.0			
Total Split (%)		33.3%				33.3%		66.7%	66.7%			
Maximum Green (s)		23.0				23.0		53.0	53.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	0.0			
Total Lost Time (s)		5.0				5.0		5.0	7.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Min	C-Min			
Walk Time (s)								7.0	7.0			
Flash Dont Walk (s)								11.0	11.0			
Pedestrian Calls (#/hr)								0	0			
Act Effct Green (s)		21.2				21.2		58.8	56.8			
Actuated g/C Ratio		0.24				0.24		0.65	0.63			
v/c Ratio		0.34				0.64		0.61	0.43			
Control Delay		29.8				35.4		5.5	5.9			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		29.8				35.4		5.5	5.9			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C				D		A	A			
Approach Delay		29.8			35.4			5.6				
Approach LOS		C			D			A				
Queue Length 50th (ft)		70				122		114	51			
Queue Length 95th (ft)		117				168		136	m82			
Internal Link Dist (ft)		85			1020			68			993	
Turn Bay Length (ft)						300			100			
Base Capacity (vph)		517				774		3321	998			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.29				0.55		0.61	0.43			

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 1 (1%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 300: US 401 & Realigned Hilltop Road

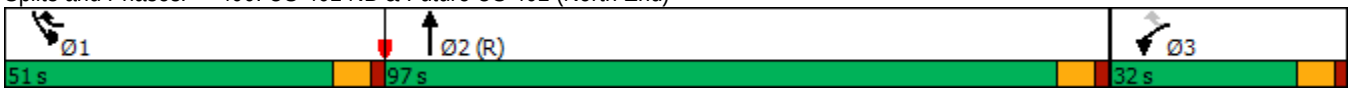


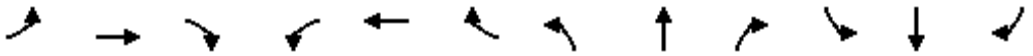
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	201	1338	1996	127	387	0
Future Volume (vph)	201	1338	1996	127	387	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	500		0	0	
Storage Lanes	1	2		0	3	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.76	0.91	0.91	0.94	1.00
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3610	4964	0	4940	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3610	4964	0	4940	0
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	1510		500			500
Travel Time (s)	18.7		6.2			6.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	223	1487	2218	141	430	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	223	1487	2359	0	430	0
Turn Type	Prot	pm+ov	NA		Prot	
Protected Phases	3	1	2		1	
Permitted Phases		3				
Detector Phase	3	1	2		1	
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0		7.0	
Minimum Split (s)	14.0	14.0	25.0		14.0	
Total Split (s)	32.0	51.0	97.0		51.0	
Total Split (%)	17.8%	28.3%	53.9%		28.3%	
Maximum Green (s)	25.0	44.0	90.0		44.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0	
Total Lost Time (s)	5.0	5.0	5.0		5.0	
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	C-Min		None	
Walk Time (s)			7.0			
Flash Dont Walk (s)			11.0			
Pedestrian Calls (#/hr)			0			
Act Effct Green (s)	26.1	78.3	91.7		47.2	
Actuated g/C Ratio	0.14	0.44	0.51		0.26	
v/c Ratio	0.87	0.95	0.93		0.33	
Control Delay	105.4	62.0	43.0		22.8	
Queue Delay	0.0	0.0	0.0		0.0	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	105.4	62.0	43.0		22.8	
LOS	F	E	D		C	
Approach Delay	67.6		43.0			22.8
Approach LOS	E		D			C
Queue Length 50th (ft)	260	739	758		58	
Queue Length 95th (ft)	#409	#870	841		m67	
Internal Link Dist (ft)	1430		420			420
Turn Bay Length (ft)		500				
Base Capacity (vph)	265	1570	2537		1295	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.84	0.95	0.93		0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 180			
Actuated Cycle Length: 180			
Offset: 2 (1%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 50.4		Intersection LOS: D	
Intersection Capacity Utilization 80.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 400: US 401 NB & Future US 401 (North End)



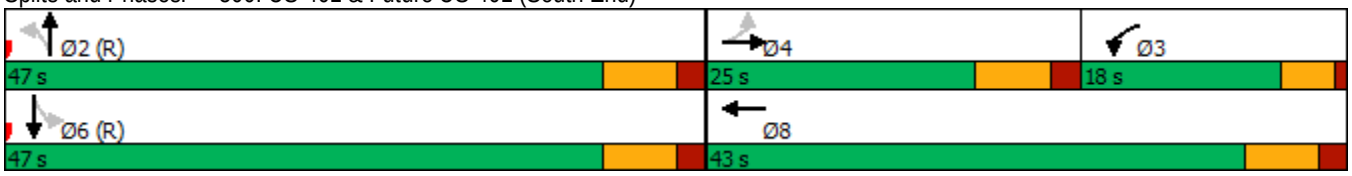


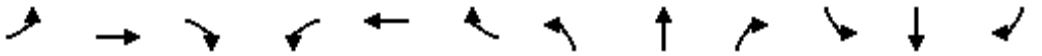
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	121	4	104	396	14	60	496	291	24	350	6
Future Volume (vph)	4	121	4	104	396	14	60	496	291	24	350	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	325		0	275		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.996			0.995			0.945			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3525	0	1770	3522	0	1770	3345	0	1770	3529	0
Flt Permitted	0.331			0.950			0.518			0.279		
Satd. Flow (perm)	617	3525	0	1770	3522	0	965	3345	0	520	3529	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1073			1179			2204			990	
Travel Time (s)		13.3			14.6			27.3			12.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	134	4	116	440	16	67	551	323	27	389	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	138	0	116	456	0	67	874	0	27	396	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		14.0	14.0	
Minimum Split (s)	25.0	25.0		11.5	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	25.0	25.0		18.0	43.0		47.0	47.0		47.0	47.0	
Total Split (%)	27.8%	27.8%		20.0%	47.8%		52.2%	52.2%		52.2%	52.2%	
Maximum Green (s)	18.0	18.0		13.5	36.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	5.0	5.0		3.5	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		2.5	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)	12.1	12.1		13.2	25.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.13	0.13		0.15	0.28		0.61	0.61		0.61	0.61	
v/c Ratio	0.05	0.29		0.45	0.46		0.11	0.43		0.09	0.19	
Control Delay	35.2	37.1		39.9	27.1		5.6	5.9		10.6	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	35.2	37.1		39.9	27.1		5.6	5.9		10.6	9.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		D	C		A	A		B	A	
Approach Delay		37.0			29.7			5.9			9.3	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)	2	38		61	110		8	51		6	50	
Queue Length 95th (ft)	12	64		107	137		17	71		22	86	
Internal Link Dist (ft)		993			1099			2124			910	
Turn Bay Length (ft)	200			325			275			200		
Base Capacity (vph)	137	783		312	1487		584	2027		314	2138	
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	0.03	0.18		0.37	0.31		0.11	0.43		0.09	0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 500: US 401 & Future US 401 (South End)



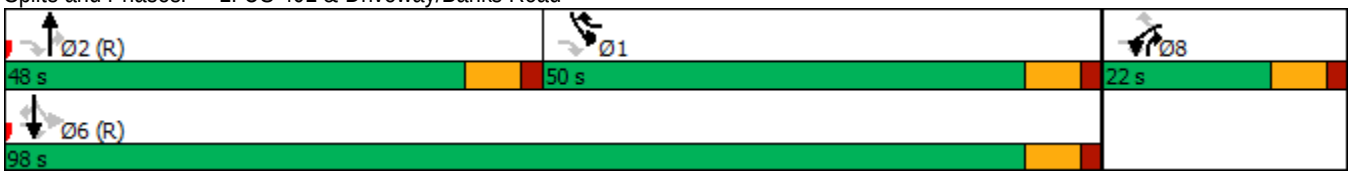


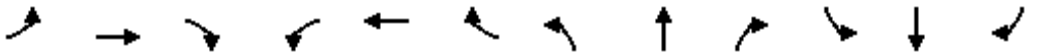
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	4	269	0	289	0	1167	317	511	2729	4
Future Volume (vph)	0	0	4	269	0	289	0	1167	317	511	2729	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			3%			-3%	
Storage Length (ft)	0		0	425		0	0		175	275		200
Storage Lanes	0		1	2		1	0		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt			0.865			0.850			0.850			0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	0	1611	3275	0	1599	0	5009	1560	1796	4875	1607
Flt Permitted				0.950						0.109		
Satd. Flow (perm)	0	0	1611	3275	0	1599	0	5009	1560	206	4875	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		1085			2137			1440			1414	
Travel Time (s)		29.6			32.4			17.9			17.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	8%	2%	2%	2%	2%	2%	2%	8%	2%
Adj. Flow (vph)	0	0	4	299	0	321	0	1297	352	568	3032	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	4	299	0	321	0	1297	352	568	3032	4
Turn Type			Perm	Prot		pm+ov		NA	pm+ov	pm+pt	NA	Perm
Protected Phases				8		1		2	8	1	6	
Permitted Phases			1 2 6 8			8			2	6		6
Detector Phase			1 2 6 8	8		1		2	8	1	6	6
Switch Phase												
Minimum Initial (s)				7.0		7.0		14.0	7.0	7.0	14.0	14.0
Minimum Split (s)				15.1		14.8		24.5	15.1	14.8	24.5	24.5
Total Split (s)				22.0		50.0		48.0	22.0	50.0	98.0	98.0
Total Split (%)				18.3%		41.7%		40.0%	18.3%	41.7%	81.7%	81.7%
Maximum Green (s)				15.0		43.0		41.0	15.0	43.0	91.0	91.0
Yellow Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
All-Red Time (s)				2.0		2.0		2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)				-2.0		-2.0		-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)				5.0		5.0		5.0	5.0	5.0	5.0	5.0
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Vehicle Extension (s)				3.0		3.0		3.0	3.0	3.0	3.0	3.0
Recall Mode				None		None		C-Min	None	None	C-Min	C-Min
Act Effct Green (s)			120.0	16.6		66.2		43.8	65.4	93.4	93.4	93.4
Actuated g/C Ratio			1.00	0.14		0.55		0.36	0.54	0.78	0.78	0.78
v/c Ratio			0.00	0.66		0.36		0.71	0.41	0.76	0.80	0.00
Control Delay			0.0	56.6		16.2		20.8	6.7	34.0	10.0	3.0
Queue Delay			0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0
Total Delay			0.0	56.6		16.2		20.8	6.7	34.0	10.0	3.0
LOS			A	E		B		C	A	C	B	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay					35.7			17.8			13.8	
Approach LOS					D			B			B	
Queue Length 50th (ft)			0	114		127		310	43	293	429	1
Queue Length 95th (ft)			0	162		195		369	m64	444	487	3
Internal Link Dist (ft)		1005			2057			1360			1334	
Turn Bay Length (ft)				425					175	275		200
Base Capacity (vph)			1602	463		882		1872	842	773	3793	1250
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			0.00	0.65		0.36		0.69	0.42	0.73	0.80	0.00

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 44 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			
m	Volume for 95th percentile queue is metered by upstream signal.		

Splits and Phases: 1: US 401 & Driveway/Banks Road



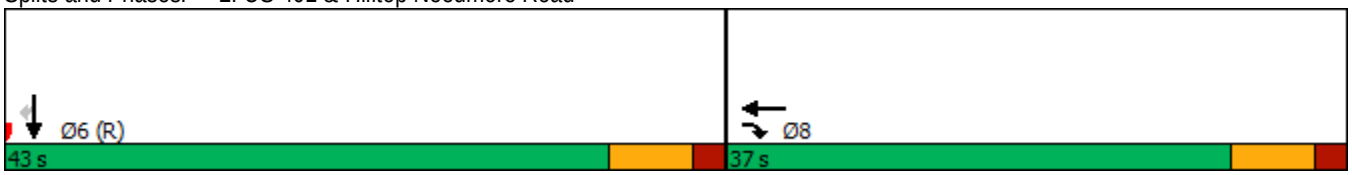


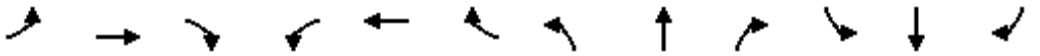
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	303	0	453	0	0	0	0	0	1084	404
Future Volume (vph)	0	0	303	0	453	0	0	0	0	0	1084	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			2%			2%	
Storage Length (ft)	100		500	0		0	175		0	150		0
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Flt Permitted												
Satd. Flow (perm)	0	0	2842	0	1863	0	0	0	0	0	4755	1467
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		2263			219			1091			200	
Travel Time (s)		34.3			6.0			13.5			2.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	0%	2%	2%	2%	2%	2%	2%	2%	8%	9%
Adj. Flow (vph)	0	0	337	0	503	0	0	0	0	0	1204	449
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	337	0	503	0	0	0	0	0	1204	449
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			37.0		37.0						43.0	43.0
Total Split (%)			46.3%		46.3%						53.8%	53.8%
Maximum Green (s)			30.0		30.0						36.0	36.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			28.8		28.8						41.2	41.2
Actuated g/C Ratio			0.36		0.36						0.52	0.52
v/c Ratio			0.33		0.75						0.49	0.59
Control Delay			18.9		29.9						10.9	15.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			18.9		29.9						10.9	15.2
LOS			B		C						B	B
Approach Delay		18.9			29.9						12.1	
Approach LOS		B			C						B	
Queue Length 50th (ft)			64		205						83	85
Queue Length 95th (ft)			97		309						89	270
Internal Link Dist (ft)		2183			139			1011			120	
Turn Bay Length (ft)			500									
Base Capacity (vph)			1136		745						2451	756
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.30		0.68						0.49	0.59

