December 2022

TRAFFIC STUDY

Proposed Development
143 River Road
Lisbon, CT

PREPARED BY:
BL Companies
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Architecture
Engineering
Environmental
Land Surveying
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TABLE OF CONTENTS

TABLE OF CONTENTS

ILLUSTRATIONS

TABLES

APPENDIX

EXECUTIVE SUMMARY

This traffic study has been prepared for the development at 143 River Road in Lisbon, CT. The study area is along a stretch of River Road that features two large shopping centers near I-395 with residential properties to the north and farmland to the south of the study area. The proposed development will consist of a ±2,000 SF of coffee shop with drive-through window, ±5,000 SF of retail space, ±2500 SF of quality sit down restaurant, and future potential for 50 residential units. Access to the Site will utilize two new curb cuts for the 143 River Road property.

The study investigated the potential traffic impacts associated with the development during the weekday morning, weekday evening peak periods, and Saturday midday shopping peak hours. To assess existing traffic conditions in the vicinity of the Site, peak hour manual turning movement traffic volumes, vehicle classification, and pedestrian counts were collected in the field and provided by CTDOT from other studies. These values were recorded at key intersections within the study area.

The level of traffic likely generated by the proposed development has been calculated utilizing the ITE Trip Generation Manual 11th Edition. The proposed commercial and residential development will generate during weekday morning peak hour 214 trips (106 in/enter, 108 out/ exit), 147 trips in the evening peak hour (78 in/enter, 68 out/exit), and 259 trips in the Saturday midday peak hour (135 in/enter, 124 out/exit).

A detailed traffic analysis was conducted at key intersections and roadways in the general vicinity of the Site in accordance with methodologies outlined in the Highway Capacity Manual 6th Edition, published by the Transportation Research Board. After analyses of the Existing, No Build, and Build Scenarios of the weekday morning peak hour, weekday evening peak hour, and Saturday midday peak hour, it is projected that this development will have negligible impacts on the surrounding roadway network with the proposed traffic modifications.

EXECUTIVE SUMMARY

The sightline to the north of the Site coming from the I-395 are restricted due to horizontal curve along CT Route 12 (River Road) and overgrown vegetation shrubs. Minimum clearing of vegetation / overgrown shrubs is recommended to improve sightlines. The SSD distance is met, vehicles are expected to be able to exit the project Site Driveway safely. The ISD for northbound left into the Site movement also meets the sightline requirements. The development proposes restriping of CT Route 12 (River Road) to accommodate safe access to the development.

The following is a summary of the results/recommendations for this Site:

- To accommodate the proposed left turn lane into the site from the north, widening of the CT-Route 12 / River Road will be required. This includes moving the guardrail on the west side of the CT-Route 12 / River Road, restriping of CT-Route 12 / River Road at the Site-In driveway, 4 feet wide bituminous island between northbound and southbound traffic, and signage along the west side of the CT-Route 12 / River Road. Additional investigation will be made to determine if any impacts to the overhead sign foundation and the sign just south of the proposed driveway will be necessary.
- At Site Drive, install 12" white Stop Bar and accompanying signage as shown on the Site Plan.
- Minimum clearing of vegetation / overgrown shrubs is recommended to improve sightlines.

I. INTRODUCTION

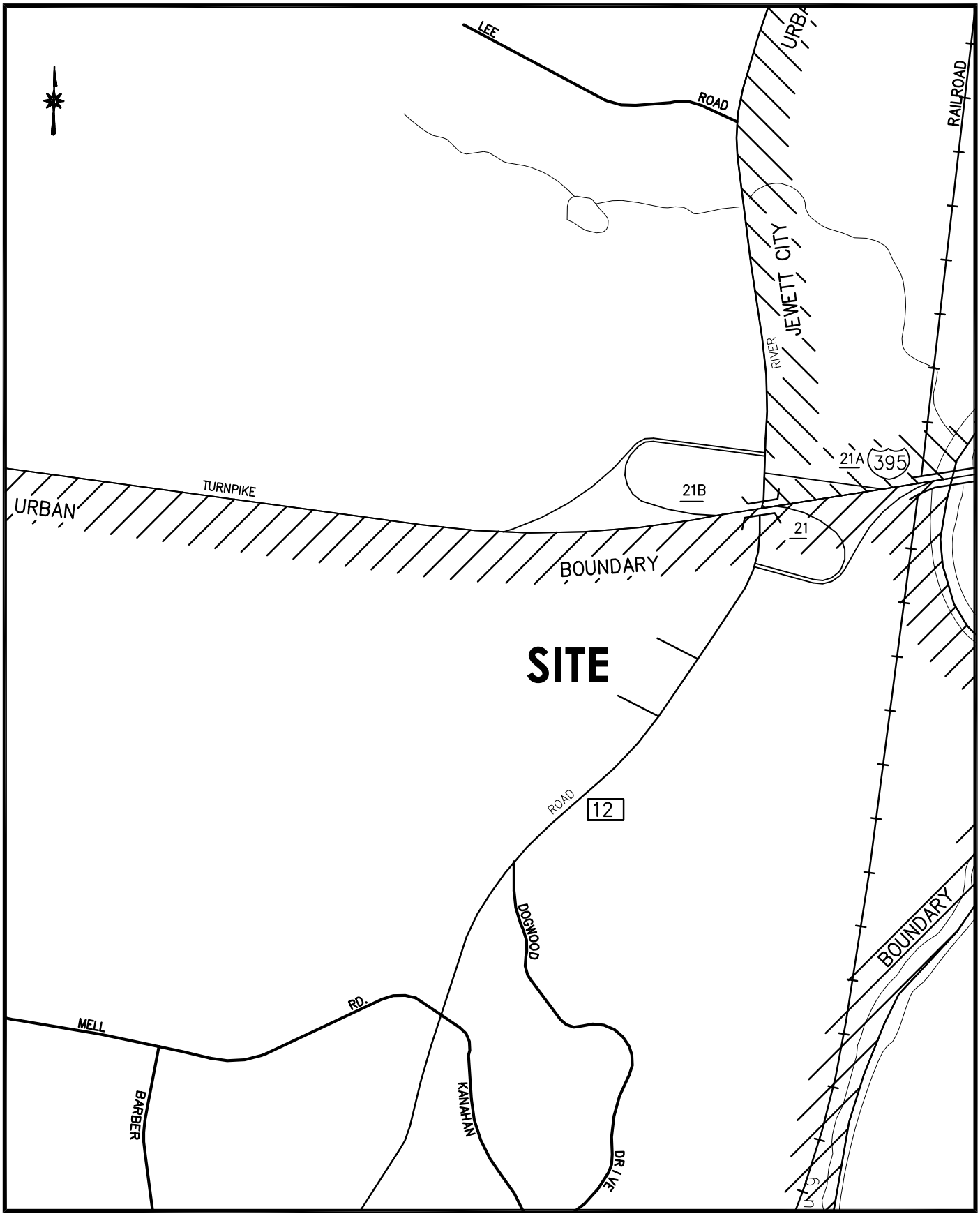
This traffic study has been prepared for redevelopment at 143 River Road in Lisbon, CT. The Site is on the west side of River Road and to the north of Target Shopping Plaza. The study area is along an urban stretch of River Road that is primarily commercial along its length with residential properties to the north and south of the study area. See **Figure 1** for a location map.

The focus of this study was to evaluate the traffic flows and operating conditions on the roadways and intersections projected to be used by motorists traveling to and from the proposed development and to quantify the potential traffic impacts on these roadways and intersections.

The proposed development will consist of a ±2,000 SF of coffee shop with drive-through window, ±5,000 SF of retail space, ±2500 SF of quality sit down restaurant, and future potential for 50 residential units. The residential component of the development will be developed at a later date, as such the Site Plans include a reference to 2.47 acres of future development pad with no layout details of the residential buildings. The proposed development will utilize two new curb cuts for 143 River Road property. The northern curb cut will be utilized as access into the Site only, while the southern curb cut will provide egress to the right only. Vehicles from the Site destined in the northbound direction will utilize the signalized intersection to the south of the Site and perform a U-turn. The proposed development will require a physical prohibition of lefts from the site. To accommodate the additional proposed left turn lane into the site from the north, widening of the CT Route 12 (River Road) will be required. This includes moving the guardrail on the west side of the CT Route 12 (River Road), restriping of CT Route 12 (River Road) at the Site-In driveway, 4-foot median along CT Route 12 (River Road) from the intersection with Lisbon Landing Plaza to the Southern Site-out intersection, and signage along the west side of the CT Route 12 (River Road). Additional investigation

will be made to determine if any impacts to the overhead sign foundation and the sign just south of the proposed driveway will be necessary.

The study investigated the potential traffic impacts associated with the development in the weekday morning, weekday evening commuting peak periods, and during Saturday midday peak hours. The greatest cumulative impacts of project related traffic are likely to occur during the three time periods when traffic consists mostly of commuters and shoppers along River Road. As such, traffic operating conditions at the study intersections were analyzed during these peak periods.



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SITE LOCATION

PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 1

II. EXISTING CONDITIONS

An investigation of the existing traffic conditions on the adjacent roadway network formed the basis for assessing any traffic issues associated with the proposed development. This investigation included field reconnaissance, traffic counting, and research of pertinent planning and traffic data available with the Connecticut Department of Transportation (CTDOT) and the Town of Lisbon.

Access Network

The project study area consists of the signalized intersections at the following locations:

- CT Route 12 (River Road) at Lisbon Landing Plaza Drive at Target/Lowes Plaza Drive
- CT Route 12 (River Road) at I-395 NB On/Off Ramp
- CT Route 12 (River Road) at I-395 SB On/Off Ramp

Major roadways in the vicinity of the project include River Road and Interstate 395.

Interstate 395 begins at the East Lyme-Waterford town line and continues northerly for 67miles to Worcester, where the highway as it meets I-90 (the Mass Pike). In the vicinity of the study area, Interstate 395 is limited access with two through lanes in each direction and posted speed limit of 65 mph.

CT Route 12 (River Road) is a minor arterial that runs in a north-south direction through Lisbon. River Road originates at the intersection with Lower Blissville Road (to the east of Shetucket River Bridge) and continues northerly for 5 miles until the intersection with Sylvandale Road (west of Quinebaug River Bridge). In the vicinity of the study area, River Road has two through lanes in each direction with exclusive turn lanes at selected intersections. The posted speed limit is 35 mph and there are no sidewalks present on either side of the roadway. In 2020, daily traffic volumes were observed at 13,500 south of I-395 northbound ramps. Roadway illumination is on the northbound approach.

It should be noted application for funds to improve safety of pedestrians by providing sidewalks along the stretch of CT Route 12 (River Road) via the Local Transportation Capital Improvement Program (LOTCIP) was made.

Intersection Characteristics

Several key intersections were reviewed in this study to determine if they would be impacted by the expected Site traffic volumes. They are as follows:

CT Route 12 (River Road) at Lisbon Landing Plaza – this is a fully-actuated, 9-phase signalized intersection with exclusive left turn lanes at all four approaches. River Road northbound has two through lanes with exclusive turn lanes (right and left) while the southbound approach has one through lane with one exclusive right turn lane and two left turn lanes. The Target/Lowes Plaza eastbound approach has one exclusive left turn lane and one right / shared through lane. The Lisbon Landing Plaza (Walmart Plaza) westbound approach has a channelized right turn lane, one through lane, and one exclusive left turn lane. There is a crosswalk and pedestrian phase across River Road to the north of the intersection with handicap ramps and sidewalks to the shopping plaza. The "Yield" controlled channelized right turn from the Lisbon Landing Plaza provides an additional sidewalk and refuge area for pedestrians. Illumination is present along River Road and into both shopping plazas.