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 13 (16%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: US 401 & Hilltop Needmore Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	1483	0	266	0	0	0	0	0	977	83
Future Volume (vph)	0	0	1483	0	266	0	0	0	0	0	977	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	125		0	0		0
Storage Lanes	0		2	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	1863	0	0	0	0	0	4759	1154
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			25			55			55	
Link Distance (ft)		1052			173			1038			137	
Travel Time (s)		15.9			4.7			12.9			1.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	1%	2%	2%	2%	9%	40%
Adj. Flow (vph)	0	0	1648	0	296	0	0	0	0	0	1086	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	1648	0	296	0	0	0	0	0	1086	92
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						14.0	14.0
Minimum Split (s)			25.0		25.0						25.0	25.0
Total Split (s)			54.0		54.0						26.0	26.0
Total Split (%)			67.5%		67.5%						32.5%	32.5%
Maximum Green (s)			47.0		47.0						19.0	19.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	0.0
Total Lost Time (s)			5.0		5.0						5.0	7.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						3.0	3.0
Recall Mode			None		None						C-Min	C-Min
Walk Time (s)			7.0		7.0						7.0	7.0
Flash Dont Walk (s)			11.0		11.0						11.0	11.0
Pedestrian Calls (#/hr)			0		0						0	0
Act Effct Green (s)			49.0		49.0						21.0	19.0
Actuated g/C Ratio			0.61		0.61						0.26	0.24
v/c Ratio			0.97		0.26						0.87	0.34
Control Delay			31.2		7.9						28.6	20.3
Queue Delay			0.0		0.0						0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			31.2		7.9						28.6	20.3
LOS			C		A						C	C
Approach Delay		31.2			7.9						28.0	
Approach LOS		C			A						C	
Queue Length 50th (ft)			398		61						173	20
Queue Length 95th (ft)			#619		99						#156	44
Internal Link Dist (ft)		972			93			958			57	
Turn Bay Length (ft)												
Base Capacity (vph)			1707		1141						1249	274
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.97		0.26						0.87	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 44 (55%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 109.3%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

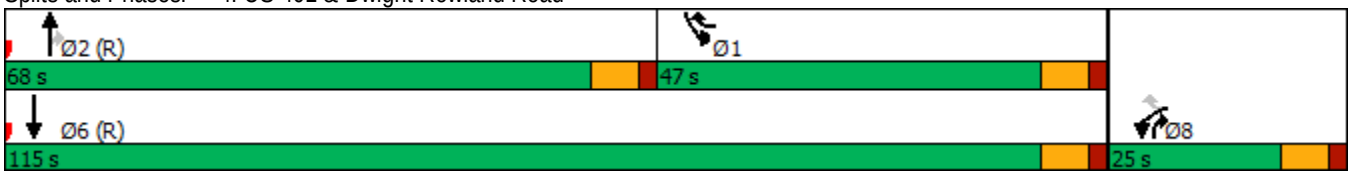
Splits and Phases: 3: US 401 & Lake Wheeler Road

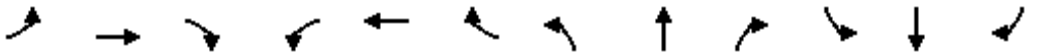
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	16	70	1279	82	262	1691
Future Volume (vph)	16	70	1279	82	262	1691
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	125		200	300	
Storage Lanes	1	1		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1805	1615	5085	1583	1770	4759
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1805	1615	5085	1583	1770	4759
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	45		55			55
Link Distance (ft)	1526		7004			1194
Travel Time (s)	23.1		86.8			14.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	2%	2%	2%	9%
Adj. Flow (vph)	18	78	1421	91	291	1879
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	78	1421	91	291	1879
Turn Type	Prot	pm+ov	NA	pm+ov	Prot	NA
Protected Phases	8	1	2	8	1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	8	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0	7.0	7.0	14.0
Minimum Split (s)	25.0	14.0	25.0	25.0	14.0	25.0
Total Split (s)	25.0	47.0	68.0	25.0	47.0	115.0
Total Split (%)	17.9%	33.6%	48.6%	17.9%	33.6%	82.1%
Maximum Green (s)	18.0	40.0	61.0	18.0	40.0	108.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lag	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Min	None	None	C-Min
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	10.3	45.7	84.3	99.6	30.4	119.7
Actuated g/C Ratio	0.07	0.33	0.60	0.71	0.22	0.86
v/c Ratio	0.14	0.15	0.46	0.08	0.76	0.46
Control Delay	62.2	31.9	10.2	3.8	63.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	62.2	31.9	10.2	3.8	63.8	2.9
LOS	E	C	B	A	E	A
Approach Delay	37.6		9.8			11.1
Approach LOS	D		A			B
Queue Length 50th (ft)	16	50	137	10	250	109
Queue Length 95th (ft)	42	81	309	m33	330	148
Internal Link Dist (ft)	1446		6924			1114
Turn Bay Length (ft)		125		200	300	
Base Capacity (vph)	257	539	3062	1126	531	4068
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.14	0.46	0.08	0.55	0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 136 (97%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 4: US 401 & Dwight Rowland Road



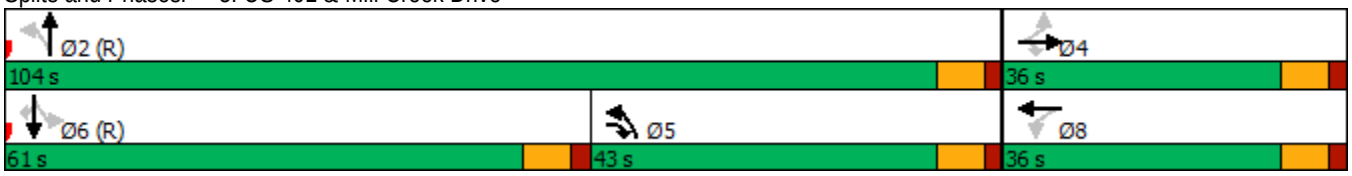


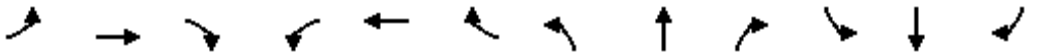
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	4	359	4	4	4	343	954	7	4	1391	179
Future Volume (vph)	178	4	359	4	4	4	343	954	7	4	1391	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			1%			1%	
Storage Length (ft)	75		0	0		0	200		0	175		150
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	1.00
Frt			0.850		0.955			0.999				0.850
Flt Protected		0.953			0.984		0.950			0.950		
Satd. Flow (prot)	0	1785	1576	0	1794	0	1710	4958	0	1796	4915	1607
Flt Permitted		0.722			0.909		0.086			0.235		
Satd. Flow (perm)	0	1352	1576	0	1658	0	155	4958	0	444	4915	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		2073			946			1620			7004	
Travel Time (s)		40.4			25.8			20.1			86.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%	5%	4%	2%	0%	5%	0%
Adj. Flow (vph)	198	4	399	4	4	4	381	1060	8	4	1546	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	202	399	0	12	0	381	1068	0	4	1546	199
Turn Type	Perm	NA	pm+ov	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases		4	5		8		5	2			6	
Permitted Phases	4		4	8			2			6		6
Detector Phase	4	4	5	8	8		5	2		6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	14.0		14.0	14.0	14.0
Minimum Split (s)	23.9	23.9	14.9	24.5	24.5		14.9	24.2		24.2	24.2	24.2
Total Split (s)	36.0	36.0	43.0	36.0	36.0		43.0	104.0		61.0	61.0	61.0
Total Split (%)	25.7%	25.7%	30.7%	25.7%	25.7%		30.7%	74.3%		43.6%	43.6%	43.6%
Maximum Green (s)	29.0	29.0	36.0	29.0	29.0		36.0	97.0		54.0	54.0	54.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-2.0	-2.0		-2.0		-2.0	-2.0		-2.0	-2.0	-2.0
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag			Lag				Lag			Lead	Lead	Lead
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)		26.6	66.8		26.6		103.4	103.4		63.2	63.2	63.2
Actuated g/C Ratio		0.19	0.48		0.19		0.74	0.74		0.45	0.45	0.45
v/c Ratio		0.79	0.53		0.04		0.75	0.29		0.02	0.70	0.27
Control Delay		75.0	27.6		43.9		34.6	6.7		25.2	31.5	24.7
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		75.0	27.6		43.9		34.6	6.7		25.2	31.5	24.7
LOS		E	C		D		C	A		C	C	C

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		43.5			43.9			14.1			30.7	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		175	232		9		164	111		2	432	119
Queue Length 95th (ft)		263	313		27		m280	m97		m5	510	188
Internal Link Dist (ft)		1993			866			1540			6924	
Turn Bay Length (ft)							200			175		150
Base Capacity (vph)		299	749		367		540	3662		200	2220	725
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.68	0.53		0.03		0.71	0.29		0.02	0.70	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 80 (57%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 26.4		Intersection LOS: C	
Intersection Capacity Utilization 75.1%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: US 401 & Mill Creek Drive



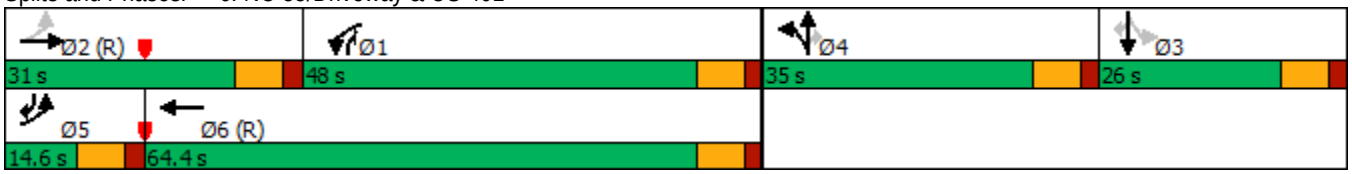


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	659	733	691	847	118	753	47	609	74	142	32
Future Volume (vph)	4	659	733	691	847	118	753	47	609	74	142	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			2%			2%			-4%	
Storage Length (ft)	175		275	0		0	0		650	0		150
Storage Lanes	1		1	1		0	1		2	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.982				0.850			0.850
Flt Protected	0.950			0.950			0.950	0.958			0.983	
Satd. Flow (prot)	1832	3592	1518	1702	3253	0	1602	1620	1552	0	1905	1177
Flt Permitted	0.235			0.950			0.950	0.958			0.704	
Satd. Flow (perm)	453	3592	1518	1702	3253	0	1602	1620	1552	0	1364	1177
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			45			10	
Link Distance (ft)		2277			632			1056			648	
Travel Time (s)		34.5			9.6			16.0			44.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	8%	5%	9%	0%	6%	3%	3%	0%	0%	40%
Adj. Flow (vph)	4	732	814	768	941	131	837	52	677	82	158	36
Shared Lane Traffic (%)							47%					
Lane Group Flow (vph)	4	732	814	768	1072	0	444	445	677	0	240	36
Turn Type	pm+pt	NA	Free	Prot	NA		Split	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6		4	4	1		3	5
Permitted Phases	2		Free						4	3		3
Detector Phase	5	2		1	6		4	4	1	3	3	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	14.6	24.2		16.5	24.2		23.9	23.9	16.5	23.9	23.9	14.6
Total Split (s)	14.6	31.0		48.0	64.4		35.0	35.0	48.0	26.0	26.0	14.6
Total Split (%)	10.4%	22.1%		34.3%	46.0%		25.0%	25.0%	34.3%	18.6%	18.6%	10.4%
Maximum Green (s)	7.6	24.0		41.0	57.4		28.0	28.0	41.0	19.0	19.0	7.6
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	-2.0		-2.0	-2.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lead	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	26.0	26.0	140.0	43.0	62.8		30.0	30.0	78.0		21.0	35.0
Actuated g/C Ratio	0.19	0.19	1.00	0.31	0.45		0.21	0.21	0.56		0.15	0.25
v/c Ratio	0.02	1.10	0.54	1.47	0.73		1.29	1.28	0.78		1.18	0.12
Control Delay	30.0	104.4	4.1	248.1	18.8		195.8	191.0	32.4		169.0	42.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Delay	30.0	104.4	4.1	248.1	18.8		195.8	191.0	32.4		169.0	42.2
LOS	C	F	A	F	B		F	F	C		F	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		51.5			114.5			123.8			152.5	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)	3	~397	28	~970	125		~542	~540	467		~260	26
Queue Length 95th (ft)	m4	#517	144	#1190	152		#768	#766	651		#434	57
Internal Link Dist (ft)		2197			552			976			568	
Turn Bay Length (ft)	175		275						650			150
Base Capacity (vph)	178	667	1518	522	1459		343	347	864		204	299
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	0
Reduced v/c Ratio	0.02	1.10	0.54	1.47	0.73		1.29	1.28	0.78		1.18	0.12

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 116 (83%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.47			
Intersection Signal Delay: 100.6		Intersection LOS: F	
Intersection Capacity Utilization 106.8%		ICU Level of Service G	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: NC 55/Driveway & US 401

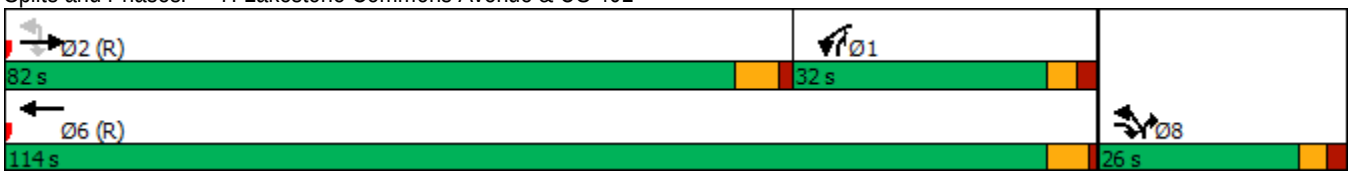


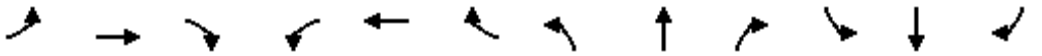
Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	4	1296	132	175	1358	130	130
Future Volume (vph)	4	1296	132	175	1358	130	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%	1%	
Storage Length (ft)	150		175	200		675	0
Storage Lanes	1		1	1		1	1
Taper Length (ft)	100			100		100	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Frt			0.850				0.850
Flt Protected	0.950			0.950		0.950	
Satd. Flow (prot)	1814	3522	1623	1796	3295	1796	1607
Flt Permitted	0.141			0.950		0.950	
Satd. Flow (perm)	269	3522	1623	1796	3295	1796	1607
Right Turn on Red			No				No
Satd. Flow (RTOR)							
Link Speed (mph)		45			45	35	
Link Distance (ft)		2308			2277	1303	
Travel Time (s)		35.0			34.5	25.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	9%	0%	0%
Adj. Flow (vph)	4	1440	147	194	1509	144	144
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	1440	147	194	1509	144	144
Turn Type	Perm	NA	pm+ov	Prot	NA	Prot	pt+ov
Protected Phases		2	8	1	6	8	8 1
Permitted Phases	2		2				
Detector Phase	2	2	8	1	6	8	8 1
Switch Phase							
Minimum Initial (s)	12.0	12.0	7.0	7.0	12.0	7.0	
Minimum Split (s)	23.9	23.9	23.3	12.4	23.5	23.3	
Total Split (s)	82.0	82.0	26.0	32.0	114.0	26.0	
Total Split (%)	58.6%	58.6%	18.6%	22.9%	81.4%	18.6%	
Maximum Green (s)	76.1	76.1	20.7	26.6	108.5	20.7	
Yellow Time (s)	4.6	4.6	3.0	3.0	4.4	3.0	
All-Red Time (s)	1.3	1.3	2.3	2.4	1.1	2.3	
Lost Time Adjust (s)	-0.9	-0.9	-0.3	-0.4	-0.5	-0.3	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead		Lag			
Lead-Lag Optimize?	Yes	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Min	C-Min	None	None	C-Min	None	
Act Effct Green (s)	88.0	88.0	109.4	20.6	113.6	16.4	41.7
Actuated g/C Ratio	0.63	0.63	0.78	0.15	0.81	0.12	0.30
v/c Ratio	0.02	0.65	0.12	0.73	0.56	0.69	0.30
Control Delay	4.2	7.5	1.2	55.1	3.8	75.4	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	7.5	1.2	55.1	3.8	75.4	37.8
LOS	A	A	A	E	A	E	D