CT Route 12 (River Road) at I-395 NB On/Off Ramp –this is a signalized T-intersection about 875' north of Lisbon Landing Plaza that is coordinated along River Road corridor. The I-395 northbound off ramp approach had two left turn lanes and one right turn lane. The River Road northbound approach has two through lanes and one exclusive right turn lane into I-395 northbound on ramp while southbound approach has two through lanes and one exclusive left turn lane into I-395 northbound on ramp. There are no crosswalks or sidewalks present to accommodate pedestrians.

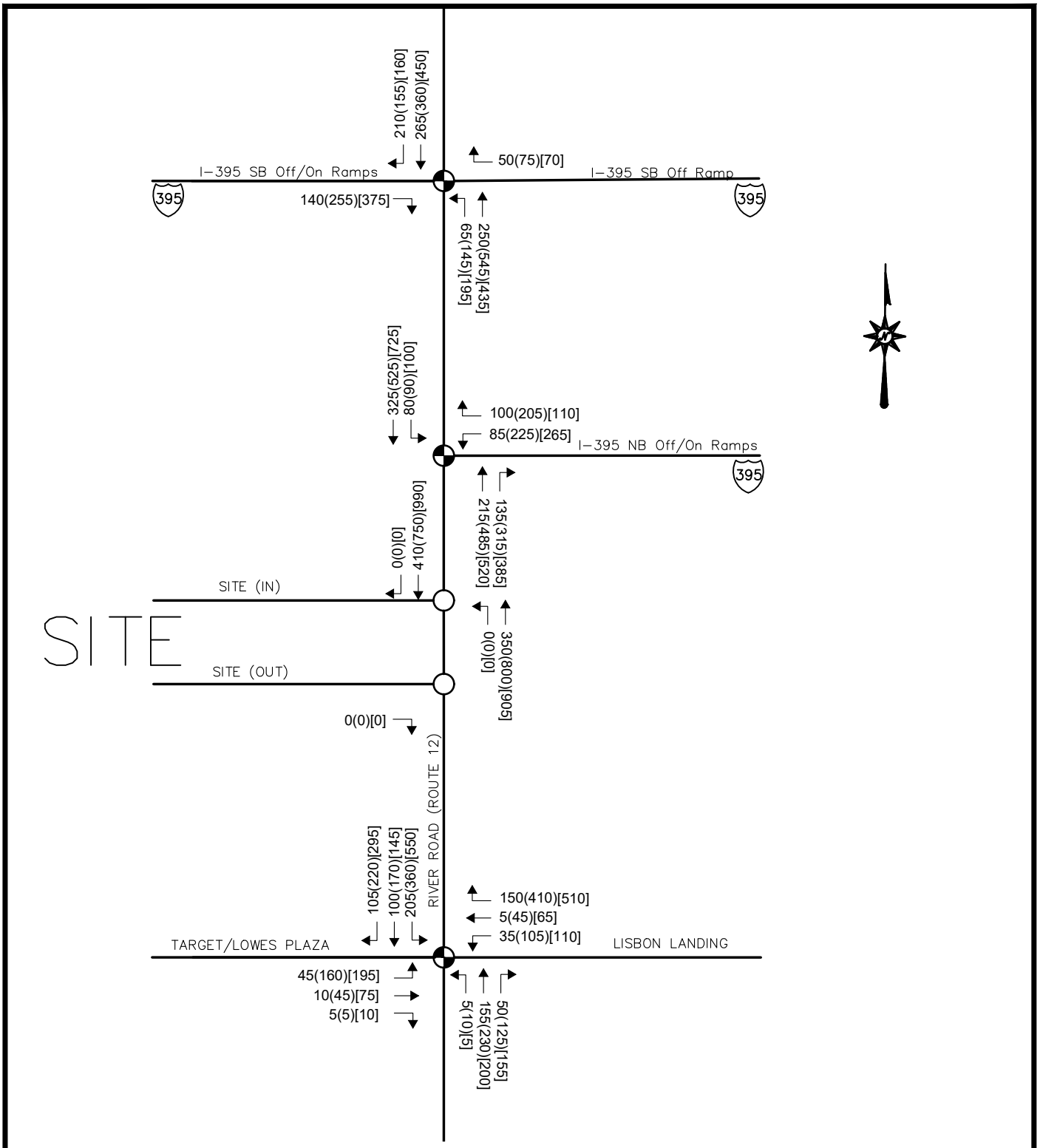
CT Route 12 (River Road) at I-395 SB On/Off Ramp – located about 650' north of the northbound ramps, this is a 4-phase signalized intersection with separate exits from I-395 the off ramp movements. The River Road northbound approach has one through lane with an exclusive turn lane into I-395 SB on ramp on the west side of the road. The off ramp movements are accommodated by right turns only on the east and west side of River Road. The River Road southbound approach has two lanes. There is a crosswalk and a pedestrian phase to the north of the intersection across River Road. Sidewalks are limited to the Shell Gas station frontage on the northeast corner.

Public Transit

The Bus Route 8 (Jewett city/Lisbon Landing/Crossing) had a bus stop at the Target Shopping Plaza while Bus Route 9 (Norwich/Lisbon Landing) has a bus stop across the street at the Lisbon Landing Plaza. The two bus routes are operated by Southeast Area Transit District (SEAT) which services the following towns: East Lyme, Griswold, Groton, Lisbon, Montville, New London, Norwich, Stonington, and Waterford.

Existing Traffic Volumes

Weekday morning and afternoon peak hour traffic volumes and Saturday midday shopping peak hour traffic volumes were counted at the above intersections during the week of March 1, 2022. It should be noted that these counts were collected during the COVID-19 Pandemic. Using historical counts collected by CTDOT and comparing these counts to 2022 collected, the volumes were grown and balanced, and subsequently reviewed and approved by CTDOT. The current peak hour traffic volumes for the intersections are illustrated in **Figure 2.**



LEGEND

SIGNALIZED INTERSECTION	WEEKDAY AM: XXX
UNSIGNALIZED INTERSECTION	WEEKDAY PM: (XXX)
STOP-CONTROLLED APPROACH	SATURDAY MID-DAY: [XXX]

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EXISTING TRAFFIC VOLUMES (2022)

PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 2

Crash Data Review

As part of the existing conditions analysis, crash data for the most recent three-year period, January 1, 2019, through December 31, 2021, was obtained from the Connecticut Crash Data Repository.

Forty-three (43) crashes in the study area were reported. The most common crash types were the angle crashes, at forty percent (40%), followed by front-to-rear at twenty-three percent (23%). The majority of crashes resulted in "No Apparent Injury" at seventy-nine percent (79%). There were no fatalities and no "Suspected Serious Injury" in the corridor for the three-year period. According to the crash records mentioned above, River Road at I-395 NB On/Off Ramps intersection experiences twenty-six percent (26%) of total crashes. The segment between the intersection of I-395 NB On/Off Ramps and Lisbon Landing Plaza Drive at Target/Lowes Plaza Drive accounts for thirty-seven (37%) of all crashes. **Table 1** summarizes the crash data.

Table 1 – Crash Data Summary

	River Road at I-395 SB On/Off Ramps	Segment 1 -between I-395 NB On/Off Ramps and I-395 SB On/Off Ramps	River Road at I-395 NB On/Off Ramps	Segment 2 - between I-395 NB On/Off Ramps and Retail Driveways	River Road at Retail Driveway	Total
Year						
2019	1	2	3	7	2	15
2020	3	0	6	9	0	18
2021	3	2	2	0	3	10
Total	**7**	**4**	**11**	**16**	**5**	**43**
Crash Type						
Angle	4	1	9	2	1	17
Front to Front	0	0	0	1	0	1
Front to Rear	1	2	0	4	3	10
Not Applicable	2	0	1	1	0	4
Other	0	1	1	1	0	3
Rear to Rear	0	0	0	1	0	1
Rear to Side	0	0	0	0	0	0
Sideswipe, Opposite Direction	0	0	0	0	0	0
Sideswipe, Same Direction	0	0	0	4	1	5
Unknown	0	0	0	2	0	2
Total	**7**	**4**	**11**	**16**	**5**	**43**
Severity						
Fatal Injury (K)	0	0	0	0	0	0
Suspected Serious Injury (A)	0	0	0	0	0	0
Suspected Minor Injury (B)	1	1	2	1	2	7
Possible Injury (C)	0	0	2	0	0	2
No Apparent Injury (O)	6	3	7	15	3	34
Unknown	0	0	0	0	0	0
Total	**7**	**4**	**11**	**16**	**5**	**43**

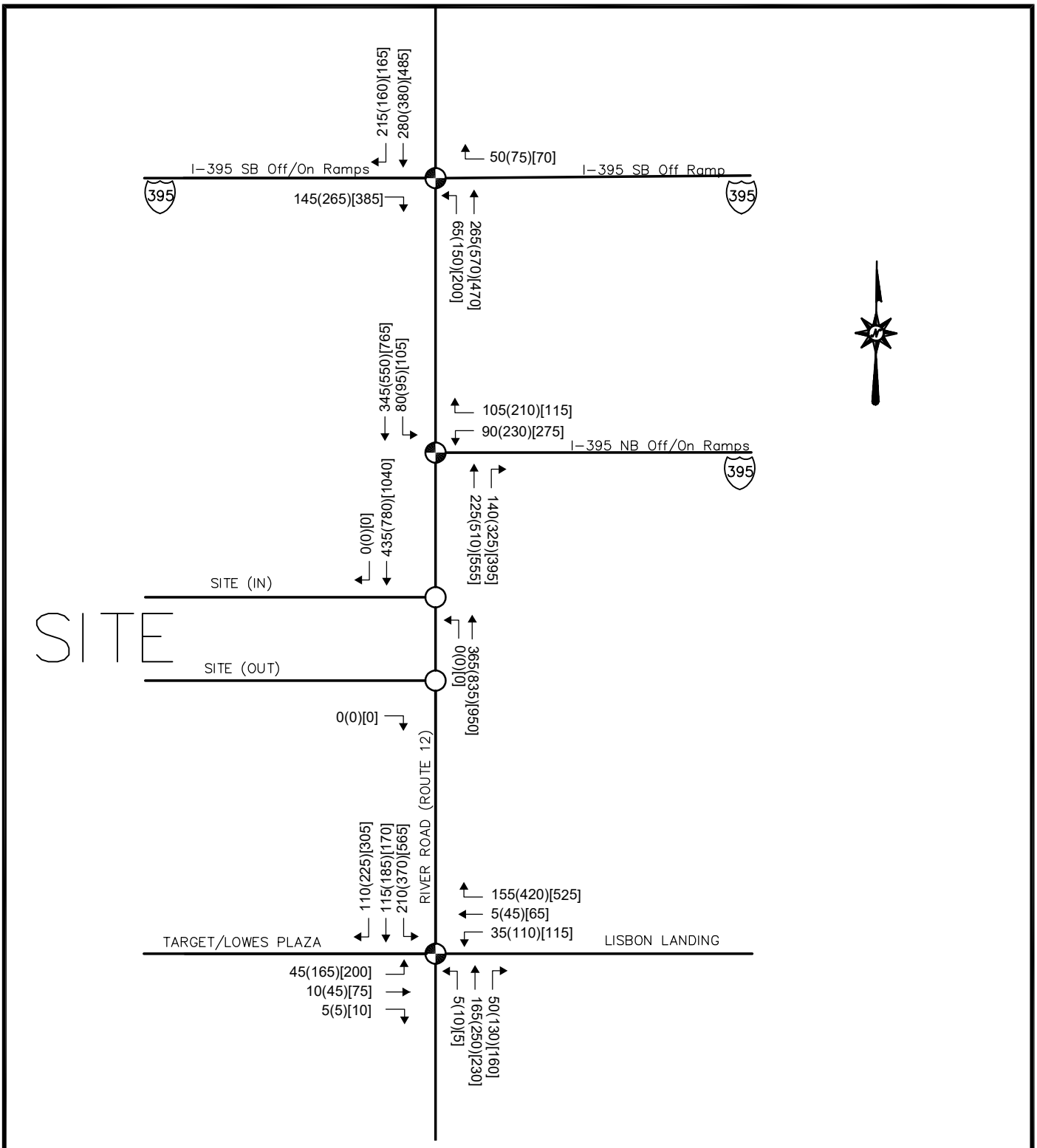
Note: Data collected from the Connecticut Crash Data Repository