Lane Group	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay		6.9			9.7	56.6	
Approach LOS		A			A	E	
Queue Length 50th (ft)	0	55	8	157	14	128	101
Queue Length 95th (ft)	m1	726	m4	m206	m231	197	144
Internal Link Dist (ft)		2228			2197	1223	
Turn Bay Length (ft)	150		175	200		675	
Base Capacity (vph)	169	2213	1259	346	2673	269	527
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.65	0.12	0.56	0.56	0.54	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 31 (22%), Referenced to phase 2:EBTU and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 67.2%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 7: Lakestone Commons Avenue & US 401





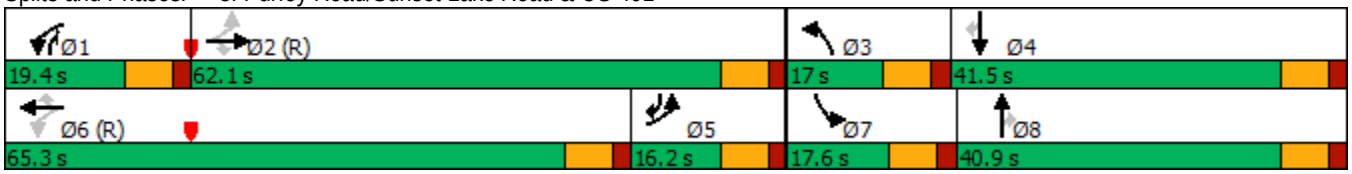
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1087	234	158	1000	234	205	456	93	209	526	87
Future Volume (vph)	110	1087	234	158	1000	234	205	456	93	209	526	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			2%			-2%			1%	
Storage Length (ft)	100		200	100		175	200		200	75		150
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1769	3470	1508	1752	3436	1599	3502	3646	1615	3450	3556	1591
Flt Permitted	0.190			0.085			0.950			0.950		
Satd. Flow (perm)	354	3470	1508	157	3436	1599	3502	3646	1615	3450	3556	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		800			2308			1414			801	
Travel Time (s)		15.6			45.0			27.5			15.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	2%	4%	0%	1%	0%	1%	1%	1%	1%
Adj. Flow (vph)	122	1208	260	176	1111	260	228	507	103	232	584	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	1208	260	176	1111	260	228	507	103	232	584	97
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6		6			8			4
Detector Phase	5	2	2	1	6	6	3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	15.4	40.9	40.9	15.6	43.9	43.9	15.2	38.3	15.6	15.1	41.5	15.4
Total Split (s)	16.2	62.1	62.1	19.4	65.3	65.3	17.0	40.9	19.4	17.6	41.5	16.2
Total Split (%)	11.6%	44.4%	44.4%	13.9%	46.6%	46.6%	12.1%	29.2%	13.9%	12.6%	29.6%	11.6%
Maximum Green (s)	9.2	55.1	55.1	12.4	58.3	58.3	10.0	33.9	12.4	10.6	34.5	9.2
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		21.0	21.0		24.0	24.0		24.0			22.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	61.2	61.2	61.2	62.2	62.2	62.2	12.8	30.3	50.6	13.2	30.7	45.0
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.09	0.22	0.36	0.09	0.22	0.32
v/c Ratio	0.41	0.80	0.39	0.72	0.73	0.37	0.71	0.64	0.18	0.71	0.75	0.19
Control Delay	32.0	30.8	22.0	51.3	24.8	18.1	74.8	53.5	30.1	74.5	57.1	22.5

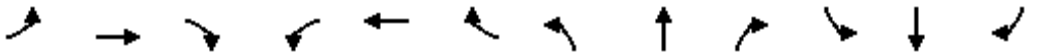
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	30.8	22.0	51.3	24.8	18.1	74.8	53.5	30.1	74.5	57.1	22.5
LOS	C	C	C	D	C	B	E	D	C	E	E	C
Approach Delay		29.5			26.7			56.4			57.9	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	72	438	157	125	323	134	106	223	62	108	263	46
Queue Length 95th (ft)	67	534	175	#215	368	156	#164	271	103	#163	314	80
Internal Link Dist (ft)		720			2228			1334			721	
Turn Bay Length (ft)	100		200	100		175	200		200	75		150
Base Capacity (vph)	298	1516	659	249	1531	712	320	934	589	325	927	510
Starvation Cap Reductn	0	6	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	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	0
Reduced v/c Ratio	0.41	0.80	0.39	0.71	0.73	0.37	0.71	0.54	0.17	0.71	0.63	0.19

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 116 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 38.5 Intersection LOS: D
Intersection Capacity Utilization 75.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Purfoy Road/Sunset Lake Road & US 401



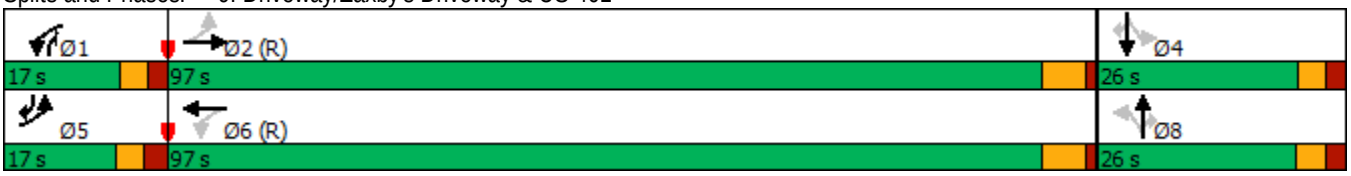


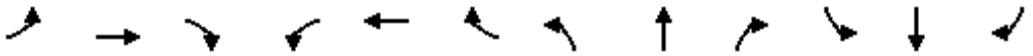
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	1241	75	76	1108	67	49	6	58	51	5	36
Future Volume (vph)	91	1241	75	76	1108	67	49	6	58	51	5	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			0%			1%	
Storage Length (ft)	100		0	75		0	0		150	0		100
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.991				0.850			0.850
Flt Protected	0.950			0.950				0.958			0.957	
Satd. Flow (prot)	1814	3496	0	1796	3430	0	0	1820	1615	0	1809	1607
Flt Permitted	0.179			0.147				0.706			0.703	
Satd. Flow (perm)	342	3496	0	278	3430	0	0	1341	1615	0	1329	1607
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		799			800			1005			624	
Travel Time (s)		15.6			15.6			27.4			17.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	3%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	101	1379	83	84	1231	74	54	7	64	57	6	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	1462	0	84	1305	0	0	61	64	0	63	40
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	5	2		1	6			8	1		4	5
Permitted Phases	2			6			8		8	4		4
Detector Phase	5	2		1	6		8	8	1	4	4	5
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0		7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	23.9		11.9	23.9		23.4	23.4	11.9	23.3	23.3	12.4
Total Split (s)	17.0	97.0		17.0	97.0		26.0	26.0	17.0	26.0	26.0	17.0
Total Split (%)	12.1%	69.3%		12.1%	69.3%		18.6%	18.6%	12.1%	18.6%	18.6%	12.1%
Maximum Green (s)	11.6	91.1		12.1	91.1		20.6	20.6	12.1	20.7	20.7	11.6
Yellow Time (s)	3.0	4.6		3.0	4.6		3.2	3.2	3.0	3.1	3.1	3.0
All-Red Time (s)	2.4	1.3		1.9	1.3		2.2	2.2	1.9	2.2	2.2	2.4
Lost Time Adjust (s)	-0.4	-0.9		0.1	-0.9			-0.4	0.1		-0.3	-0.4
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag				Lead			Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes				Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min		None	None	None	None	None	None
Act Effct Green (s)	115.7	108.0		114.5	107.4			12.4	22.0		12.3	22.6
Actuated g/C Ratio	0.83	0.77		0.82	0.77			0.09	0.16		0.09	0.16
v/c Ratio	0.28	0.54		0.28	0.50			0.52	0.25		0.54	0.15
Control Delay	2.9	6.4		3.4	3.9			75.4	51.3		76.9	48.0
Queue Delay	0.0	0.2		0.0	0.1			0.0	0.0		0.0	0.0
Total Delay	2.9	6.6		3.4	4.0			75.4	51.3		76.9	48.0
LOS	A	A		A	A			E	D		E	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		6.3			3.9			63.0			65.7	
Approach LOS		A			A			E			E	
Queue Length 50th (ft)	7	63		4	138			54	51		56	31
Queue Length 95th (ft)	m20	451		m20	134			100	92		103	63
Internal Link Dist (ft)		719			720			925			544	
Turn Bay Length (ft)	100			75					150			100
Base Capacity (vph)	419	2697		367	2631			201	310		199	308
Starvation Cap Reductn	0	447		0	217			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	0.24	0.65		0.23	0.54			0.30	0.21		0.32	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 121 (86%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 9: Driveway/Zaxby's Driveway & US 401





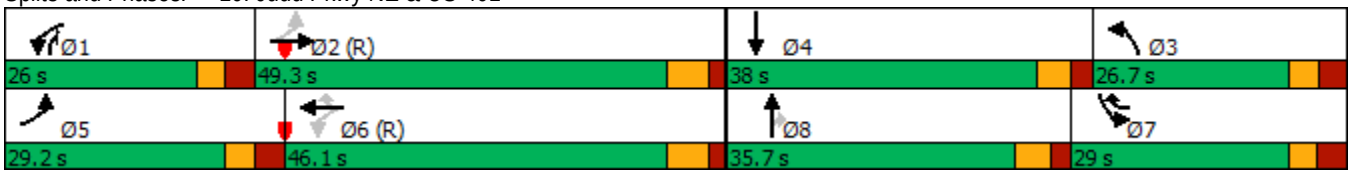
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	256	705	121	264	531	381	144	240	252	470	288	134
Future Volume (vph)	256	705	121	264	531	381	144	240	252	470	288	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			0%			2%			2%	
Storage Length (ft)	100		0	100		100	175		275	175		0
Storage Lanes	1		0	1		1	1		1	2		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt		0.978				0.850			0.850		0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	3370	0	1770	3539	1583	1752	3504	1567	3399	3336	0
Flt Permitted	0.365			0.127			0.950			0.950		
Satd. Flow (perm)	673	3370	0	237	3539	1583	1752	3504	1567	3399	3336	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		4156			799			1611			1245	
Travel Time (s)		81.0			15.6			31.4			24.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	284	783	134	293	590	423	160	267	280	522	320	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	284	917	0	293	590	423	160	267	280	522	469	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2			6		6			8			
Detector Phase	5	2		1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	12.0		7.0	12.0	7.0	7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	13.2	35.4		13.1	35.4	13.3	13.2	35.7	13.1	13.3	30.9	
Total Split (s)	29.2	49.3		26.0	46.1	29.0	26.7	35.7	26.0	29.0	38.0	
Total Split (%)	20.9%	35.2%		18.6%	32.9%	20.7%	19.1%	25.5%	18.6%	20.7%	27.1%	
Maximum Green (s)	23.0	42.9		19.9	39.7	22.7	20.5	30.0	19.9	22.7	32.1	
Yellow Time (s)	3.0	4.5		3.0	4.5	3.0	3.0	3.7	3.0	3.0	3.7	
All-Red Time (s)	3.2	1.9		3.1	1.9	3.3	3.2	2.0	3.1	3.3	2.2	
Lost Time Adjust (s)	-1.2	-1.4		-1.1	-1.4	-1.3	-1.2	-0.7	-1.1	-1.3	-0.9	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None	None	None	None	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			23.0			18.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	69.0	50.5		77.0	55.6	84.8	19.8	16.7	40.2	29.2	26.1	
Actuated g/C Ratio	0.49	0.36		0.55	0.40	0.61	0.14	0.12	0.29	0.21	0.19	
v/c Ratio	0.60	0.75		0.76	0.42	0.44	0.65	0.64	0.62	0.74	0.76	
Control Delay	14.6	28.1		33.9	36.0	10.5	69.0	65.7	28.9	58.1	61.7	

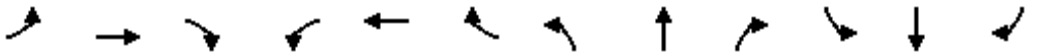
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.6	28.1		33.9	36.0	10.5	69.0	65.7	28.9	58.1	61.7	
LOS	B	C		C	D	B	E	E	C	E	E	
Approach Delay		24.9			27.3			51.9			59.8	
Approach LOS		C			C			D			E	
Queue Length 50th (ft)	53	424		181	218	141	139	123	120	230	215	
Queue Length 95th (ft)	m38	m469		#357	340	213	215	167	167	284	263	
Internal Link Dist (ft)		4076			719			1531			1165	
Turn Bay Length (ft)	100			100		100	175		275	175		
Base Capacity (vph)	545	1216		389	1404	961	273	768	451	714	786	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.52	0.75		0.75	0.42	0.44	0.59	0.35	0.62	0.73	0.60	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 48 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 38.4 Intersection LOS: D
Intersection Capacity Utilization 74.9% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Judd Pkwy NE & US 401



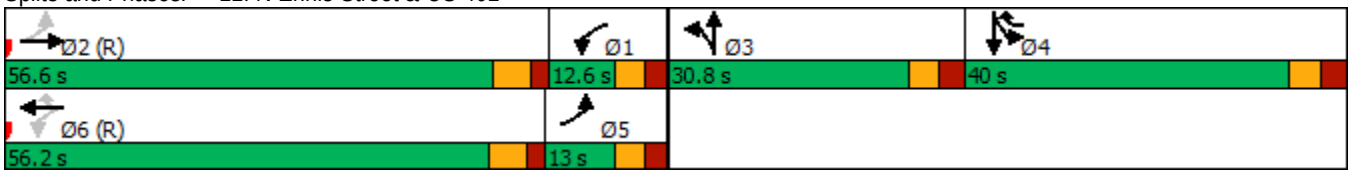


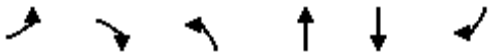
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	466	10	3	633	281	13	129	38	451	185	160
Future Volume (vph)	137	466	10	3	633	281	13	129	38	451	185	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-1%			5%			-2%	
Storage Length (ft)	125		100	150		0	250		0	0		125
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.997				0.850		0.966			0.939	
Flt Protected	0.950			0.950			0.950			0.950	0.994	
Satd. Flow (prot)	1761	3511	0	1778	1872	1591	1725	1754	0	1698	1668	0
Flt Permitted	0.077			0.350			0.950			0.950	0.994	
Satd. Flow (perm)	143	3511	0	655	1872	1591	1725	1754	0	1698	1668	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		2225			4156			900			1160	
Travel Time (s)		43.3			81.0			24.5			31.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	152	518	11	3	703	312	14	143	42	501	206	178
Shared Lane Traffic (%)										11%		
Lane Group Flow (vph)	152	529	0	3	703	312	14	185	0	446	439	0
Turn Type	pm+pt	NA		pm+pt	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	5	2		1	6	4	3	3		4	4	
Permitted Phases	2			6		6						
Detector Phase	5	2		1	6	4	3	3		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.6	27.7		12.6	23.7	29.2	30.8	30.8		29.2	29.2	
Total Split (s)	13.0	56.6		12.6	56.2	40.0	30.8	30.8		40.0	40.0	
Total Split (%)	9.3%	40.4%		9.0%	40.1%	28.6%	22.0%	22.0%		28.6%	28.6%	
Maximum Green (s)	7.4	50.9		7.0	50.5	33.8	25.0	25.0		33.8	33.8	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.3	3.0	3.0		3.3	3.3	
All-Red Time (s)	2.6	1.8		2.6	1.8	2.9	2.8	2.8		2.9	2.9	
Lost Time Adjust (s)	-0.6	-0.7		-0.6	-0.7	-1.2	-0.8	-0.8		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lead		Lag	Lead	Lag	Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0			9.0	16.0	18.0	18.0		16.0	16.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	59.9	58.3		53.8	51.2	96.6	20.4	20.4		40.4	40.4	
Actuated g/C Ratio	0.43	0.42		0.38	0.37	0.69	0.15	0.15		0.29	0.29	
v/c Ratio	0.99	0.36		0.01	1.03	0.28	0.06	0.73		0.91	0.91	
Control Delay	123.4	33.0		19.3	78.5	7.4	49.4	72.9		72.3	73.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	123.4	33.0		19.3	78.5	7.4	49.4	72.9		72.3	73.0	
LOS	F	C		B	E	A	D	E		E	E	
Approach Delay		53.2			56.5			71.2			72.6	
Approach LOS		D			E			E			E	
Queue Length 50th (ft)	93	153		1	~672	82	11	163		415	409	
Queue Length 95th (ft)	#280	279		m3	#950	97	32	238		#691	#685	
Internal Link Dist (ft)		2145			4076			820			1080	
Turn Bay Length (ft)	125			150			250					
Base Capacity (vph)	153	1547		340	684	1097	317	323		489	481	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.99	0.34		0.01	1.03	0.28	0.04	0.57		0.91	0.91	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 116 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 61.9		Intersection LOS: E	
Intersection Capacity Utilization 88.9%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 11: N Ennis Street & US 401



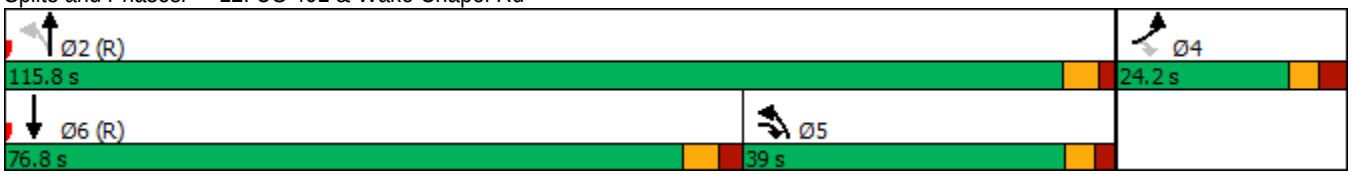


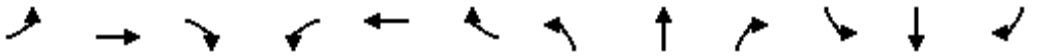
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	516	445	530	673	73
Future Volume (vph)	87	516	445	530	673	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%			2%	1%	
Storage Length (ft)	0	0	375			0
Storage Lanes	1	1	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.987	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1787	1599	1735	1826	1829	0
Flt Permitted	0.950		0.116			
Satd. Flow (perm)	1787	1599	212	1826	1829	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	35			35	35	
Link Distance (ft)	1142			1797	2225	
Travel Time (s)	22.2			35.0	43.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	97	573	494	589	748	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	573	494	589	829	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	24.2	12.3	12.3	23.5	24.2	
Total Split (s)	24.2	39.0	39.0	115.8	76.8	
Total Split (%)	17.3%	27.9%	27.9%	82.7%	54.9%	
Maximum Green (s)	18.0	33.7	33.7	110.3	70.6	
Yellow Time (s)	3.0	3.0	3.0	3.7	3.8	
All-Red Time (s)	3.2	2.3	2.3	1.8	2.4	
Lost Time Adjust (s)	-1.2	-1.2	-1.3	-0.5	-1.2	
Total Lost Time (s)	5.0	4.1	4.0	5.0	5.0	
Lead/Lag		Lag	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Act Effct Green (s)	14.1	58.1	116.9	115.9	72.8	
Actuated g/C Ratio	0.10	0.42	0.84	0.83	0.52	
v/c Ratio	0.54	0.86	0.82	0.39	0.87	
Control Delay	70.3	52.2	40.7	2.8	11.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.3	52.2	40.7	2.8	11.3	
LOS	E	D	D	A	B	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	54.8			20.1	11.3	
Approach LOS	D			C	B	
Queue Length 50th (ft)	85	468	273	79	143	
Queue Length 95th (ft)	141	#680	m#527	119	m153	
Internal Link Dist (ft)	1062			1717	2145	
Turn Bay Length (ft)			375			
Base Capacity (vph)	245	663	601	1511	960	
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	0.86	0.82	0.39	0.86	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 4 (3%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 82.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 12: US 401 & Wake Chapel Rd





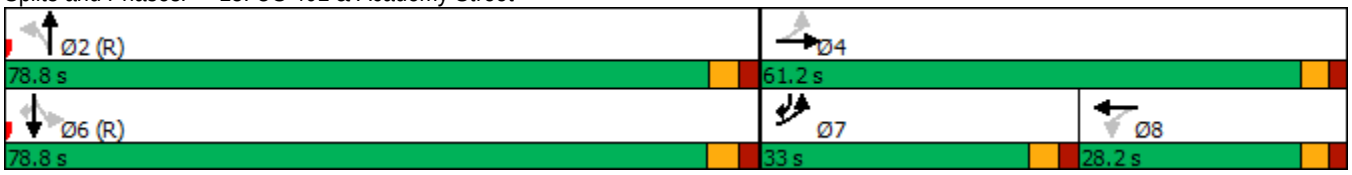
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	327	166	46	4	140	68	43	522	4	52	766	433
Future Volume (vph)	327	166	46	4	140	68	43	522	4	52	766	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			1%			-2%	
Storage Length (ft)	150		0	150		0	75		0	100		150
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.951			0.999				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1792	0	1761	1763	0	1796	1834	0	1787	1881	1599
Flt Permitted	0.208			0.612			0.093			0.284		
Satd. Flow (perm)	386	1792	0	1134	1763	0	176	1834	0	534	1881	1599
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		2068			1972			854			1797	
Travel Time (s)		56.4			53.8			23.3			49.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	0%	3%	0%	2%	2%	2%
Adj. Flow (vph)	363	184	51	4	156	76	48	580	4	58	851	481
Shared Lane Traffic (%)												
Lane Group Flow (vph)	363	235	0	4	232	0	48	584	0	58	851	481
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	7	4			8			2			6	7
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	7.0
Minimum Split (s)	12.1	23.1		23.1	23.1		23.4	23.4		23.6	23.6	12.1
Total Split (s)	33.0	61.2		28.2	28.2		78.8	78.8		78.8	78.8	33.0
Total Split (%)	23.6%	43.7%		20.1%	20.1%		56.3%	56.3%		56.3%	56.3%	23.6%
Maximum Green (s)	27.9	56.1		23.1	23.1		73.4	73.4		73.2	73.2	27.9
Yellow Time (s)	3.0	3.1		3.1	3.1		3.1	3.1		3.3	3.3	3.0
All-Red Time (s)	2.1	2.0		2.0	2.0		2.3	2.3		2.3	2.3	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.1	-0.1		-0.4	-0.4		-0.4	-0.6	-0.6
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.2	5.0	4.5
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	None
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0		10.0	10.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	56.0	56.0		21.5	21.5		74.0	74.0		73.8	74.0	109.0
Actuated g/C Ratio	0.40	0.40		0.15	0.15		0.53	0.53		0.53	0.53	0.78
v/c Ratio	0.82	0.33		0.02	0.86		0.52	0.60		0.21	0.86	0.39
Control Delay	48.8	30.3		49.5	85.5		43.7	22.7		19.5	34.9	6.1

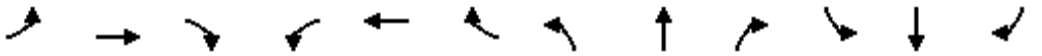
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	48.8	30.3		49.5	85.5		43.7	22.7		19.5	34.9	6.1
LOS	D	C		D	F		D	C		B	C	A
Approach Delay		41.5			84.9			24.3			24.3	
Approach LOS		D			F			C			C	
Queue Length 50th (ft)	236	140		3	206		19	313		28	627	102
Queue Length 95th (ft)	#407	216		15	#334		#78	379		m32	845	m154
Internal Link Dist (ft)		1988			1892			774			1717	
Turn Bay Length (ft)	150			150			75			100		150
Base Capacity (vph)	447	737		187	292		94	987		286	1013	1248
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.81	0.32		0.02	0.79		0.51	0.59		0.20	0.84	0.39

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 43 (31%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 32.9 Intersection LOS: C
Intersection Capacity Utilization 85.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: US 401 & Academy Street





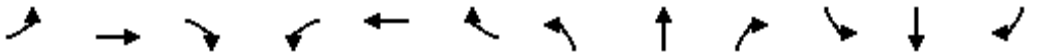
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	21	18	44	10	93	6	395	29	155	670	17
Future Volume (vph)	10	21	18	44	10	93	6	395	29	155	670	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-2%			2%			-2%	
Storage Length (ft)	0		0	0		75	75		0	75		0
Storage Lanes	0		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.864			0.990			0.996	
Flt Protected		0.990		0.950			0.950			0.950		
Satd. Flow (prot)	0	1760	0	1787	1629	0	1735	1808	0	1823	1874	0
Flt Permitted		0.927		0.731			0.331			0.476		
Satd. Flow (perm)	0	1648	0	1375	1629	0	604	1808	0	913	1874	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1404			1928			2641			854	
Travel Time (s)		38.3			52.6			72.0			23.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	0%	2%	3%	3%	3%	0%	2%	2%
Adj. Flow (vph)	11	23	20	49	11	103	7	439	32	172	744	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	54	0	49	114	0	7	471	0	172	763	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	29.0	29.0		23.3	23.3		23.2	23.2		23.4	23.4	
Total Split (s)	35.0	35.0		35.0	35.0		105.0	105.0		105.0	105.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	30.1	30.1		29.7	29.7		99.8	99.8		99.6	99.6	
Yellow Time (s)	3.1	3.1		3.3	3.3		3.1	3.1		3.3	3.3	
All-Red Time (s)	1.8	1.8		2.0	2.0		2.1	2.1		2.1	2.1	
Lost Time Adjust (s)		0.1		-0.3	-0.3		-0.2	-0.2		-0.4	-0.4	
Total Lost Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	6.0	6.0		5.0	5.0		11.0	11.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		15.4		15.4	15.4		114.6	114.6		114.6	114.6	
Actuated g/C Ratio		0.11		0.11	0.11		0.82	0.82		0.82	0.82	
v/c Ratio		0.30		0.32	0.64		0.01	0.32		0.23	0.50	
Control Delay		59.9		61.6	74.8		1.0	1.9		0.9	2.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.7	
Total Delay		59.9		61.6	74.8		1.0	1.9		0.9	2.9	
LOS		E		E	E		A	A		A	A	
Approach Delay		59.9			70.8			1.9			2.5	
Approach LOS		E			E			A			A	
Queue Length 50th (ft)		46		42	101		0	22		2	10	
Queue Length 95th (ft)		87		81	162		m1	37		m3	30	
Internal Link Dist (ft)		1324			1848			2561			774	
Turn Bay Length (ft)							75			75		
Base Capacity (vph)		353		294	349		494	1479		747	1533	
Starvation Cap Reductn		0		0	0		0	0		0	423	
Spillback Cap Reductn		0		0	0		0	0		0	0	
Storage Cap Reductn		0		0	0		0	0		0	0	
Reduced v/c Ratio		0.15		0.17	0.33		0.01	0.32		0.23	0.69	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 133 (95%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.64
Intersection Signal Delay: 11.0 Intersection LOS: B
Intersection Capacity Utilization 66.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: US 401 & Vance Street