III. PROJECTED TRAFFIC CONDITIONS

In order to evaluate traffic conditions when the proposed development is completed in 2023, future traffic volume networks were forecast under the 2023 No Build Conditions (without the proposed development) and under 2023 Build Conditions (with the proposed development). The projected traffic volumes on the roadway network under 2023 No Build Conditions were assumed to include all existing traffic and new traffic resulting from background sources of traffic growth, independent of the proposed development. The project traffic volumes on the roadway network under 2023 Build Conditions were assumed to include the anticipated project site-generated traffic volumes in addition to the assumed background traffic growth.

No Build Traffic Volumes

A 1.5% annual growth rate was applied to the existing traffic volumes to develop the 2023 No Build traffic volumes. In addition to applying a growth rate, any approved or pending developments in the area that may add substantial traffic volume to the study intersections were considered. In discussions with CTDOT, there were no additional developments in the vicinity of the project. In discussion with the Town of Lisbon Public Works Director, there is one proposed development in the area that will have an impact on River Road. At 98 River Road, to the north of Interstate 395 ramps, a 3,700 SF Auto Parts Store is proposed. Based on the ITE *Trip Generation Manual 11th Edition* volumes along River Road were estimated. With the incorporated volumes for the 3,700 SF Auto Parts store, traffic volumes for No Build condition were balanced and are illustrated in **Figure 3**.



LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- STOP-CONTROLLED APPROACH

WEEKDAY AM: XXX
WEEKDAY PM: (XXX)
SATURDAY MID-DAY: [XXX]

NOTE

2023 VALUES ASSUME 1.5% AVERAGE ANNUAL GROWTH RATE. VALUES FOR OTHER DEVELOPMENT IN THE VICINITY, HAD BEEN ESTIMATED IN COORDINATION WITH THE ECONOMIC DEVELOPMENT DIRECTOR.

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NO BUILD TRAFFIC VOLUMES (2023)

PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 3

Trip Generation

As currently envisioned, the proposed development will consist of two curb cuts on CT Route 12 (River Road) with one-in and one-out driveway. The anticipated traffic volumes generated by the development proposal were projected based upon guidelines set forth by the ITE Trip Generation Manual 11th Edition. This widely used reference manual provided trip generation rates for various land used based on traffic count data collected at similar sites.

The following table shows projected trip generation for 50 residential midrise units (ITE Land Use Code 221), approximately ±2,000 SF of coffee shop with drive-through window (Land Use Code 937), ±5,200 SF of retail space (Land Use Code 822), and ±2,500 SF of quality sit down restaurant (Land Use Code 932). **Table 2** illustrates the trip generation for the proposed development scenario. As indicated in this table, the proposed development will generate during the weekday morning peak hour 214 trips (106 in/enter, 108 out/ exit), 147 trips in the evening peak hour (78 in/enter, 68 out/exit), and 259 trips in the Saturday midday peak hour (134 in/enter, 124 out/exit). Twenty percent (20%) by-pass were estimated and applied to commercial trip totals per CTDOT allowable reduction to trips generated.

Table 2 – Peak Hour Trip Generation

143 River Road, Lisbon, CT
Trip Generation

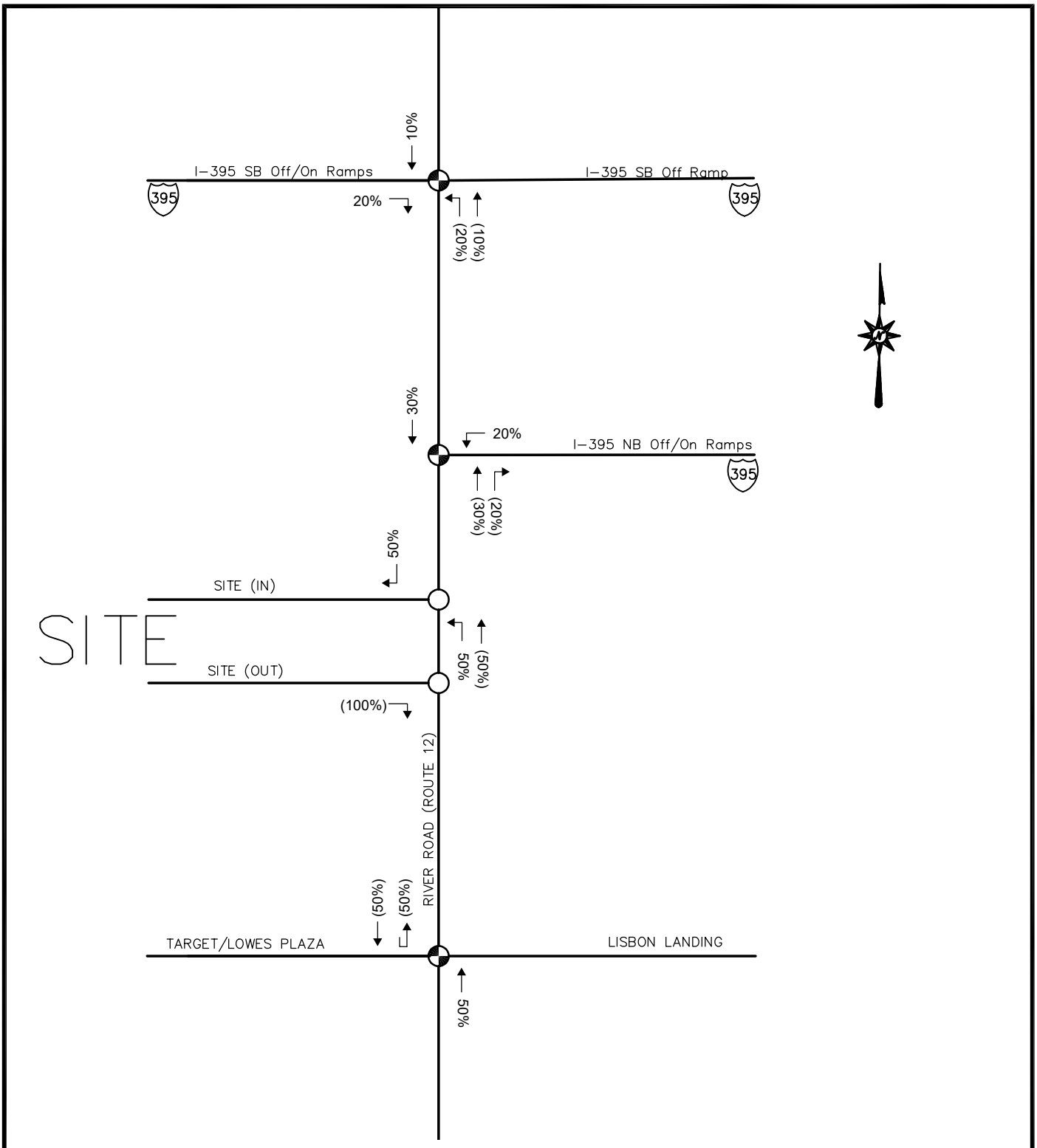
4/7/2022

Land Use	ITE Land Use Code	Size	ADT	Trips											
				Morning Peak Hour Adjacent Street Traffic			Evening Peak Hour Adjacent Street Traffic			Saturday Midday			Daily		
				Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
New Trips															
LU-822 Strip Retail Plaza (<40k)		5.167	448	12	7	5	34	16	17	34	17	17	448	224	224
LU-932 High-Turnover (Sit-Down) Restaurant (<40k)		2.513	269	24	13	11	23	14	9	28	14	14	269	135	135
Subtotal			717	36	20	16	57	30	26	62	32	30	717	359	359
Less Pass-By (20%)[1]			**-142**	**-8**	**-4**	**-4**	**-12**	**-6**	**-6**	**-12**	**-6**	**-6**	**-142**	**-72**	**-72**
LU- 937 Coffee/Donut Shop with Drive-Through Window		2.416	1289	207	106	102	94	47	47	212	106	106	1289	645	644
Less Pass-By (20%)[1]			**-258**	**-42**	**-21**	**-21**	**-18**	**-9**	**-9**	**-42**	**-21**	**-21**	**-258**	**-129**	**-129**
LU-220 Multifamily housing - (Low Rise) [2]		50	**396**	20	5	15	26	16	10	39	24	15	396	198	198
Net New Trips			**2001**	**214**	**106**	**108**	**147**	**78**	**68**	**259**	**135**	**124**	**2001**	**1001**	**1000**

Ref: Trip Generation, 11th Edition
1- Max allowed by CTDOT (pass-by traffic)
2 - Low Rise - multifamily housing includes apartments, townhouses, and condominiums that have two or three floors (levels)
Volume balancing may slightly differ as a result of rounding

Trip Distribution

The directional distribution of traffic is typically a function of population densities, competing opportunities, existing travel patterns adjacent to the Site, and the efficiency and limitations of the existing roadway system. The distribution of the anticipated traffic volumes was based on arrival/departure patterns shown in **Figure 4**.



LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- STOP–CONTROLLED APPROACH

INCOMING TRAFFIC: XX%
OUTGOING TRAFFIC: (XX%)

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TRIP DISTRIBUTION

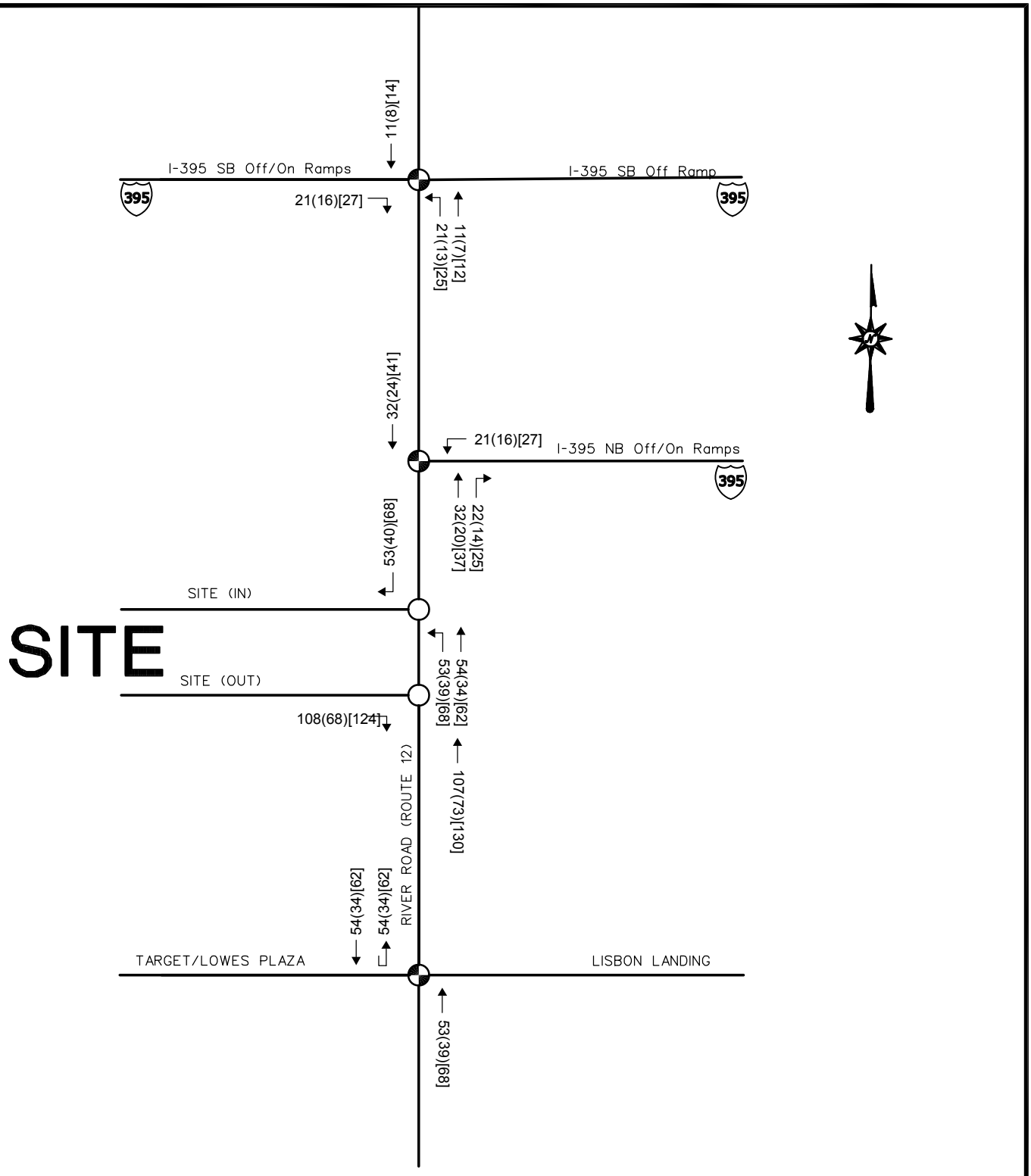
PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 4

Assigned Site Generated

The generated trips are multiplied by the corresponding proportions to ascertain the site-generated traffic volumes. **Figure 5** shows the site-generated peak hour traffic assigned to the nearby roadway network. It should be noted that not all of the projected Site traffic represents new vehicles on the adjacent roadway network. A portion of trips generated commercial traffic and are classified as "pass-by" traffic. Pass-by traffic consists of vehicles already on the roadway that are attracted to the Site when passing through the area. The primary destination of this traffic is elsewhere, and the primary trip will be resumed following a stop at the proposed development. **Figure 6** illustrates the pass-by trips.



LEGEND

- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION
- STOP–CONTROLLED APPROACH

WEEKDAY AM: XXX
WEEKDAY PM: (XXX)
SATURDAY MID–DAY: [XXX]

NOTE

VOLUME BALANCING MAY SLIGHTLY DIFFER AS A RESULT OF ROUNDING.

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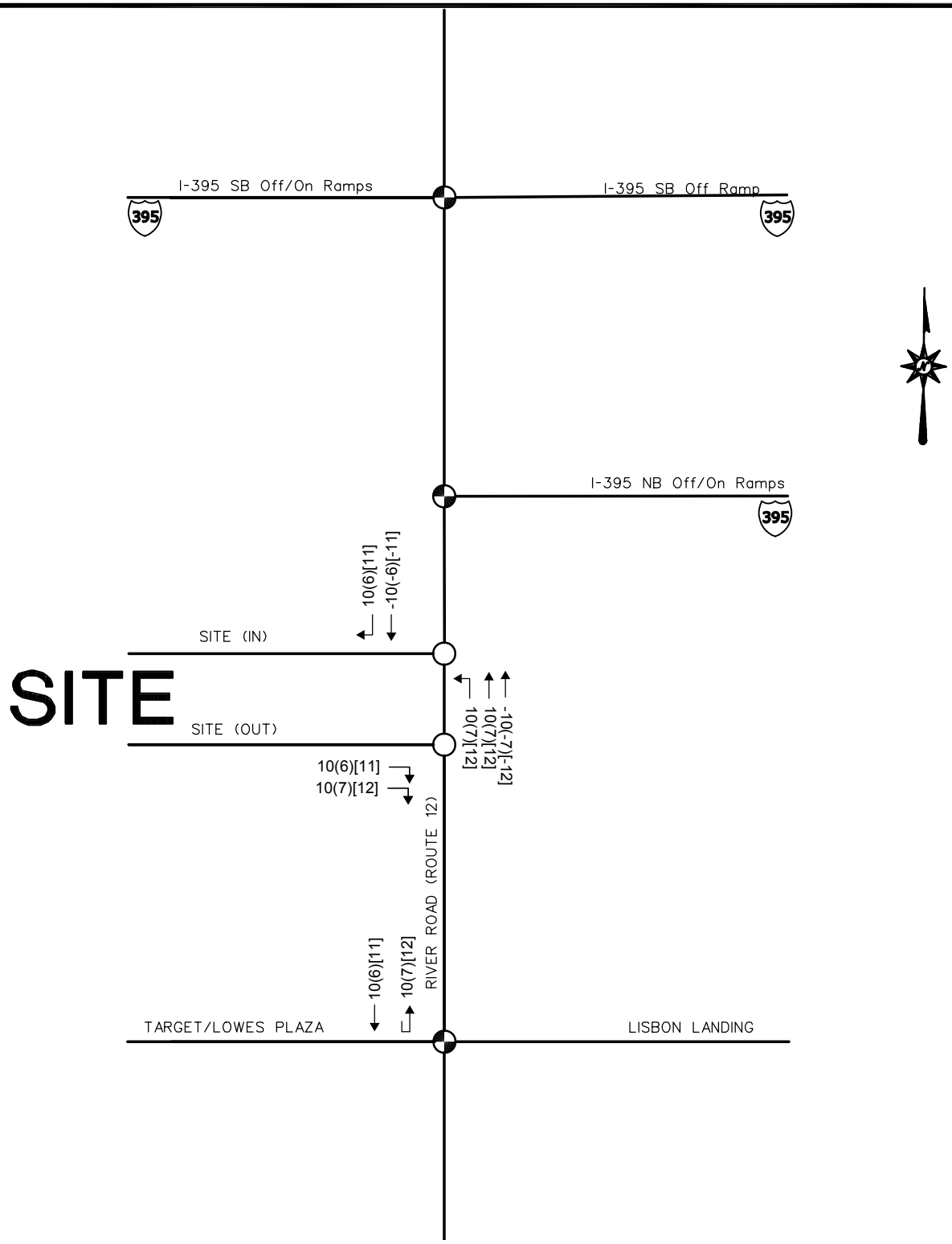
SITE GENERATED TRAFFIC VOLUMES

PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 5



LEGEND

SIGNALIZED INTERSECTION	WEEKDAY AM: XXX
UNSIGNALIZED INTERSECTION	WEEKDAY PM: (XXX)
STOP–CONTROLLED APPROACH	SATURDAY MID–DAY: [XXX]

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PASS-BY TRAFFIC VOLUME

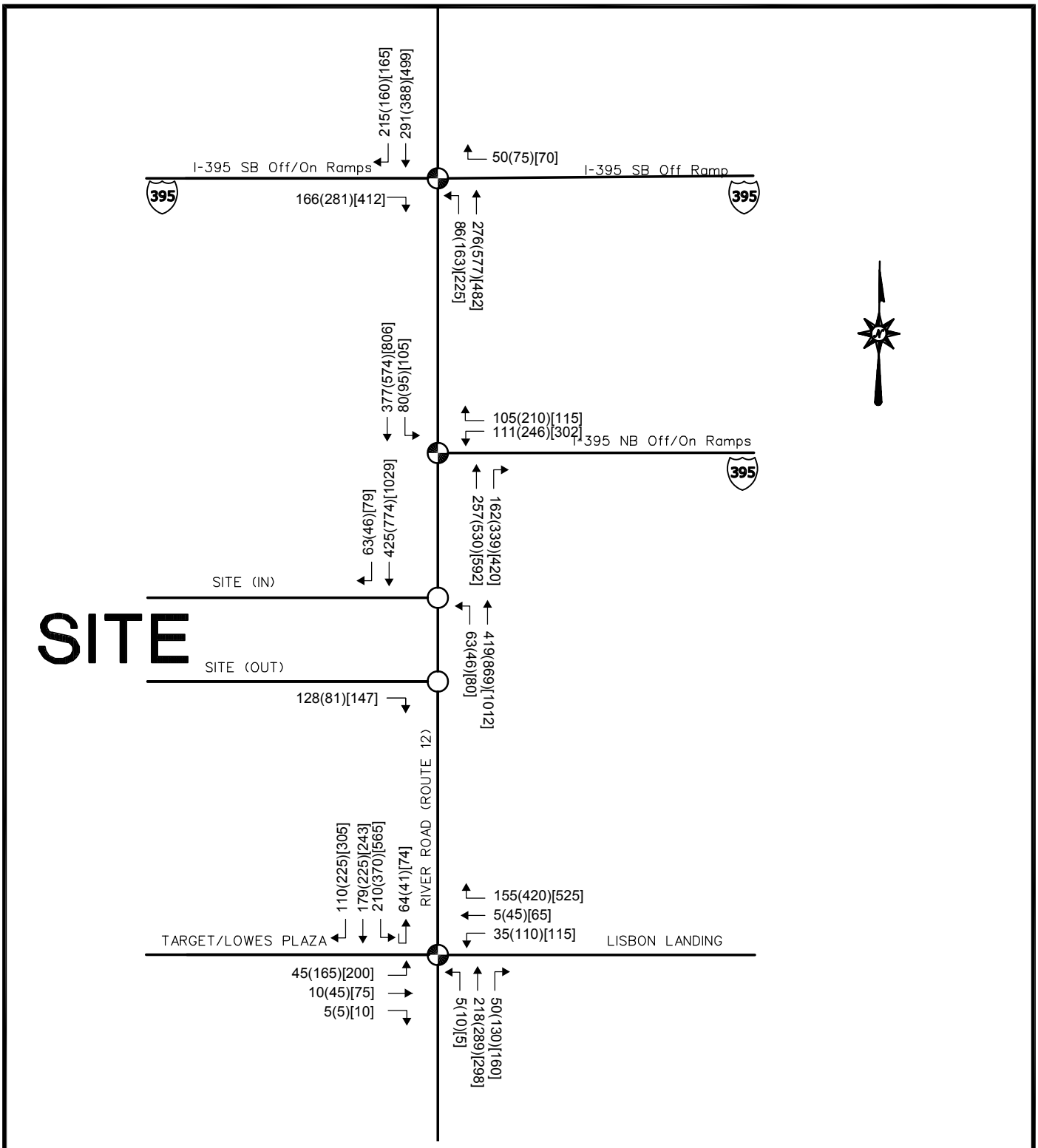
PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 6

Build Traffic Volumes

The assigned site-generated traffic volumes were superimposed onto the No Build Traffic volumes to establish the future Build Traffic volumes, as illustrated in **Figure 7**. The development proposes restriping of CT Route 12 (River Road) to accommodate the development. The build conditions are analyzed with the proposed change.