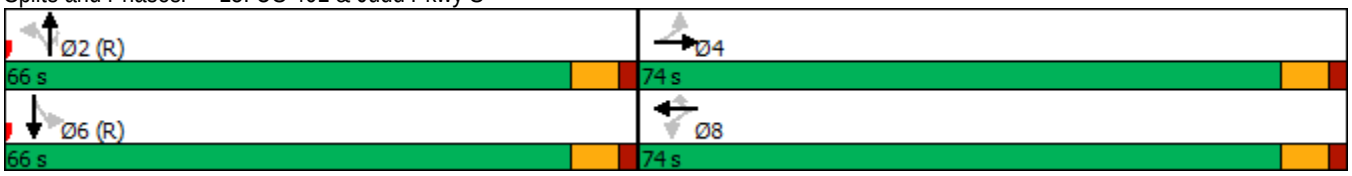
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	339	57	245	258	120	52	392	296	97	535	63
Future Volume (vph)	59	339	57	245	258	120	52	392	296	97	535	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			0%			0%	
Storage Length (ft)	75		0	100		125	50		0	150		0
Storage Lanes	1		0	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.979				0.850			0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1815	0	1761	1853	1575	1752	1845	1568	1770	1833	0
Flt Permitted	0.489			0.338			0.192			0.377		
Satd. Flow (perm)	906	1815	0	626	1853	1575	354	1845	1568	702	1833	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		45			45			35			35	
Link Distance (ft)		2561			1512			355			505	
Travel Time (s)		38.8			22.9			6.9			9.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	66	377	63	272	287	133	58	436	329	108	594	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	440	0	272	287	133	58	436	329	108	664	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2		2	6		
Detector Phase	4	4		8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	23.7	23.7		23.4	23.4	23.4	23.8	23.8	23.8	23.5	23.5	
Total Split (s)	74.0	74.0		74.0	74.0	74.0	66.0	66.0	66.0	66.0	66.0	
Total Split (%)	52.9%	52.9%		52.9%	52.9%	52.9%	47.1%	47.1%	47.1%	47.1%	47.1%	
Maximum Green (s)	67.0	67.0		67.0	67.0	67.0	59.0	59.0	59.0	59.0	59.0	
Yellow Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	
Act Effct Green (s)	61.3	61.3		61.3	61.3	61.3	68.7	68.7	68.7	68.7	68.7	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.44	0.49	0.49	0.49	0.49	0.49	
v/c Ratio	0.17	0.55		0.99	0.35	0.19	0.34	0.48	0.43	0.31	0.74	
Control Delay	22.6	31.1		91.1	26.3	23.2	32.4	27.9	27.2	11.7	17.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.6	31.1		91.1	26.3	23.2	32.4	27.9	27.2	11.7	17.5	
LOS	C	C		F	C	C	C	C	C	B	B	

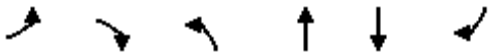
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.0			51.2			27.9			16.7	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)	34	275		228	161	69	34	277	202	23	201	
Queue Length 95th (ft)	63	360		#406	219	107	81	396	302	48	543	
Internal Link Dist (ft)		2481			1432			275			425	
Turn Bay Length (ft)	75			100		125	50			150		
Base Capacity (vph)	446	894		308	913	776	173	904	769	344	899	
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.49		0.88	0.31	0.17	0.34	0.48	0.43	0.31	0.74	

Intersection Summary

Area Type: Other
Cycle Length: 140
Actuated Cycle Length: 140
Offset: 136 (97%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 31.0 Intersection LOS: C
Intersection Capacity Utilization 91.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: US 401 & Judd Pkwy S





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	58	4	502	626	238
Future Volume (vph)	145	58	4	502	626	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			100
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.962					0.850
Flt Protected	0.965		0.950			
Satd. Flow (prot)	1764	0	1805	3505	3539	1615
Flt Permitted	0.965		0.950			
Satd. Flow (perm)	1764	0	1805	3505	3539	1615
Link Speed (mph)	35			35	35	
Link Distance (ft)	2217			2406	1444	
Travel Time (s)	43.2			46.9	28.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	161	64	4	558	696	264
Shared Lane Traffic (%)						
Lane Group Flow (vph)	225	0	4	558	696	264
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.5%		ICU Level of Service A	
Analysis Period (min) 15			

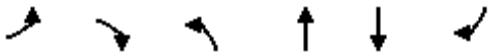
Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	145	58	4	502	626	238
Future Vol, veh/h	145	58	4	502	626	238
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	3	2	0
Mvmt Flow	161	64	4	558	696	264

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	983	348	960	0	-	0
Stage 1	696	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.8	6.9	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	249	654	725	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	248	654	725	-	-	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	742	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.5	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	725	-	301	-	-
HCM Lane V/C Ratio	0.006	-	0.749	-	-
HCM Control Delay (s)	10	-	45.5	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0	-	5.6	-	-

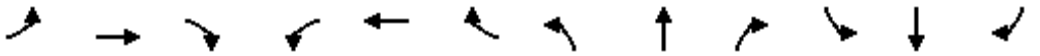


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	25	586	376	668	832	39
Future Volume (vph)	25	586	376	668	832	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	150			0
Storage Lanes	1	1	2			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	0.97	0.95	0.95	0.95
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	3400	3505	3514	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	3400	3505	3514	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	55			55	55	
Link Distance (ft)	2213			1276	2775	
Travel Time (s)	27.4			15.8	34.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	3%	2%	2%
Adj. Flow (vph)	28	651	418	742	924	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	651	418	742	967	0
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	14.0	14.0	
Minimum Split (s)	25.0	14.0	14.0	25.0	21.0	
Total Split (s)	25.0	29.0	29.0	65.0	36.0	
Total Split (%)	27.8%	32.2%	32.2%	72.2%	40.0%	
Maximum Green (s)	18.0	22.0	22.0	58.0	29.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Min	C-Min	
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	9.5	40.6	34.5	81.9	39.4	
Actuated g/C Ratio	0.11	0.45	0.38	0.91	0.44	
v/c Ratio	0.15	0.89	0.32	0.23	0.63	
Control Delay	38.1	37.7	9.7	2.5	9.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Total Delay	38.1	37.7	9.7	2.5	9.1	
LOS	D	D	A	A	A	
Approach Delay	37.7			5.1	9.1	
Approach LOS	D			A	A	
Queue Length 50th (ft)	15	340	44	0	103	
Queue Length 95th (ft)	40	409	65	74	m204	
Internal Link Dist (ft)	2133			1196	2695	
Turn Bay Length (ft)			150			
Base Capacity (vph)	401	729	1303	3189	1536	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.07	0.89	0.32	0.23	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 17: US 401 & Piney Grove Rawls Rd

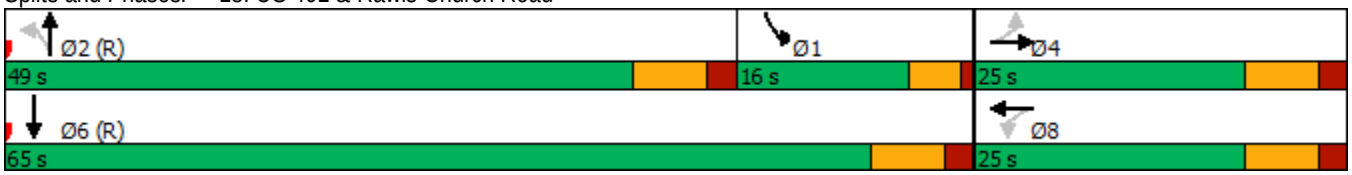


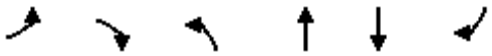
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	23	30	4	29	80	41	952	42	128	1178	90
Future Volume (vph)	32	23	30	4	29	80	41	952	42	128	1178	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	275		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.916			0.890			0.994			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1706	0	1770	1658	0	1752	3484	0	1770	3500	0
Flt Permitted	0.655			0.719			0.146			0.950		
Satd. Flow (perm)	1220	1706	0	1339	1658	0	269	3484	0	1770	3500	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		2880			3300			2308			1276	
Travel Time (s)		35.7			40.9			28.6			15.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	36	26	33	4	32	89	46	1058	47	142	1309	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	59	0	4	121	0	46	1105	0	142	1409	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2					
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		5.0	14.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		9.5	25.0	
Total Split (s)	25.0	25.0		25.0	25.0		49.0	49.0		16.0	65.0	
Total Split (%)	27.8%	27.8%		27.8%	27.8%		54.4%	54.4%		17.8%	72.2%	
Maximum Green (s)	18.0	18.0		18.0	18.0		42.0	42.0		11.5	58.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		3.5	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		2.5	5.0	
Lead/Lag							Lead	Lead		Lag		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		None	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	13.8	13.8		13.8	13.8		50.4	50.4		13.3	66.2	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.56	0.56		0.15	0.74	
v/c Ratio	0.19	0.23		0.02	0.48		0.31	0.57		0.54	0.55	
Control Delay	34.1	34.0		30.0	40.2		19.9	15.1		42.1	6.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	34.1	34.0		30.0	40.2		19.9	15.1		42.1	6.5	
LOS	C	C		C	D		B	B		D	A	
Approach Delay		34.0			39.9			15.3			9.7	
Approach LOS		C			D			B			A	
Queue Length 50th (ft)	18	30		2	64		13	205		74	203	
Queue Length 95th (ft)	43	61		11	110		46	293		m113	m362	
Internal Link Dist (ft)		2800			3220			2228			1196	
Turn Bay Length (ft)							275			150		
Base Capacity (vph)	271	379		297	368		150	1950		280	2573	
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	0.13	0.16		0.01	0.33		0.31	0.57		0.51	0.55	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 81 (90%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 68.0%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 18: US 401 & Rawls Church Road





Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	13	6	952	1251	11
Future Volume (vph)	14	13	6	952	1251	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	75			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.937				0.999	
Flt Protected	0.974		0.950			
Satd. Flow (prot)	1700	0	1805	3505	3536	0
Flt Permitted	0.974		0.950			
Satd. Flow (perm)	1700	0	1805	3505	3536	0
Link Speed (mph)	35			55	55	
Link Distance (ft)	1978			6809	2308	
Travel Time (s)	38.5			84.4	28.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	16	14	7	1058	1390	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	30	0	7	1058	1402	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	13	6	952	1251	11
Future Vol, veh/h	14	13	6	952	1251	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	16	14	7	1058	1390	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1939	701	1402	0	-	0
Stage 1	1396	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	57	381	493	-	-	-
Stage 1	195	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	56	381	493	-	-	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	192	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	59.5	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	493	-	95	-	-
HCM Lane V/C Ratio	0.014	-	0.316	-	-
HCM Control Delay (s)	12.4	-	59.5	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0	-	1.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	88	119	948	50	217	1123
Future Volume (vph)	88	119	948	50	217	1123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	1		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.992			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3477	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3477	0	1770	3539
Link Speed (mph)	55		45			45
Link Distance (ft)	2952		1355			6809
Travel Time (s)	36.6		20.5			103.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	98	132	1053	56	241	1248
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	132	1109	0	241	1248
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 54.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	61.2

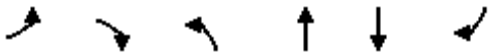
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	119	948	50	217	1123
Future Vol, veh/h	88	119	948	50	217	1123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	98	132	1053	56	241	1248

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2187	555	0	0	1109	0
Stage 1	1081	-	-	-	-	-
Stage 2	1106	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	~ 39	475	-	-	625	-
Stage 1	287	-	-	-	-	-
Stage 2	278	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 24	475	-	-	625	-
Mov Cap-2 Maneuver	~ 24	-	-	-	-	-
Stage 1	287	-	-	-	-	-
Stage 2	171	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 737.9	0	2.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	24	475	625	-
HCM Lane V/C Ratio	-	-	4.074	0.278	0.386	-
HCM Control Delay (s)	-	-	$ 1714.7	15.5	14.3	-
HCM Lane LOS	-	-	F	C	B	-
HCM 95th %tile Q(veh)	-	-	12.2	1.1	1.8	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	127	11	8	903	1145	109
Future Volume (vph)	127	11	8	903	1145	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.989				0.987	
Flt Protected	0.956		0.950			
Satd. Flow (prot)	1761	0	1752	3505	3493	0
Flt Permitted	0.956		0.950			
Satd. Flow (perm)	1761	0	1752	3505	3493	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	2900			4214	1355	
Travel Time (s)	79.1			63.8	20.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	141	12	9	1003	1272	121
Shared Lane Traffic (%)						
Lane Group Flow (vph)	153	0	9	1003	1393	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	40.4

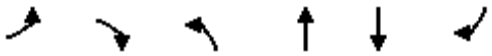
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	11	8	903	1145	109
Future Vol, veh/h	127	11	8	903	1145	109
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	141	12	9	1003	1272	121

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1853	697	1393	0	-	0
Stage 1	1333	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.16	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.23	-	-	-
Pot Cap-1 Maneuver	~ 66	383	482	-	-	-
Stage 1	211	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 65	383	482	-	-	-
Mov Cap-2 Maneuver	~ 65	-	-	-	-	-
Stage 1	207	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 674.2	0.1	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	482	-	70	-	-
HCM Lane V/C Ratio	0.018	-	2.19	-	-
HCM Control Delay (s)	12.6	-	$ 674.2	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	14.4	-	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	32	50	838	1007	11
Future Volume (vph)	40	32	50	838	1007	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	125			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.939				0.998	
Flt Protected	0.973		0.950			
Satd. Flow (prot)	1702	0	1770	3539	3532	0
Flt Permitted	0.973		0.950			
Satd. Flow (perm)	1702	0	1770	3539	3532	0
Link Speed (mph)	25			45	45	
Link Distance (ft)	1843			2358	4214	
Travel Time (s)	50.3			35.7	63.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	36	56	931	1119	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	80	0	56	931	1131	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	32	50	838	1007	11
Future Vol, veh/h	40	32	50	838	1007	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	36	56	931	1119	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1703	566	1131	0	-	0
Stage 1	1125	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	83	467	613	-	-	-
Stage 1	272	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	467	613	-	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	247	-	-	-	-	-
Stage 2	524	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	80.9	0.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	613	-	120	-	-
HCM Lane V/C Ratio	0.091	-	0.667	-	-
HCM Control Delay (s)	11.5	-	80.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	3.5	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	114	8	793	106	4	929
Future Volume (vph)	114	8	793	106	4	929
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.991		0.982			
Flt Protected	0.955				0.950	
Satd. Flow (prot)	1763	0	3454	0	1805	3539
Flt Permitted	0.955				0.950	
Satd. Flow (perm)	1763	0	3454	0	1805	3539
Link Speed (mph)	25		45			45
Link Distance (ft)	1341		4391			2358
Travel Time (s)	36.6		66.5			35.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	127	9	881	118	4	1032
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	999	0	4	1032
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	11

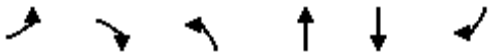
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	114	8	793	106	4	929
Future Vol, veh/h	114	8	793	106	4	929
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	127	9	881	118	4	1032

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1464	500	0	0	999	0
Stage 1	940	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	~ 119	516	-	-	701	-
Stage 1	340	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 118	516	-	-	701	-
Mov Cap-2 Maneuver	~ 118	-	-	-	-	-
Stage 1	340	-	-	-	-	-
Stage 2	556	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	176.3	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	124	701	-
HCM Lane V/C Ratio	-	-	1.093	0.006	-
HCM Control Delay (s)	-	-	176.3	10.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	7.9	0	-

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	38	65	928	937	115
Future Volume (vph)	57	38	65	928	937	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			150
Storage Lanes	1	0	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt	0.946					0.850
Flt Protected	0.971		0.950			
Satd. Flow (prot)	1711	0	1805	3505	3539	1615
Flt Permitted	0.971		0.950			
Satd. Flow (perm)	1711	0	1805	3505	3539	1615
Link Speed (mph)	45			55	55	
Link Distance (ft)	2276			954	4391	
Travel Time (s)	34.5			11.8	54.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	63	42	72	1031	1041	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	0	72	1031	1041	128
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	38	65	928	937	115
Future Vol, veh/h	57	38	65	928	937	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	63	42	72	1031	1041	128

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1701	521	1169	0	-	0
Stage 1	1041	-	-	-	-	-
Stage 2	660	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	83	500	605	-	-	-
Stage 1	301	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	73	500	605	-	-	-
Mov Cap-2 Maneuver	73	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	144.7	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	605	-	111	-	-
HCM Lane V/C Ratio	0.119	-	0.951	-	-
HCM Control Delay (s)	11.8	-	144.7	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.4	-	6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	26	177	817	18	146	832
Future Volume (vph)	26	177	817	18	146	832
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		225	400	
Storage Lanes	1	0		1	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.882			0.850		
Flt Protected	0.994				0.950	
Satd. Flow (prot)	1666	0	3505	1615	1805	3539
Flt Permitted	0.994				0.950	
Satd. Flow (perm)	1666	0	3505	1615	1805	3539
Link Speed (mph)	35		55			55
Link Distance (ft)	1130		2530			954
Travel Time (s)	22.0		31.4			11.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	3%	0%	0%	2%
Adj. Flow (vph)	29	197	908	20	162	924
Shared Lane Traffic (%)						
Lane Group Flow (vph)	226	0	908	20	162	924
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	177	817	18	146	832
Future Vol, veh/h	26	177	817	18	146	832
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	225	400	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	3	0	0	2
Mvmt Flow	29	197	908	20	162	924

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1694	454	0	0	928	0
Stage 1	908	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Critical Hdwy	6.8	6.9	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	86	559	-	-	745	-
Stage 1	359	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	67	559	-	-	745	-
Mov Cap-2 Maneuver	67	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	325	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	51.1	0	1.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	288	745	-
HCM Lane V/C Ratio	-	-	0.783	0.218	-
HCM Control Delay (s)	-	-	51.1	11.2	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	6.1	0.8	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	44	33	916	78	94	770
Future Volume (vph)	44	33	916	78	94	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	100	
Storage Lanes	1	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt	0.942		0.988			
Flt Protected	0.972				0.950	
Satd. Flow (prot)	1706	0	3471	0	1805	3539
Flt Permitted	0.972				0.950	
Satd. Flow (perm)	1706	0	3471	0	1805	3539
Link Speed (mph)	25		55			55
Link Distance (ft)	2127		1122			5420
Travel Time (s)	58.0		13.9			67.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	0%	0%	2%
Adj. Flow (vph)	49	37	1018	87	104	856
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	1105	0	104	856
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			

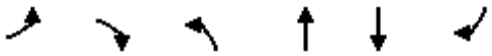
Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	33	916	78	94	770
Future Vol, veh/h	44	33	916	78	94	770
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	0	0	2
Mvmt Flow	49	37	1018	87	104	856

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1698	553	0	0	1105	0
Stage 1	1062	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.1	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.2	-
Pot Cap-1 Maneuver	83	477	-	-	639	-
Stage 1	294	-	-	-	-	-
Stage 2	489	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	69	477	-	-	639	-
Mov Cap-2 Maneuver	69	-	-	-	-	-
Stage 1	294	-	-	-	-	-
Stage 2	409	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	108	0	1.3
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	109	639	-
HCM Lane V/C Ratio	-	-	0.785	0.163	-
HCM Control Delay (s)	-	-	108	11.7	-
HCM Lane LOS	-	-	F	B	-
HCM 95th %tile Q(veh)	-	-	4.4	0.6	-



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	98	164	797	821	23
Future Volume (vph)	16	98	164	797	821	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	1	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.884				0.996	
Flt Protected	0.993		0.950			
Satd. Flow (prot)	1635	0	1805	3505	3527	0
Flt Permitted	0.993		0.950			
Satd. Flow (perm)	1635	0	1805	3505	3527	0
Link Speed (mph)	45			55	55	
Link Distance (ft)	2371			4450	1122	
Travel Time (s)	35.9			55.2	13.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	0%	3%	2%	0%
Adj. Flow (vph)	18	109	182	886	912	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	127	0	182	886	938	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

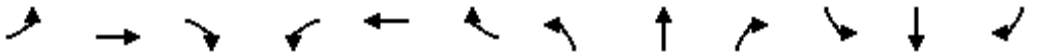
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	98	164	797	821	23
Future Vol, veh/h	16	98	164	797	821	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	0	3	2	0
Mvmt Flow	18	109	182	886	912	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1732	469	938	0	-	0
Stage 1	925	-	-	-	-	-
Stage 2	807	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.1	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.2	-	-	-
Pot Cap-1 Maneuver	79	541	739	-	-	-
Stage 1	347	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	60	541	739	-	-	-
Mov Cap-2 Maneuver	60	-	-	-	-	-
Stage 1	262	-	-	-	-	-
Stage 2	399	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.3	2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	739	-	255	-	-
HCM Lane V/C Ratio	0.247	-	0.497	-	-
HCM Control Delay (s)	11.5	-	32.3	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	1	-	2.6	-	-



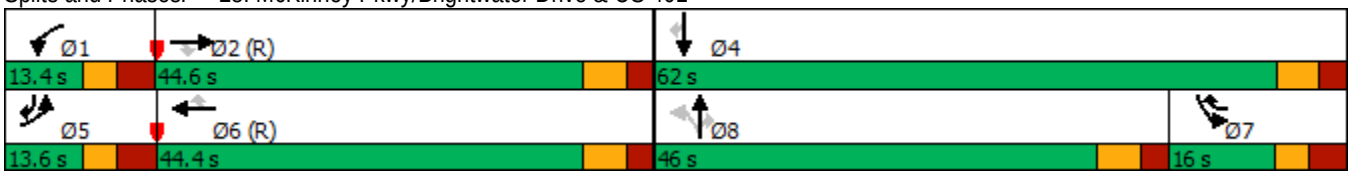
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	623	161	38	791	41	319	10	101	177	10	4
Future Volume (vph)	4	623	161	38	791	41	319	10	101	177	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-1%			2%			-1%	
Storage Length (ft)	350		425	425		425	100		100	425		350
Storage Lanes	2		1	1		1	1		1	2		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3502	3539	1615	1814	3522	1623	1752	1844	1567	3450	1872	1591
Flt Permitted	0.950			0.950			0.750			0.950		
Satd. Flow (perm)	3502	3539	1615	1814	3522	1623	1383	1844	1567	3450	1872	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1382			1815			1236			2007	
Travel Time (s)		26.9			35.4			24.1			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	692	179	42	879	46	354	11	112	197	11	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	692	179	42	879	46	354	11	112	197	11	4
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Perm	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2		1	6	7		8		7	4	5
Permitted Phases			2			6	8		8			4
Detector Phase	5	2	2	1	6	7	8	8	8	7	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	13.6	35.4	35.4	13.4	40.4	13.6	39.5	39.5	39.5	13.6	40.5	13.6
Total Split (s)	13.6	44.6	44.6	13.4	44.4	16.0	46.0	46.0	46.0	16.0	62.0	13.6
Total Split (%)	11.3%	37.2%	37.2%	11.2%	37.0%	13.3%	38.3%	38.3%	38.3%	13.3%	51.7%	11.3%
Maximum Green (s)	7.0	38.2	38.2	7.0	38.0	9.4	39.5	39.5	39.5	9.4	55.5	7.0
Yellow Time (s)	3.0	3.9	3.9	3.0	3.9	3.0	3.9	3.9	3.9	3.0	3.9	3.0
All-Red Time (s)	3.6	2.5	2.5	3.4	2.5	3.6	2.6	2.6	2.6	3.6	2.6	3.6
Lost Time Adjust (s)	-1.6	-1.4	-1.4	-1.4	-1.4	-1.6	-1.5	-1.5	-1.5	-1.6	-1.5	-1.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lead	Lead	Lag		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min	C-Min	None	C-Min	None	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)		22.0	22.0		27.0		26.0	26.0	26.0		27.0	
Pedestrian Calls (#/hr)		0	0		0		0	0	0		0	
Act Effct Green (s)	8.6	45.9	45.9	8.6	54.1	69.9	36.3	36.3	36.3	11.8	53.2	66.8
Actuated g/C Ratio	0.07	0.38	0.38	0.07	0.45	0.58	0.30	0.30	0.30	0.10	0.44	0.56
v/c Ratio	0.02	0.51	0.29	0.32	0.55	0.05	0.85	0.02	0.24	0.58	0.01	0.00
Control Delay	52.0	32.3	30.4	54.8	18.7	4.8	57.5	26.4	31.3	59.1	16.4	10.0

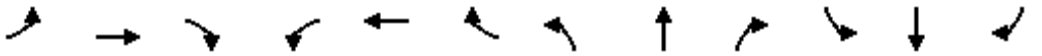
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	32.3	30.4	54.8	18.7	4.8	57.5	26.4	31.3	59.1	16.4	10.0
LOS	D	C	C	D	B	A	E	C	C	E	B	A
Approach Delay		32.0			19.6			50.6			55.9	
Approach LOS		C			B			D			E	
Queue Length 50th (ft)	1	235	105	30	231	5	252	6	64	74	4	1
Queue Length 95th (ft)	7	297	168	66	394	22	363	19	107	117	15	6
Internal Link Dist (ft)		1302			1735			1156			1927	
Turn Bay Length (ft)	350		425	425		425	100		100	425		350
Base Capacity (vph)	250	1372	626	130	1587	933	477	636	540	343	898	885
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.50	0.29	0.32	0.55	0.05	0.74	0.02	0.21	0.57	0.01	0.00

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 48 (40%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 32.8 Intersection LOS: C
Intersection Capacity Utilization 64.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 28: McKinney Pkwy/Brightwater Drive & US 401





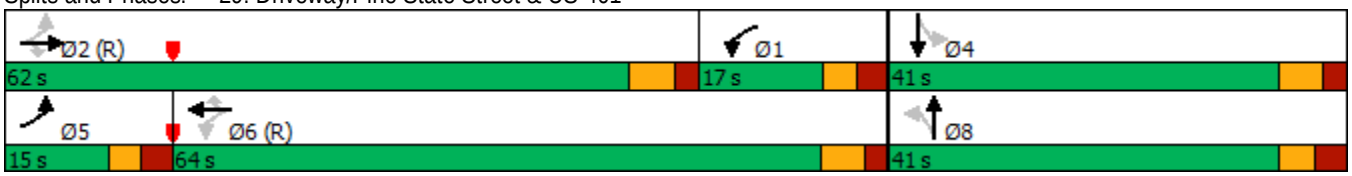
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	859	46	100	728	69	97	4	80	79	4	45
Future Volume (vph)	51	859	46	100	728	69	97	4	80	79	4	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-2%			2%			-1%	
Storage Length (ft)	250		200	300		175	50		0	75		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.856			0.861	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1796	3522	1607	1823	3540	1631	1752	1579	0	1778	1612	0
Flt Permitted	0.290			0.300			0.722			0.669		
Satd. Flow (perm)	548	3522	1607	576	3540	1631	1331	1579	0	1252	1612	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1815			1324			1095			1341	
Travel Time (s)		35.4			25.8			29.9			26.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	2%	0%	0%	3%	0%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	57	954	51	111	809	77	108	4	89	88	4	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	954	51	111	809	77	108	93	0	88	54	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	5	2	2	1	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	7.0	10.0	10.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	12.8	30.2	30.2	12.9	32.2	32.2	37.2	37.2		36.2	36.2	
Total Split (s)	15.0	62.0	62.0	17.0	64.0	64.0	41.0	41.0		41.0	41.0	
Total Split (%)	12.5%	51.7%	51.7%	14.2%	53.3%	53.3%	34.2%	34.2%		34.2%	34.2%	
Maximum Green (s)	9.2	55.8	55.8	11.1	57.8	57.8	34.8	34.8		34.8	34.8	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.1	3.1		3.9	3.9	
All-Red Time (s)	2.8	2.2	2.2	2.9	2.2	2.2	3.1	3.1		2.3	2.3	
Lost Time Adjust (s)	-0.8	-1.2	-1.2	-0.9	-1.2	-1.2	-1.2	-1.2		-1.2	-1.2	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead	Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min	C-Min	None	C-Min	C-Min	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		17.0	17.0		19.0	19.0	24.0	24.0		23.0	23.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	80.8	80.8	80.8	83.1	83.1	83.1	16.3	16.3		16.3	16.3	
Actuated g/C Ratio	0.67	0.67	0.67	0.69	0.69	0.69	0.14	0.14		0.14	0.14	
v/c Ratio	0.13	0.40	0.05	0.23	0.33	0.07	0.60	0.43		0.52	0.25	
Control Delay	2.8	3.9	2.4	1.4	0.9	0.9	61.6	52.6		57.9	47.1	