LEGEND

SIGNALIZED INTERSECTION	WEEKDAY AM: XXX
UNSIGNALIZED INTERSECTION	WEEKDAY PM: (XXX)
STOP–CONTROLLED APPROACH	SATURDAY MID–DAY: [XXX]

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BUILD TRAFFIC VOLUMES (2023)

PROPOSED DEVELOPMENT
143 RIVER ROAD, LISBON, CT
SCHEMATIC, NOT TO SCALE

Project No. 2200331
Date APRIL 2022

FIGURE 7

IV. ROADWAY ADEQUACY

The intersection capacity analyses were prepared using the methodology described in the Highway Capacity Manual (HCM), published by the Transportation Research Board (TRB) for the existing and build traffic volume scenarios to simulate the traffic impact of a proposed development on the adjacent roadway network. As documented in the HCM, intersection performance is influenced by a number of factors, including traffic demand; lane configurations; lane widths; turning restrictions; roadway grades; and signal phasing. The existing physical roadway characteristics and signal phasing and timing settings were determined by observing conditions in the field and reviewing the current traffic control signal plans provided by the Town of West Hartford.

Synchro™ software (Version 11) was used to model the study intersections based on the parameters mentioned above. The Synchro software is widely utilized by the traffic engineering industry and is consistent with the procedures in the HCM.

Signalized Intersections

Signalized intersections are analyzed in terms of vehicle capacity and motorist delay. Capacity is the maximum rate of vehicle flow through an intersection given typical operating conditions. The number of vehicles traveling through an intersection is divided by the capacity of the intersection to determine an overall volume to capacity ratio (v/c). A v/c value under 1.00 indicates that the number of vehicles traveling through an intersection is less than capacity.

As stated in the HCM, Level of Service for signalized intersections is defined in terms of control delay. Control delay measures the increase in delay a motorist experiences while encountering a traffic control signal. These factors include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. This delay is measured per vehicle for a 15-minute analysis period and is associated with the levels of service, which are summarized in **Table 3** below:

Table 3 – Signalized Intersection – Level of Service

Level of Service[1]	Average Control Delay (seconds per vehicle)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

[1]If volume-to-capacity ratio is over 1.0 for a lane group, LOS F. Intersection and approach-based LOS is based solely on control delay.

Level of Service A represents the optimum level where most motorists arrive at the subject intersection during the green phase and thus experience virtually no delay. Conversely, Level of Service F indicates that motorists are delayed over 80 seconds while traveling through the intersection, and can often imply a complete breakdown of that location. Level of Service D is generally considered the limit of acceptable motorist delay.

Unsignalized Intersections

Unsignalized intersections are generally evaluated in terms of average side street delay, as well as the capacity of the roadway approach. This analysis is based on the random arrival of vehicles and the associated gaps generated by this random arrival within the traffic stream. There is no overall Level of Service for unsignalized intersections. The relationship between levels of service and average side street delay are summarized in **Table 4** below:

Table 4 – Unsignalized Intersection – Level of Service

Level of Service[1]	Average Control Delay (seconds per vehicle)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

[1]If volume-to-capacity ratio is over 1.0 for a lane group, LOS F. Intersection and approach-based LOS is based solely on control delay.

It should be noted that unsignalized levels of service do not correspond to those for signalized intersections, nor do they constitute warrants for the installation of traffic control signals. It is also recognized that the methodology is overly conservative and that computations can indicate operations at poor levels of service (E or F) with even very low side street volumes, although they often function without serious problems in the real world.

Capacity Analyses Results

Table 5 shows the levels of service (LOS) at the subject intersections. The Synchro output reports are included in the Appendix.

Table 5 – Peak Hour Levels of Service

	AM			PM			SAT MD		
	2022	2023	2023	2022	2023	2023	2022	2023	2023
	Existing	No Build	Build	Existing	No Build	Build	Existing	No Build	Build
CT-Route 12 / River Road @ SITE-In	-	-	-	-	-	-	-	-	-
CT-Route 12 / River Road @ SITE-Out	-	-	-	-	-	-	-	-	-
Site-Out EB RIGHT	-	-	A/0.16/25	-	-	B/0.12/25	-	-	B/0.19/25
CT-Route 12 (River Rd) NB THRU	-	-	-	-	-	-	-	-	-
CT-Route 12 (River Rd) SB THRU	-	-	-	-	-	-	-	-	-
CT-Route 12 / River Road @ I-395 SB Off Ramp	**A/5.8**	**B/5.9**	**A/7.1**	**B/10.6**	**B/11.4**	**B/12.1**	**B/16.3**	**B/16.9**	**B/17.7**
I-395 SB Off Ramp EB RIGHT	A/0.34/25	A/0.36/25	A/0.38/25	B/0.55/120	B/0.58/135	B/0.61/150	C/0.73/215	C/0.73/225	C/0.74/245
I-395 SB Off Ramp WB RIGHT	A/0.08/25	A/0.08/25	A/0.09/25	A/0.17/25	A/0.18/25	A/0.18/25	A/0.13/25	A/0.14/25	A/0.14/25
CT-Route 12 (River Rd) NB LEFT	C/0.39/65	C/0.39/65	D/0.47/80	D/0.66/95	D/0.66/95	D/0.68/100	D/0.72/110	D/0.72/105	D/0.74/105
CT-Route 12 (River Rd) NB THRU	A/0.19/75	A/0.20/75	A/0.21/85	A/0.38/220	A/0.39/235	A/0.40/245	A/0.32/180	A/0.35/210	A/0.36/220
CT-Route 12 (River Rd) SB THRU/RIGHT	A/0.23/50	A/0.24/55	A/0.26/65	A/0.26/95	A/0.27/105	A/0.28/110	A/0.33/160	B/0.36/175	B/0.38/190
CT-Route 12 / River Road @ I-395 NB On/Off Ramp	**B/11.5**	**B/11.5**	**B/11.0**	**B/14.9**	**B/14.8**	**B/15.1**	**B/14.4**	**B/15.0**	**B/15.3**
I-395 NB Off Ramp WB LEFT	C/0.28/40	C/0.30/40	C/0.36/50	D/0.59/105	D/0.60/105	D/0.61/110	D/0.62/120	D/0.63/120	D/0.65/130
I-395 NB Off Ramp WB RIGHT	B/0.44/40	B/0.45/40	B/0.45/40	B/0.58/55	B/0.58/55	B/0.57/55	A/0.38/45	A/0.38/50	A/0.37/45
CT-Route 12 (River Rd) NB THRU	A/0.12/40	A/0.12/45	A/0.14/35	A/0.23/115	A/0.24/120	A/0.26/135	A/0.25/115	A/0.27/125	A/0.29/135
CT-Route 12 (River Rd) NB RIGHT	A/0.13/25	A/0.30/25	A/0.15/25	A/0.25/25	A/0.26/25	A/0.27/25	A/0.30/25	A/0.31/25	A/0.33/25
CT-Route 12 (River Rd) SB LEFT	C/0.46/65	C/0.46/65	C/0.46/65	D/0.57/100	D/0.58/100	D/0.58/95	D/0.62/m95	D/0.64/m105	D/0.64/m110
CT-Route 12 (River Rd) SB THRU	A/0.16/75	A/0.17/75	A/0.19/85	B/0.26/145	B/0.27/155	B/0.28/155	B/0.38/200	B/0.40/215	B/0.43/225

Overall Intersection – X/XX.X - Level of Service/Intersection Signal Delay in sec
Approaches - X/X.XX/XXX – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft
– 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.

	AM			PM			SAT MD		
	2022	2023	2023	2022	2023	2023	2022	2023	2023
	Existing	No Build	Build	Existing	No Build	Build	Existing	No Build	Build
CT-Route 12 / River Road @ Lisbon Landing Plaza @ Target / Lowes Plaza	**B/15.7**	**B/15.1**	**B/15.9**	**C/20.5**	**C/20.8**	**C/21.3**	**C/21.5**	**C/21.8**	**C/22.8**
Target/Lowes Plaza EB LEFT	C/0.27/40	C/0.28/40	C/0.28/40	D/0.62/135	D/0.64/#150	D/0.66/#145	D/0.63/#175	D/0.65/#200	D/0.70/#200
Target/Lowes Plaza EB THRU/RIGHT	C/0.14/25	C/0.14/25	C/0.15/25	D/0.29/25	D/0.28/60	D/0.30/60	D/0.42/100	D/0.44/100	D/0.47/100
Lisbon Landing Plaza WB LEFT	C/0.21/35	C/0.21/35	C/0.21/35	C/0.39/90	C/0.42/100	C/0.42/100	C/0.42/100	C/0.45/110	C/0.45/110
Lisbon Landing Plaza WB THRU	C/0.04/25	C/0.04/25	C/0.04/25	D/0.34/60	D/0.34/60	D/0.34/60	D/0.49/85	D/0.49/85	D/0.49/85
Lisbon Landing Plaza WB RIGHT (Yield/unsignalized)	A/0.10/25	A/0.11/25	A/0.11/25	A/0.27/25	A/0.27/25	A/0.27/25	A/0.35/25	A/0.36/25	A/0.36/25
CT-Route 12 (River Rd) NB LEFT	C/0.03/25	C/0.03/25	C/0.03/25	D/0.06/25	D/0.06/25	D/0.06/25	D/0.03/25	D/0.03/25	D/0.03/25
CT-Route 12 (River Rd) NB THRU	B/0.19/105	B/0.20/110	B/0.27/145	B/0.29/175	C/0.32/185	C/0.38/220	C/0.33/170	C/0.38/25	C/0.51/260
CT-Route 12 (River Rd) NB RIGHT	A/0.02/25	A/0.06/25	A/0.07/25	A/0.17/30	A/0.18/30	A/0.18/35	A/0.25/50	A/0.26/50	A/0.27/50
CT-Route 12 (River Rd) SB LEFT/ U-TURN	C/0.56/75	C/0.56/75	C/0.63/95	C/0.72/155	C/0.73/160	D/0.75/170	C/0.79/215	D/0.80/220	C/0.82/245
CT-Route 12 (River Rd) SB THRU	A/0.09/50	A/0.10/70	A/0.16/115	B/0.15/165	B/0.17/175	B/0.20/200	B/0.14/125	B/0.16/145	B/0.22/190
CT-Route 12 (River Rd) SB RIGHT	A/0.30/25	A/0.31/25	A/0.32/25	B/0.61/95	B/0.61/95	B/0.62/85	B/0.66/120	C/0.68/#130	B/0.70/#120

Overall Intersection – X/XX.X - Level of Service/Intersection Signal Delay in sec
Approaches - X/X.XX/XXX – Level of Service/Volume to Capacity Ratio/95% Queue Length in ft
– 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.

As illustrated in **Table 5**, traffic operations for the overall intersection Levels of Service (LOS) during the AM peak hour are projected to perform at acceptable levels in the Existing, No Build, and Build scenarios. It is concluded that the Site-generated volumes will have negligible impacts on the surrounding roadway network during the AM peak hour.

Similarly, traffic operations during PM peak hour, for the overall intersection are projected to perform at acceptable Levels of Service in the Existing, No Build, and Build scenarios. It is concluded that the site-generated volumes will have negligible impacts on the surrounding roadway network during Saturday midday peak hour.

Last, traffic operations during Saturday midday peak hour, for the overall intersection are projected to perform at acceptable Levels of Service in the Existing, No Build, and Build scenarios. It is concluded that the site-generated volumes will have negligible impacts on the surrounding roadway network during Saturday midday peak hour.

The capacity analyses show negligible impacts from the proposed development on CT Route 12 (River Road) during the weekday morning, weekday evening peak periods, and Saturday midday shopping peak hour.

V. SIGHT DISTANCES

The American Association of State Highway and Transportation Officials' (AASHTO) publication, A Policy on Geometric Design, 2018 Edition, defines minimum sight distances at intersections based on the eighty-fifth percentile speed and roadway geometry attributes. The CTDOT follows these methods for unsignalized and signalized intersections in the CTDOT Highway Design Manual.

Two distances to consider are the stopping sight distance (SSD) for vehicles traveling along the main road and intersection sight distance (ISD) from the proposed driveways, shown in **Table 6**. The SSD allows a driver to see an object in the roadway and stop their vehicle before colliding with the object, while ISD is intended to provide drivers at approaching intersections with an unobstructed view of the entire intersection and of sufficient lengths of the intersecting roadway to permit the approaching drivers to anticipate and avoid collisions. Since the driveway is right-out only, sightlines to the south are irrelevant.

Table 6 – Sight Lines Project Access Points

Intersection	Direction	Posted Speed Limit (mph)	85th Percentile Speed (mph)	SSD Required (ft)	ISD Required (ft)	Estimated Distance (ft)
Site Drive #2 (OUT) at CT Route 12 (River Road)	North	35	40*	305	500	450
	South **					
Site Drive # (In) NBL at CT Route 12 (River Road) * **	North	35	40*	305	385	385

*- assumed
** - The site calls out for right-out only. Sightline from the South direction is not necessary
*** - Estimated using the equation: ISD= 1.47*v*t (where t accounts for additional lanes)

As shown in **Table 6** the SSD distance is met. Vehicles are expected to be able to exit the project Site Driveway safely. The ISD sightline to the north of the Site coming from

the I-395 is restricted due to the horizontal curve along CT Route 12 (River Road) and overgrown vegetation / overgrown shrubs from within the Study Area.
Minimum clearing of vegetation / overgrown shrubs is recommended to improve sightlines from the site. The northbound left turn into the site meets the ISD required distance of 385 feet.

VI. CONCLUSIONS AND RECOMMENDATIONS

This traffic study has been prepared for the development at 143 River Road in Lisbon, CT. The study area is along an urban stretch of River Road that is primarily commercial along its length with residential properties to the north and farmland to the south of the study area. The proposed development will consist of ±2,000 SF of coffee shop with drive-through window, ±5,200 SF of retail space, ±2,500 SF of quality sit-down restaurant space, and 50 residential units to comprise the whole development. Access to the Site will utilize two new curb cuts for 143 River Road property.

The study investigated the potential traffic impacts associated with the development in the weekday morning, weekday evening peak periods, and Saturday midday shopping peak hours. To assess existing traffic conditions in the vicinity of the Site, peak hour manual turning movement traffic volumes, vehicle classification, and pedestrian counts were collected in the field and provided by CTDOT from other studies. These values were recorded at key intersections within the study area.

A detailed traffic analysis was conducted at key intersections and roadways in the general vicinity of the Site in accordance with methodologies outlined in the Highway Capacity Manual 6th Edition, published by the Transportation Research Board. Traffic operations for the overall intersection LOS during the weekday morning, evening, and Saturday midday peak hours are projected to perform at acceptable Levels of Service in the Existing, No Build, and Build scenarios. The capacity analyses show negligible impacts from the proposed development on CT Route 12 (River Road) during all three peak periods.

The sightline to the north of the Site coming from the I-395 are restricted due to horizontal curve along CT Route 12 (River Road) and overgrown vegetation shrubs. Minimum clearing of vegetation / overgrown shrubs is recommended to improve sightlines. The SSD distance is met, vehicles are expected to be able to exit the project Site Driveway safely. The development proposes restriping of CT Route 12 (River Road)

to accommodate safe access to the development. The ISD sightline for the northbound left maneuver is met.

The following is a summary of the results/recommendations for this Site:

- To accommodate the proposed left turn lane into the site from the north, widening of the CT-Route 12 / River Road will be required. This includes moving the guardrail on the west side of the CT-Route 12 / River Road, restriping of CT-Route 12 / River Road at the Site-In driveway, 4 feet wide bituminous island between northbound and southbound traffic, and signage along the west side of the CT-Route 12 / River Road. Additional investigation will be made to determine if any impacts to the overhead sign foundation and the sign just south of the proposed driveway will be necessary.
- At Site Drive, install 12" white Stop Bar and accompanying signage as shown on the Site Plan.
- Minimum clearing of vegetation / overgrown shrubs is recommended to improve sightlines.

APPENDIX

TRAFFIC VOLUMES

Padlo, Pat

From: Jacobson, Richard C <Richard.Jacobson@ct.gov>
Sent: Friday, March 11, 2022 9:55 AM
To: Padlo, Pat
Cc: Sojka, Gary J; Hiller, Todd
Subject: Re: Volumes for your approval: Route 12 / River Road, Lisbon

Hi Pat,

The existing volumes diagram looks good compared to our ATR counts taken in 2017 and 2021. No covid growth rate is necessary. We have stopped requiring covid growth rates and now consider that traffic volumes are in a new normal. There are no developments that you need to include in your background volumes for this project. A growth rate of 1.5% per year can be used for a maximum of 5 years at this location. If you have any questions let us know.

Rick Jacobson
Transportation Planner II
Bureau of Policy-and Planning
Connecticut Department of Transportation
richard.jacobson@ct.gov
(860) 594-2035

From: Padlo, Pat <ppadlo@Blcompanies.com>
Sent: Tuesday, March 8, 2022 9:46 PM
To: Hiller, Todd <Todd.Hiller@ct.gov>
Cc: Sojka, Gary J <Gary.Sojka@ct.gov>
Subject: Volumes for your approval: Route 12 / River Road, Lisbon

Hi Todd,
I am catching on on my traffic studies and volumes for approval.
BL Companies is looking at a mix-use development with a coffee shop and commercial space in Lisbon. A final count of units and SF has not been finalized.
The counts collected were along Route12 / River Road were for AM, PM, and Sat MD peak hour.
Attached with this email you will find schematics with raw peak hour traffic counts and slightly adjusted to ensure continuity of volumes. I'm also attaching a zipped folder with raw count files from New England Counts.
Please let us know what growth factor we should use for Covid-19 and the annual growth rate for the area.
Thank you and please let us know if there is any other data necessary to get the volumes approved.
Regards, Pat

Pat Padlo, P.E., PTOE
Project Manager
BL Companies | *Employee owned. Client driven.*

New England COUNTS	ID: 879_001_BL	Lisbon, CT	# of TMC's: 03	Client: BL Companies
		Collected on March 3 & 5, 2022	# of ATR's: 00	Contact: Michael Dion, P.E., PTOE

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	1	29	3	0	21	13	5	0	3	1	0	0	5	1	30
7:15 AM	0	0	40	6	0	24	28	11	0	5	1	1	0	5	1	17
7:30 AM	0	0	30	7	0	33	32	13	0	6	1	0	0	8	0	20
7:45 AM	0	0	34	14	0	48	24	24	0	3	1	0	0	7	0	22
8:00 AM	0	0	35	8	0	62	21	18	0	15	3	0	0	7	0	38
8:15 AM	0	0	37	14	0	50	22	25	0	5	2	0	0	10	1	39
8:30 AM	0	0	42	13	0	43	28	23	0	16	1	0	0	7	0	44
8:45 AM	0	0	37	11	0	48	29	36	0	6	4	0	0	8	1	38

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	2	65	31	0	101	40	40	0	34	7	0	0	25	10	85
4:15 PM	0	1	54	31	0	89	32	63	0	40	10	1	0	24	14	104
4:30 PM	0	2	49	29	0	82	45	47	0	44	7	1	0	29	5	107
4:45 PM	0	4	61	28	0	101	44	63	0	32	13	2	0	22	14	103
5:00 PM	0	2	56	37	0	97	45	49	0	40	13	0	0	29	8	92
5:15 PM	0	3	63	40	0	78	30	51	0	43	6	2	0	28	5	86
5:30 PM	0	0	44	30	0	84	27	49	0	32	15	0	0	27	9	109
5:45 PM	0	0	53	26	0	69	40	37	0	40	9	1	0	27	10	111

AM PEAK HOUR 8:00 AM to 9:00 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**151**	**46**	**0**	**203**	**100**	**102**	**0**	**42**	**10**	**0**	**0**	**32**	**2**	**159**
PHF	**0.90**				**0.90**				**0.72**				**0.95**			
HV %	**0.0%**	**0.0%**	**7.3%**	**4.3%**	**0.0%**	**2.0%**	**12.0%**	**0.0%**	**0.0%**	**2.4%**	**10.0%**	**0.0%**	**0.0%**	**9.4%**	**0.0%**	**4.4%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**9**	**220**	**125**	**0**	**369**	**166**	**222**	**0**	**156**	**43**	**4**	**0**	**104**	**41**	**406**
PHF	**0.93**				**0.91**				**0.96**				**0.97**			
HV %	**0.0%**	**0.0%**	**1.8%**	**0.8%**	**0.0%**	**1.1%**	**3.0%**	**0.5%**	**0.0%**	**0.6%**	**7.0%**	**0.0%**	**0.0%**	**2.9%**	**0.0%**	**0.7%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	0	0	1	2	0	0	1	1	0	0	0	0	0
7:15 AM	0	0	5	2	0	0	1	0	0	0	0	0	0	1	0	0
7:30 AM	0	0	2	0	0	3	1	0	0	2	0	0	0	2	0	0
7:45 AM	0	0	7	0	0	2	4	1	0	0	0	0	0	0	0	0
8:00 AM	0	0	3	0	0	2	4	0	0	0	1	0	0	0	0	3
8:15 AM	0	0	3	1	0	1	0	0	0	0	0	0	0	2	0	1
8:30 AM	0	0	2	0	0	0	4	0	0	1	0	0	0	1	0	2
8:45 AM	0	0	3	1	0	1	4	0	0	0	0	0	0	0	0	1

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	0	0	2	2	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	1	1	0	1	1	1	0	0	2	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	0	1	0	0	0	2	0	2
4:45 PM	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	0	2	1	0	0	0	1	0	0	1	0	1
5:15 PM	0	0	0	2	0	0	2	0	0	1	1	0	0	1	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
5:45 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	1