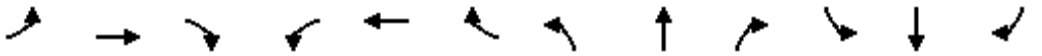
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	2.8	3.9	2.4	1.4	0.9	0.9	61.6	52.6		57.9	47.1	
LOS	A	A	A	A	A	A	E	D		E	D	
Approach Delay		3.8			0.9			57.4			53.8	
Approach LOS		A			A			E			D	
Queue Length 50th (ft)	4	92	4	3	11	2	80	67		64	38	
Queue Length 95th (ft)	m20	113	m19	m7	m23	m5	133	114		113	73	
Internal Link Dist (ft)		1735			1244			1015			1261	
Turn Bay Length (ft)	250		200	300		175	50			75		
Base Capacity (vph)	472	2371	1082	543	2451	1129	399	473		375	483	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.12	0.40	0.05	0.20	0.33	0.07	0.27	0.20		0.23	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 1 (1%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60
Intersection Signal Delay: 10.1 Intersection LOS: B
Intersection Capacity Utilization 54.1% ICU Level of Service A
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 29: Driveway/Pine State Street & US 401



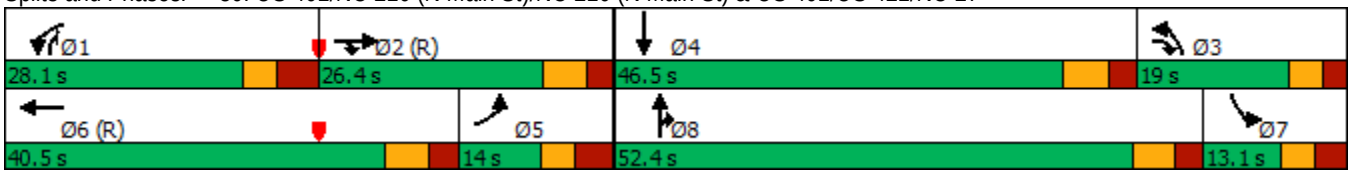


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	356	553	567	380	153	445	631	584	64	449	54
Future Volume (vph)	149	356	553	567	380	153	445	631	584	64	449	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			2%			-2%	
Storage Length (ft)	325		600	450		625	600		0	125		0
Storage Lanes	1		2	1		1	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.88	0.97	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850		0.957				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	2787	3416	3370	0	1752	1844	1567	1787	3517	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	2787	3416	3370	0	1752	1844	1567	1787	3517	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1324			1806			1013			1120	
Travel Time (s)		25.8			35.2			19.7			21.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	166	396	614	630	422	170	494	701	649	71	499	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	396	614	630	592	0	494	701	649	71	559	0
Turn Type	Prot	NA	pt+ov	Prot	NA		Prot	NA	pt+ov	Prot	NA	
Protected Phases	5	2	2 3	1	6		3	8	8 1	7	4	
Permitted Phases												
Detector Phase	5	2	2 3	1	6		3	8	8 1	7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	13.6	24.4		13.8	39.5		12.4	24.1		13.1	46.5	
Total Split (s)	14.0	26.4		28.1	40.5		19.0	52.4		13.1	46.5	
Total Split (%)	11.7%	22.0%		23.4%	33.8%		15.8%	43.7%		10.9%	38.8%	
Maximum Green (s)	7.4	20.0		21.3	34.0		13.6	46.3		7.0	40.0	
Yellow Time (s)	3.0	3.8		3.0	3.8		3.0	3.7		3.0	4.0	
All-Red Time (s)	3.6	2.6		3.8	2.7		2.4	2.4		3.1	2.5	
Lost Time Adjust (s)	-1.6	-1.4		-0.8	-1.5		-0.4	-1.1		-1.1	-1.5	
Total Lost Time (s)	5.0	5.0		6.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Min		None	C-Min		None	None		None	None	
Walk Time (s)					7.0						7.0	
Flash Dont Walk (s)					26.0						33.0	
Pedestrian Calls (#/hr)					0						0	
Act Effct Green (s)	15.9	21.4	47.4	22.1	28.6		28.8	50.0	72.1	8.1	26.7	
Actuated g/C Ratio	0.13	0.18	0.40	0.18	0.24		0.24	0.42	0.60	0.07	0.22	
v/c Ratio	0.71	0.63	0.56	1.00	0.74		1.18	0.91	0.69	0.59	0.71	
Control Delay	57.6	38.7	16.5	85.4	47.8		143.0	51.7	14.4	74.7	48.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	57.6	38.7	16.5	85.4	47.8		143.0	51.7	14.4	74.7	48.1	
LOS	E	D	B	F	D		F	D	B	E	D	
Approach Delay		29.8			67.2			63.0			51.1	
Approach LOS		C			E			E			D	
Queue Length 50th (ft)	130	160	142	~254	223		~460	524	204	54	211	
Queue Length 95th (ft)	#303	188	248	#378	269		#746	#777	294	#116	255	
Internal Link Dist (ft)		1244			1726			933			1040	
Turn Bay Length (ft)	325		600	450			600			125		
Base Capacity (vph)	235	631	1100	629	996		419	768	941	120	1216	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.63	0.56	1.00	0.59		1.18	0.91	0.69	0.59	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 119 (99%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 54.5		Intersection LOS: D	
Intersection Capacity Utilization 81.7%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 30: US 401/NC 210 (N Main St)/NC 210 (N Main St) & US 401/US 421/NC 27



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1080	0	1473
Future Volume (vph)	0	0	0	1080	0	1473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	3%			0%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.76
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	0	3574
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	0	3574
Link Speed (mph)	55			30	55	
Link Distance (ft)	535			538	807	
Travel Time (s)	6.6			12.2	10.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	1200	0	1637
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1200	0	1637
Sign Control	Stop			Free	Free	

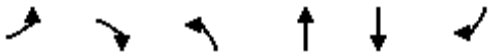
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.7%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	61	0	0	0	0	1473
Future Volume (vph)	61	0	0	0	0	1473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	0	
Storage Lanes	1	0		0	0	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5034
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5034
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	30		55			55
Link Distance (ft)	104		883			535
Travel Time (s)	2.4		10.9			6.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	68	0	0	0	0	1637
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	0	0	1637
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	27.0					53.0
Total Split (%)	33.8%					66.3%
Maximum Green (s)	20.0					46.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	10.8					63.0
Actuated g/C Ratio	0.14					0.79
v/c Ratio	0.29					0.41
Control Delay	33.7					4.1
Queue Delay	0.0					0.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Total Delay	33.7					4.1
LOS	C					A
Approach Delay	33.7					4.1
Approach LOS	C					A
Queue Length 50th (ft)	31					89
Queue Length 95th (ft)	65					134
Internal Link Dist (ft)	24		803			455
Turn Bay Length (ft)						
Base Capacity (vph)	486					3965
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.14					0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 12 (15%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 5.2		Intersection LOS: A	
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 34: US 401 & U-Turn North

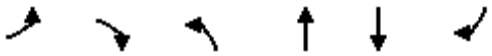


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	61	1080	0	0
Future Volume (vph)	0	0	61	1080	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	30	
Link Distance (ft)	104			1061	538	
Travel Time (s)	2.4			13.2	12.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	68	1200	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	68	1200	0	0
Sign Control	Stop			Free	Stop	

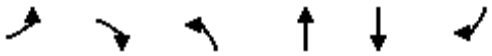
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.8%		ICU Level of Service B	
Analysis Period (min) 15			

Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	0	0	688	1772	0	0
Future Volume (vph)	0	0	688	1772	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	300		0	0
Storage Lanes		0	2		0	0
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	0.97	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	3433	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	3433	5085	0	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	712			1038	102	
Travel Time (s)	8.8			12.9	2.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	764	1969	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	764	1969	0	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.2%		ICU Level of Service A	
Analysis Period (min) 15			



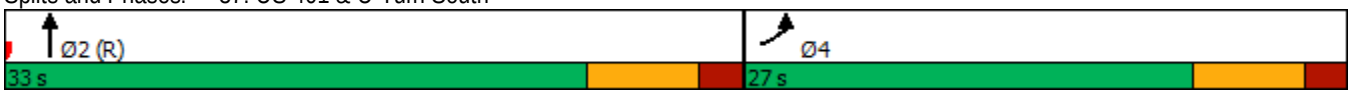
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	688	0	0	1375	0	0
Future Volume (vph)	688	0	0	1375	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	30			55	55	
Link Distance (ft)	102			705	901	
Travel Time (s)	2.3			8.7	11.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	764	0	0	1528	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	764	0	0	1528	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	27.0			33.0		
Total Split (%)	45.0%			55.0%		
Maximum Green (s)	20.0			26.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Min		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	19.9			30.1		
Actuated g/C Ratio	0.33			0.50		
v/c Ratio	0.67			0.60		
Control Delay	20.3			12.3		
Queue Delay	0.0			0.0		
Total Delay	20.3			12.3		
LOS	C			B		
Approach Delay	20.3			12.3		
Approach LOS	C			B		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	115			138		
Queue Length 95th (ft)	162			187		
Internal Link Dist (ft)	22			625	821	
Turn Bay Length (ft)						
Base Capacity (vph)	1258			2554		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.61			0.60		

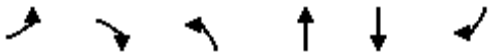
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 13 (22%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 37: US 401 & U-Turn South



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	0	0	0	1375	0	1772
Future Volume (vph)	0	0	0	1375	0	1772
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.76	1.00	0.91
Frt				0.850		
Flt Protected						
Satd. Flow (prot)	0	0	0	3610	0	5085
Flt Permitted						
Satd. Flow (perm)	0	0	0	3610	0	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	705		1194			712
Travel Time (s)	16.0		14.8			8.8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	1528	0	1969
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1528	0	1969
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1888	1607	1964
Future Volume (vph)	0	0	0	1888	1607	1964
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			3%	2%	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	0	0	5009	1844	2759
Flt Permitted						
Satd. Flow (perm)	0	0	0	5009	1844	2759
Link Speed (mph)	30			55	55	
Link Distance (ft)	994			500	1440	
Travel Time (s)	22.6			6.2	17.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	2098	1786	2182
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	2098	1786	2182
Sign Control	Stop			Free	Free	

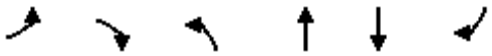
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			

Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	0	1321	97	0	0	1964
Future Volume (vph)	0	1321	97	0	0	1964
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		3%	2%		0%	
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	0.88
Frt						0.850
Flt Protected						
Satd. Flow (prot)	0	5009	1844	0	0	2787
Flt Permitted						
Satd. Flow (perm)	0	5009	1844	0	0	2787
Link Speed (mph)		55	55		55	
Link Distance (ft)		807	500		994	
Travel Time (s)		10.0	6.2		12.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1468	108	0	0	2182
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1468	108	0	0	2182
Sign Control		Free	Free		Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	261	1060
Future Volume (vph)	0	0	0	0	261	1060
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	6408
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	6408
Link Speed (mph)	30		55			55
Link Distance (ft)	165		137			944
Travel Time (s)	3.8		1.7			11.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	290	1178
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	290	1178
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.8%		ICU Level of Service A	
Analysis Period (min) 15			

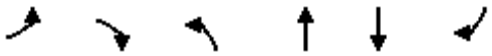


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	266	1797	0	0
Future Volume (vph)	0	0	266	1797	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	200			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	173			901	148	
Travel Time (s)	3.9			11.2	1.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	296	1997	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	296	1997	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 117.1%		ICU Level of Service H	
Analysis Period (min) 15			

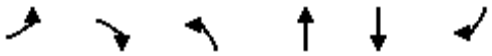
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	46	1488
Future Volume (vph)	0	0	0	0	46	1488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.86
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1752	6344
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1752	6344
Link Speed (mph)	30		55			55
Link Distance (ft)	213		200			883
Travel Time (s)	4.8		2.5			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	51	1653
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	51	1653
Sign Control	Free		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	453	1135	0	0
Future Volume (vph)	0	0	453	1135	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	219			899	208	
Travel Time (s)	5.0			11.1	2.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	503	1261	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	503	1261	0	0
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	97	1164	0	0
Future Volume (vph)	0	0	97	1164	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	100			0
Storage Lanes	0	0	1			0
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected			0.950			
Satd. Flow (prot)	0	0	1770	5085	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	0	0	1770	5085	0	0
Link Speed (mph)	30			55	55	
Link Distance (ft)	103			1073	442	
Travel Time (s)	2.3			13.3	5.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	108	1293	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	108	1293	0	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	244	1143
Future Volume (vph)	0	0	0	0	244	1143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Storage Length (ft)	0	0		0	100	
Storage Lanes	0	0		0	1	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	0	0	0	1770	5085
Flt Permitted					0.950	
Satd. Flow (perm)	0	0	0	0	1770	5085
Link Speed (mph)	30		55			55
Link Distance (ft)	104		439			1091
Travel Time (s)	2.4		5.4			13.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	0	0	271	1270
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	271	1270
Sign Control	Stop		Free			Free