AM PEAK HOUR 7:15 AM to 8:15 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**17**	**2**	**0**	**7**	**10**	**1**	**0**	**2**	**1**	**0**	**0**	**3**	**0**	**3**
PHF	**0.68**				**0.64**				**0.38**				**0.50**			

PM PEAK HOUR 4:30 PM to 5:30 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**3**	**2**	**0**	**3**	**6**	**0**	**0**	**2**	**2**	**0**	**0**	**4**	**0**	**4**
PHF	**0.63**				**0.75**				**0.50**				**0.50**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

AM PEAK HOUR[1]	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
8:00 AM to 9:00 AM	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PM PEAK HOUR[1]	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
4:15 PM to 5:15 PM	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	4	53	29	0	120	32	70	0	30	24	2	0	25	18	116
11:15 AM	0	2	50	36	0	128	33	67	0	46	18	3	0	24	14	114
11:30 AM	0	1	57	32	0	131	26	65	0	37	14	1	0	28	18	126
11:45 AM	0	2	53	28	0	153	34	79	0	43	12	1	0	25	17	127
12:00 PM	0	3	51	33	0	156	36	70	0	50	12	1	0	29	18	119
12:15 PM	0	2	58	37	0	135	33	73	0	47	19	3	0	28	12	121
12:30 PM	0	0	44	39	0	120	27	65	0	48	25	2	0	17	16	137
12:45 PM	0	0	47	42	0	137	28	85	0	49	18	2	0	36	17	135

MID PEAK HOUR	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
12:00 PM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
1:00 PM	**0**	**5**	**200**	**151**	**0**	**548**	**124**	**293**	**0**	**194**	**74**	**8**	**0**	**110**	**63**	**512**
PHF	**0.92**				**0.92**				**0.92**				**0.91**			
HV %	**0.0%**	**0.0%**	**1.0%**	**0.7%**	**0.0%**	**0.2%**	**1.6%**	**0.7%**	**0.0%**	**1.0%**	**1.4%**	**0.0%**	**0.0%**	**1.8%**	**0.0%**	**0.2%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	2
11:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:00 PM	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0
12:15 PM	0	0	1	1	0	0	0	0	0	1	1	0	0	1	0	0
12:30 PM	0	0	1	0	0	0	1	1	0	1	0	0	0	1	0	1
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**2**	**1**	**0**	**1**	**2**	**2**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**2**
PHF	**0.38**				**0.42**				**0.38**				**0.50**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 1
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	Walmart Plaza Drive
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0

MID PEAK HOUR 12:00 PM to 1:00 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Shopping Stores Drive Eastbound				Walmart Plaza Drive Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	41	21	0	17	31	0	0	0	0	0	0	5	0	19
7:15 AM	0	0	36	27	0	24	54	0	0	0	0	0	0	10	0	25
7:30 AM	0	0	41	16	0	23	63	0	0	0	0	0	0	13	0	22
7:45 AM	0	0	39	24	0	16	75	0	0	0	0	0	0	26	0	21
8:00 AM	0	0	55	32	0	23	76	0	0	0	0	0	0	20	0	26
8:15 AM	0	0	48	35	0	22	81	0	0	0	0	0	0	13	0	26
8:30 AM	0	0	59	41	0	18	77	0	0	0	0	0	0	19	0	21
8:45 AM	0	0	51	27	0	15	89	0	0	0	0	0	0	29	0	24

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	102	99	0	18	131	0	0	0	0	0	0	44	0	49
4:15 PM	0	0	122	82	0	24	121	0	0	0	0	0	0	58	0	49
4:30 PM	0	0	134	73	0	17	127	0	0	0	0	0	0	53	0	38
4:45 PM	0	0	122	75	0	24	137	0	0	0	0	0	0	64	0	62
5:00 PM	0	0	107	82	0	23	140	0	0	0	0	0	0	48	0	54
5:15 PM	0	0	114	79	0	13	119	0	0	0	0	0	0	48	0	54
5:30 PM	0	0	112	80	0	20	101	0	0	0	0	0	0	52	0	50
5:45 PM	0	0	120	81	0	23	106	0	0	0	0	0	0	39	0	38

AM PEAK HOUR 8:00 AM to 9:00 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**213**	**135**	**0**	**78**	**323**	**0**	**0**	**0**	**0**	**0**	**0**	**81**	**0**	**97**
PHF	**0.87**				**0.96**				**0.00**				**0.84**			
HV %	**0.0%**	**0.0%**	**3.8%**	**8.9%**	**0.0%**	**2.6%**	**4.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**1.2%**	**0.0%**	**11.3%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**485**	**312**	**0**	**88**	**525**	**0**	**0**	**0**	**0**	**0**	**0**	**223**	**0**	**203**
PHF	**0.96**				**0.94**				**0.00**				**0.85**			
HV %	**0.0%**	**0.0%**	**0.8%**	**1.6%**	**0.0%**	**0.0%**	**1.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**1.0%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	1	1	0	1	3	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	2	3	0	2	1	0	0	0	0	0	0	1	0	2
7:30 AM	0	0	4	1	0	1	1	0	0	0	0	0	0	2	0	0
7:45 AM	0	0	4	2	0	0	5	0	0	0	0	0	0	1	0	2
8:00 AM	0	0	3	4	0	0	5	0	0	0	0	0	0	1	0	3
8:15 AM	0	0	1	3	0	1	1	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	3	2	0	0	3	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	1	3	0	1	4	0	0	0	0	0	0	0	0	4

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	0	3	0	0	2	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	3	1	0	0	3	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	1	2	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	1	0	0	2	0	0	0	0	0	0	1	0	0
5:15 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
5:45 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0

AM PEAK HOUR 7:15 AM to 8:15 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**13**	**10**	**0**	**3**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**7**
PHF	**0.82**				**0.75**				**0.00**				**0.75**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**0**	**4**	**7**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**
PHF	**0.69**				**0.67**				**0.00**				**0.50**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

PM PEAK HOUR[1] 4:15 PM to 5:15 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	111	88	0	33	167	0	0	0	0	0	0	55	0	35
11:15 AM	0	0	132	78	0	22	173	0	0	0	0	0	0	55	0	28
11:30 AM	0	0	130	94	0	19	164	0	0	0	0	0	0	54	0	26
11:45 AM	0	0	128	96	0	23	189	0	0	0	0	0	0	77	0	26
12:00 PM	0	0	123	97	0	34	192	0	0	0	0	0	0	70	0	23
12:15 PM	0	0	140	80	0	25	183	0	0	0	0	0	0	58	0	28
12:30 PM	0	0	129	100	0	18	154	0	0	0	0	0	0	58	0	30
12:45 PM	0	0	135	96	0	20	172	0	0	0	0	0	0	78	0	34

MID PEAK HOUR	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
11:45 AM to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:45 PM	**0**	**0**	**520**	**373**	**0**	**100**	**718**	**0**	**0**	**0**	**0**	**0**	**0**	**263**	**0**	**107**
PHF	**0.97**				**0.90**				**0.00**				**0.90**			
HV %	**0.0%**	**0.0%**	**0.6%**	**0.8%**	**0.0%**	**0.0%**	**0.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.8%**	**0.0%**	**0.0%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	1	2	0	0	1	0	0	0	0	0	0	1	0	0
11:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
12:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	1	2	0	0	1	0	0	0	0	0	0	1	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
11:45 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:45 PM	**0**	**0**	**3**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**
PHF	**0.50**				**0.38**				**0.00**				**0.50**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 2
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 NB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:45 AM to 12:45 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				Eastbound				I-395 NB On/Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	8	48	0	0	0	35	48	0	0	0	16	0	0	0	15
7:15 AM	0	15	45	0	0	0	49	62	0	0	0	27	0	0	0	30
7:30 AM	0	7	49	0	0	0	55	69	0	0	0	29	0	0	0	18
7:45 AM	0	10	47	0	0	0	60	52	0	0	0	34	0	0	0	10
8:00 AM	0	15	62	0	0	0	67	58	0	0	0	31	0	0	0	16
8:15 AM	0	17	53	0	0	0	69	48	0	0	0	34	0	0	0	14
8:30 AM	0	14	59	0	0	0	68	49	0	0	0	29	0	0	0	8
8:45 AM	0	18	54	0	0	0	61	51	0	0	0	43	0	0	0	12

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	30	121	0	0	0	84	41	0	0	0	61	0	0	0	25
4:15 PM	0	39	130	0	0	0	79	38	0	0	0	67	0	0	0	29
4:30 PM	0	31	138	0	0	0	82	43	0	0	0	59	0	0	0	19
4:45 PM	0	34	147	0	0	0	108	35	0	0	0	57	0	0	0	14
5:00 PM	0	38	122	0	0	0	95	36	0	0	0	70	0	0	0	12
5:15 PM	0	43	119	0	0	0	71	34	0	0	0	57	0	0	0	30
5:30 PM	0	42	116	0	0	0	62	35	0	0	0	58	0	0	0	13
5:45 PM	0	53	103	0	0	0	81	28	0	0	0	50	0	0	0	16

AM PEAK HOUR 8:00 AM to 9:00 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**64**	**228**	**0**	**0**	**0**	**265**	**206**	**0**	**0**	**0**	**137**	**0**	**0**	**0**	**50**
PHF	**0.95**				**0.94**				**0.80**				**0.78**			
HV %	**0.0%**	**9.4%**	**4.4%**	**0.0%**	**0.0%**	**0.0%**	**3.0%**	**4.4%**	**0.0%**	**0.0%**	**0.0%**	**5.8%**	**0.0%**	**0.0%**	**0.0%**	**4.0%**

PM PEAK HOUR 4:15 PM to 5:15 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**142**	**537**	**0**	**0**	**0**	**364**	**152**	**0**	**0**	**0**	**253**	**0**	**0**	**0**	**74**
PHF	**0.94**				**0.90**				**0.90**				**0.64**			
HV %	**0.0%**	**0.7%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**0.8%**	**0.7%**	**0.0%**	**0.0%**	**0.0%**	**2.4%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
7:00 AM	0	0	3	0	0	0	3	0	0	0	0	1	0	0	0	0
7:15 AM	0	1	2	0	0	0	2	1	0	0	0	1	0	0	0	0
7:30 AM	0	1	3	0	0	0	1	1	0	0	0	0	0	0	0	0
7:45 AM	0	2	4	0	0	0	3	3	0	0	0	2	0	0	0	0
8:00 AM	0	2	3	0	0	0	2	4	0	0	0	3	0	0	0	1
8:15 AM	0	2	1	0	0	0	2	2	0	0	0	0	0	0	0	0
8:30 AM	0	1	2	0	0	0	2	1	0	0	0	2	0	0	0	0
8:45 AM	0	1	4	0	0	0	2	2	0	0	0	3	0	0	0	1

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
4:00 PM	0	0	1	0	0	0	1	2	0	0	0	1	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	0
4:30 PM	0	1	3	0	0	0	1	1	0	0	0	2	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0
5:15 PM	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1
5:30 PM	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
5:45 PM	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0

AM PEAK HOUR 7:45 AM to 8:45 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**7**	**10**	**0**	**0**	**0**	**9**	**10**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**1**
PHF	**0.71**				**0.79**				**0.58**				**0.25**			

PM PEAK HOUR 4:00 PM to 5:00 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
	0	**1**	**5**	**0**	**0**	**0**	**3**	**3**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**
PHF	**0.38**				**0.50**				**0.50**				**0.00**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/3/2022
Day of Week:	Thursday
Weather:	Clouds & Sun, 30°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