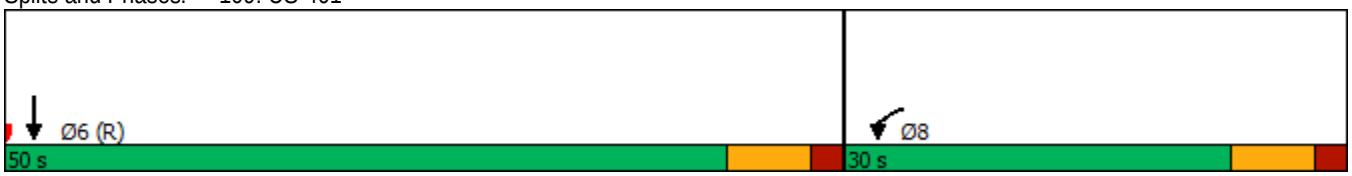
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.8%		ICU Level of Service A	
Analysis Period (min) 15			

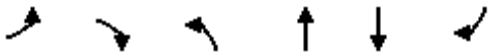
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	97	0	0	0	0	1224
Future Volume (vph)	97	0	0	0	0	1224
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		2%			0%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.91
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	0	0	5085
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	0	0	5085
Right Turn on Red	No	No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	25		55			55
Link Distance (ft)	103		944			439
Travel Time (s)	2.8		11.7			5.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	0	0	0	0	1360
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	0	0	0	0	1360
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Detector Phase	8					6
Switch Phase						
Minimum Initial (s)	7.0					14.0
Minimum Split (s)	25.0					25.0
Total Split (s)	30.0					50.0
Total Split (%)	37.5%					62.5%
Maximum Green (s)	23.0					43.0
Yellow Time (s)	5.0					5.0
All-Red Time (s)	2.0					2.0
Lost Time Adjust (s)	-2.0					-2.0
Total Lost Time (s)	5.0					5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0					3.0
Recall Mode	None					C-Max
Walk Time (s)	7.0					7.0
Flash Dont Walk (s)	11.0					11.0
Pedestrian Calls (#/hr)	0					0
Act Effct Green (s)	12.4					61.4
Actuated g/C Ratio	0.16					0.77
v/c Ratio	0.40					0.35
Control Delay	34.1					1.9
Queue Delay	0.0					0.0
Total Delay	34.1					1.9
LOS	C					A
Approach Delay	34.1					1.9

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C					A
Queue Length 50th (ft)	49					15
Queue Length 95th (ft)	91					22
Internal Link Dist (ft)	23		864			359
Turn Bay Length (ft)						
Base Capacity (vph)	553					3905
Starvation Cap Reductn	0					0
Spillback Cap Reductn	0					0
Storage Cap Reductn	0					0
Reduced v/c Ratio	0.20					0.35

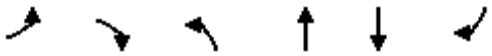
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 42 (53%), Referenced to phase 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.40			
Intersection Signal Delay: 4.3		Intersection LOS: A	
Intersection Capacity Utilization 53.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 109: US 401





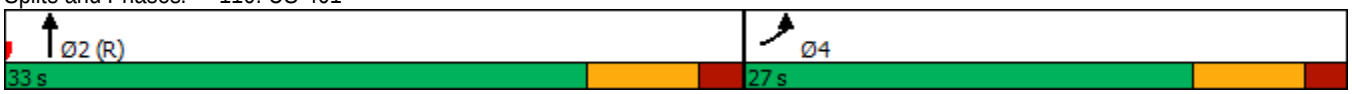
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	244	0	0	1344	0	0
Future Volume (vph)	244	0	0	1344	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	5085	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	5085	0	0
Right Turn on Red	No	No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			55	55	
Link Distance (ft)	104			442	899	
Travel Time (s)	2.8			5.5	11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	271	0	0	1493	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	271	0	0	1493	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			14.0		
Minimum Split (s)	25.0			25.0		
Total Split (s)	27.0			33.0		
Total Split (%)	45.0%			55.0%		
Maximum Green (s)	20.0			26.0		
Yellow Time (s)	5.0			5.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	-2.0			-2.0		
Total Lost Time (s)	5.0			5.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0			3.0		
Recall Mode	None			C-Max		
Walk Time (s)	7.0			7.0		
Flash Dont Walk (s)	11.0			11.0		
Pedestrian Calls (#/hr)	0			0		
Act Effct Green (s)	16.3			33.7		
Actuated g/C Ratio	0.27			0.56		
v/c Ratio	0.56			0.52		
Control Delay	22.8			5.4		
Queue Delay	0.0			0.0		
Total Delay	22.8			5.4		
LOS	C			A		
Approach Delay	22.8			5.4		
Approach LOS	C			A		

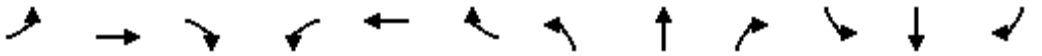


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Length 50th (ft)	83			47		
Queue Length 95th (ft)	130			138		
Internal Link Dist (ft)	24			362	819	
Turn Bay Length (ft)						
Base Capacity (vph)	649			2854		
Starvation Cap Reductn	0			0		
Spillback Cap Reductn	0			0		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	0.42			0.52		

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 36 (60%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 48.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 110: US 401



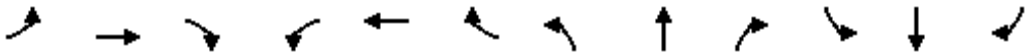


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	46	0	0	0	94	0	1047	88	0	0	0
Future Volume (vph)	0	46	0	0	0	94	0	1047	88	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	175		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	1.00	1.00	1.00
Frt						0.850		0.988				
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5024	0	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5024	0	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			45			55			55	
Link Distance (ft)		213			1034			208			1061	
Travel Time (s)		5.8			15.7			2.6			13.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	51	0	0	0	104	0	1163	98	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	0	104	0	1261	0	0	0	0
Turn Type		NA				Prot		NA				
Protected Phases		3				3		2				
Permitted Phases												
Detector Phase		3				3		2				
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0				
Minimum Split (s)		14.0				14.0		25.0				
Total Split (s)		19.0				19.0		41.0				
Total Split (%)		31.7%				31.7%		68.3%				
Maximum Green (s)		12.0				12.0		34.0				
Yellow Time (s)		5.0				5.0		5.0				
All-Red Time (s)		2.0				2.0		2.0				
Lost Time Adjust (s)		-2.0				-2.0		-2.0				
Total Lost Time (s)		5.0				5.0		5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0				
Recall Mode		None				None		C-Min				
Walk Time (s)								7.0				
Flash Dont Walk (s)								11.0				
Pedestrian Calls (#/hr)								0				
Act Effct Green (s)		9.9				9.9		43.9				
Actuated g/C Ratio		0.16				0.16		0.73				
v/c Ratio		0.17				0.23		0.34				
Control Delay		22.4				22.6		1.9				
Queue Delay		0.0				0.0		0.0				
Total Delay		22.4				22.6		1.9				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C				C		A				
Approach Delay		22.4			22.6			1.9				
Approach LOS		C			C			A				
Queue Length 50th (ft)		16				18		27				
Queue Length 95th (ft)		40				38		28				
Internal Link Dist (ft)		133			954			128			981	
Turn Bay Length (ft)						300						
Base Capacity (vph)		434				650		3672				
Starvation Cap Reductn		0				0		0				
Spillback Cap Reductn		0				0		0				
Storage Cap Reductn		0				0		0				
Reduced v/c Ratio		0.12				0.16		0.34				

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 58 (97%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 4.1		Intersection LOS: A	
Intersection Capacity Utilization 36.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 200: US 401 & Air Park Road

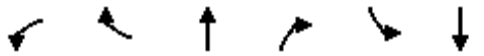


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	261	0	0	0	140	0	1121	676	0	0	0
Future Volume (vph)	0	261	0	0	0	140	0	1121	676	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		300	100		100	0		0
Storage Lanes	0		0	0		1	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	1.00	1.00	1.00	1.00
Frt						0.850			0.850			
Flt Protected												
Satd. Flow (prot)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1863	0	0	0	2787	0	5085	1583	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			55			55	
Link Distance (ft)		165			1100			148			1073	
Travel Time (s)		4.5			21.4			1.8			13.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	290	0	0	0	156	0	1246	751	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	290	0	0	0	156	0	1246	751	0	0	0
Turn Type		NA				Prot		NA	Perm			
Protected Phases		3				3		2				
Permitted Phases									2			
Detector Phase		3				3		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		14.0	14.0			
Minimum Split (s)		14.0				14.0		25.0	25.0			
Total Split (s)		17.0				17.0		43.0	43.0			
Total Split (%)		28.3%				28.3%		71.7%	71.7%			
Maximum Green (s)		10.0				10.0		36.0	36.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	0.0			
Total Lost Time (s)		5.0				5.0		5.0	7.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Min	C-Min			
Walk Time (s)								7.0	7.0			
Flash Dont Walk (s)								11.0	11.0			
Pedestrian Calls (#/hr)								0	0			
Act Effct Green (s)		12.2				12.2		37.8	35.8			
Actuated g/C Ratio		0.20				0.20		0.63	0.60			
v/c Ratio		0.77				0.28		0.39	0.79			
Control Delay		39.1				21.8		4.3	13.1			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		39.1				21.8		4.3	13.1			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D				C		A	B			
Approach Delay		39.1			21.8			7.6				
Approach LOS		D			C			A				
Queue Length 50th (ft)		100				27		59	116			
Queue Length 95th (ft)		#210				52		65	#411			
Internal Link Dist (ft)		85			1020			68			993	
Turn Bay Length (ft)						300			100			
Base Capacity (vph)		377				564		3220	949			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.77				0.28		0.39	0.79			

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 14 (23%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 300: US 401 & Realigned Hilltop Road



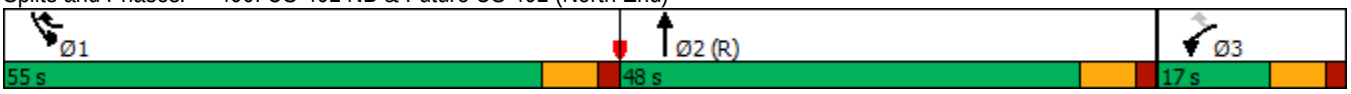
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	97	646	1242	79	1607	0
Future Volume (vph)	97	646	1242	79	1607	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		3%			2%
Storage Length (ft)	0	500		0	0	
Storage Lanes	1	2		0	3	
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.76	0.91	0.91	0.94	1.00
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3610	4964	0	4940	0
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3610	4964	0	4940	0
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	55		55			55
Link Distance (ft)	1510		500			500
Travel Time (s)	18.7		6.2			6.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	108	718	1380	88	1786	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	108	718	1468	0	1786	0
Turn Type	Prot	pm+ov	NA		Prot	
Protected Phases	3	1	2		1	
Permitted Phases		3			1	
Detector Phase	3	1	2		1	
Switch Phase						
Minimum Initial (s)	7.0	7.0	14.0		7.0	
Minimum Split (s)	14.0	14.0	25.0		14.0	
Total Split (s)	17.0	55.0	48.0		55.0	
Total Split (%)	14.2%	45.8%	40.0%		45.8%	
Maximum Green (s)	10.0	48.0	41.0		48.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	-2.0	0.0	-2.0		-2.0	
Total Lost Time (s)	5.0	7.0	5.0		5.0	
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	Min	C-Min		Min	
Act Effct Green (s)	11.6	64.1	43.9		49.5	
Actuated g/C Ratio	0.10	0.53	0.37		0.41	
v/c Ratio	0.64	0.37	0.81		0.88	
Control Delay	69.3	16.8	34.6		32.8	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	69.3	16.8	34.6		32.8	
LOS	E	B	C		C	
Approach Delay	23.7		34.6			32.8

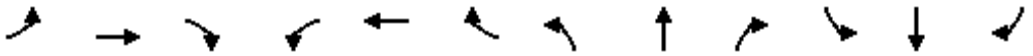
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		C			C
Queue Length 50th (ft)	82	133	342		383	
Queue Length 95th (ft)	#151	169	373		474	
Internal Link Dist (ft)	1430		420			420
Turn Bay Length (ft)		500				
Base Capacity (vph)	177	1942	1816		2058	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.61	0.37	0.81		0.87	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 31.6		Intersection LOS: C	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 400: US 401 NB & Future US 401 (North End)





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	412	4	470	166	36	40	449	228	60	452	60
Future Volume (vph)	4	412	4	470	166	36	40	449	228	60	452	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	325		0	275		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.999			0.973			0.950			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3536	0	1770	3444	0	1770	3362	0	1770	3476	0
Flt Permitted	0.612			0.950			0.318			0.197		
Satd. Flow (perm)	1140	3536	0	1770	3444	0	592	3362	0	367	3476	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		55			55			55			55	
Link Distance (ft)		1073			1179			2204			990	
Travel Time (s)		13.3			14.6			27.3			12.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	458	4	522	184	40	44	499	253	67	502	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	462	0	522	224	0	44	752	0	67	569	0
Turn Type	Perm	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		14.0	14.0		14.0	14.0	
Minimum Split (s)	25.0	25.0		14.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	25.0	25.0		34.0	59.0		31.0	31.0		31.0	31.0	
Total Split (%)	27.8%	27.8%		37.8%	65.6%		34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)	18.0	18.0		27.0	52.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0		-2.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lead		Lag								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)	18.1	18.1		29.5	52.6		27.4	27.4		27.4	27.4	
Actuated g/C Ratio	0.20	0.20		0.33	0.58		0.30	0.30		0.30	0.30	
v/c Ratio	0.02	0.65		0.90	0.11		0.24	0.73		0.60	0.54	
Control Delay	27.8	37.4		50.3	8.2		14.8	22.4		53.8	28.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	37.4		50.3	8.2		14.8	22.4		53.8	28.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		D	A		B	C		D	C	
Approach Delay		37.4			37.6			22.0			31.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	2	126		277	26		20	213		33	144	
Queue Length 95th (ft)	10	174		#477	41		17	81		#100	197	
Internal Link Dist (ft)		993			1099			2124			910	
Turn Bay Length (ft)	200			325			275			200		
Base Capacity (vph)	253	785		586	2068		181	1025		112	1060	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.59		0.89	0.11		0.24	0.73		0.60	0.54	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 4 (4%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 31.4 Intersection LOS: C
Intersection Capacity Utilization 85.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 500: US 401 & Future US 401 (South End)