AM PEAK HOUR[1] 8:00 AM to 9:00 AM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

PM PEAK HOUR[1] 4:15 PM to 5:15 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0

[1] *NOTE: Peak hour summaries here correspond to peak hours identified for passenger cars and heavy vehicles combined.*

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

PASSENGER CARS & HEAVY VEHICLES COMBINED

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	36	110	0	0	0	128	50	0	0	0	72	0	0	0	23
11:15 AM	0	45	113	0	0	0	105	40	0	0	0	80	0	0	0	16
11:30 AM	0	54	102	0	0	0	102	43	0	0	0	87	0	0	0	16
11:45 AM	0	41	113	0	0	0	114	33	0	0	0	101	0	0	0	19
12:00 PM	0	47	101	0	0	0	134	36	0	0	0	92	0	0	0	16
12:15 PM	0	50	118	0	0	0	116	47	0	0	0	91	0	0	0	16
12:30 PM	0	56	101	0	0	0	102	30	0	0	0	74	0	0	0	16
12:45 PM	0	49	119	0	0	0	105	33	0	0	0	85	0	0	0	18

MID PEAK HOUR	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
11:30 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:30 PM	**0**	**192**	**434**	**0**	**0**	**0**	**466**	**159**	**0**	**0**	**0**	**371**	**0**	**0**	**0**	**67**
PHF	**0.93**				**0.92**				**0.92**				**0.88**			
HV %	**0.0%**	**0.5%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.4%**	**0.6%**	**0.0%**	**0.0%**	**0.0%**	**0.3%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

HEAVY VEHICLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
11:00 AM	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
11:15 AM	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
11:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0
12:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
11:15 AM																
to	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
12:15 PM	**0**	**1**	**2**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**
PHF	**0.75**				**0.42**				**0.25**				**0.00**			

Client:	Michael Dion, P.E., PTOE
Project #:	879_001_BL
BTD #:	Location 3
Location:	Lisbon, CT
Street 1:	Route 12 (River Road)
Street 2:	I-395 SB On/Off Ramp
Count Date:	3/5/2022
Day of Week:	Saturday
Weather:	Clouds & Sun, 40°F

New England COUNTS
PO Box 1723
Framingham, MA 01701

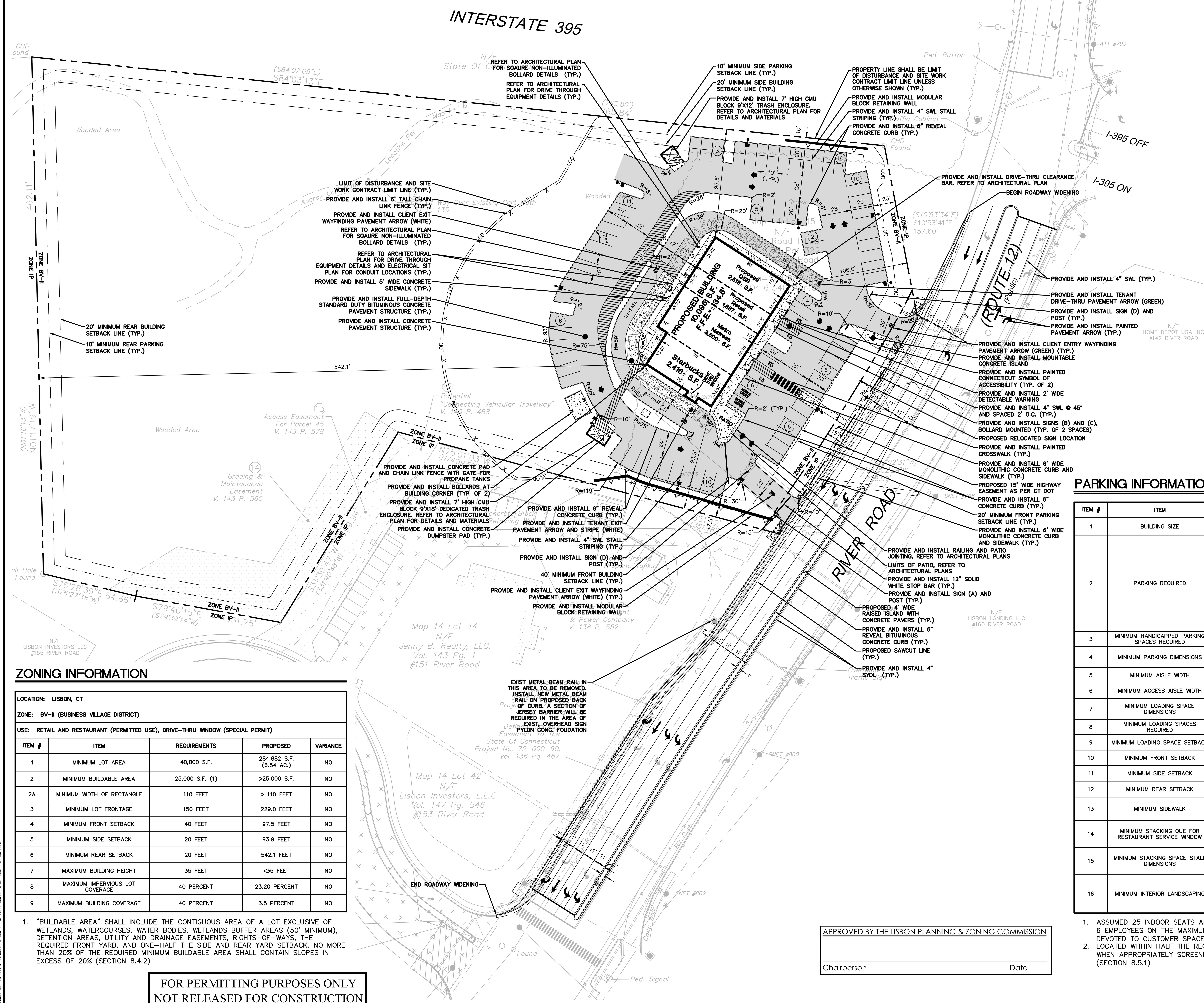
PEDESTRIANS & BICYCLES

	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
Start Time	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

MID PEAK HOUR 11:30 AM to 12:30 PM	Route 12 (River Road) Northbound				Route 12 (River Road) Southbound				I-395 SB On/Off Ramp Eastbound				I-395 SB Off Ramp Westbound			
	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED	Left	Thru	Right	PED
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Peak hour summaries here correspond to peak hours identified for passenger car and heavy vehicles combined.

SITE PLAN



SIGN LEGEND

SIGN NO.	CT-DOT NO. OR MUTCD NO.	LEGEND
A	R1-1	STOP 30"
B	R7-8	HANDICAPPED PARKING STATE PERMIT REQUIRED
C	R7-8p	VAN ACCESSIBLE
D	31-1109	DO NOT ENTER

NOTE: HANDICAPPED SIGNS TO BE INSTALLED IN PIPE BOLLARDS (SEE DETAIL). ALL HANDICAP SIGNAGE TO CONFORM TO LATEST BUILDING CODE.

SITE PLAN LEGEND

- PROPERTY LINE
- LOD — PROPOSED LIMIT OF DISTURBANCE LINE AND CONTRACT LIMIT LINE
- PROVIDE AND INSTALL MODULAR BLOCK RETAINING WALL
- X — PROVIDE AND INSTALL 6' TALL CHAIN LINK FENCE
- PROPOSED SAWCUT LINE
- CONNECTICUT SYMBOL OF ACCESSIBILITY PARKING SPACE
- # PARKING SPACE COUNT
- DIRECTIONAL ARROW
- PIPE BOLLARD
- SITE LIGHTING (REFER TO LIGHTING PLAN)
- PROVIDE AND INSTALL CONCRETE PAVEMENT STRUCTURE, REINFORCED CONCRETE SIDEWALK, OR MONOLITHIC CONCRETE CURB AND SIDEWALK
- PROVIDE AND INSTALL STANDARD DUTY ASPHALT PAVEMENT STRUCTURE

PARKING INFORMATION

ITEM #	ITEM	REQUIREMENTS	PROPOSED	VARIANCE
1	BUILDING SIZE	NONE REQUIRED	10,096 S.F.	NO
2	PARKING REQUIRED	RETAIL: MINIMUM OF 4 SPACES; 1 SPACE PER EVERY 250 S.F. OF GROSS FLOOR AREA (7,680 S.F.) REQUIRED = 30.72 DRIVE-IN/CARRY-OUT RESTAURANT: 1 SPACE PER 2 PERMANENT SEATS + 1 SPACE PER EMPLOYEE ON THE MAXIMUM SHIFT + 1 SPACE PER 50 S.F. OF FLOOR AREA DEVOTED TO CUSTOMER SERVICE (1) SEE NOTE 1 REQUIRED = 20+21.5+6=47.5 TOTAL REQUIRED = 78.22	31 SPACES 48 SPACES 79 SPACES TOTAL	NO
3	MINIMUM HANDICAPPED PARKING SPACES REQUIRED	4 SPACES	4 SPACES	NO
4	MINIMUM PARKING DIMENSIONS	10 FEET X 20 FEET 300 S.F. PER PARKING SPACE AND AISLE FOR MANEUVERING	10 FEET X 20 FEET	NO
5	MINIMUM AISLE WIDTH	10 FEET	24 FEET – 2-WAY 12 FEET – 1-WAY	NO
6	MINIMUM ACCESS AISLE WIDTH	AT LEAST 2 12-FOOT LANES	2 20-FOOT LANES	NO
7	MINIMUM LOADING SPACE DIMENSIONS	12 FEET WIDE X 50 FEET LONG X 15 FEET HIGH	12 FEET WIDE X 101 FEET LONG X >15 FEET HIGH	NO
8	MINIMUM LOADING SPACES REQUIRED	1 BERTH FOR 10,000 – 25,000 S.F.	2 LOADING BERTHS	NO
9	MINIMUM LOADING SPACE SETBACK	50 FEET FROM ANY STREET INTERSECTION	> 50 FEET FROM ANY STREET INTERSECTION	NO
10	MINIMUM FRONT SETBACK	20 FEET (2)	20.0 FEET	NO
11	MINIMUM SIDE SETBACK	10 FEET (2)	10.0 FEET	NO
12	MINIMUM REAR SETBACK	10 FEET (2)	456.6 FEET	NO
13	MINIMUM SIDEWALK	6' WIDE SIDEWALK ON ALL LOT SIDES THAT ABUT A PUBLIC STREET (10.13.4)	6' WIDE SIDEWALK ON ALL LOT LINES THAT ABUT A PUBLIC STREET	NO
14	MINIMUM STACKING QUE FOR RESTAURANT SERVICE WINDOW	10 STACKING SPACES AND AT LEAST ONE SPACE FOR EXITING CAR BETWEEN WINDOW AND STREET	15 STACKING SPACES AND ONE SPACE FOR EXITING CAR BETWEEN WINDOW AND STREET	NO
15	MINIMUM STACKING SPACE STALL DIMENSIONS	20 FEET LONG X 10 FEET WIDE (12 FEET WIDE IF ADJACENT TO BUILDING)	10 FEET WIDE X 20 FEET LONG	NO
16	MINIMUM INTERIOR LANDSCAPING	1 INTERIOR LANDSCAPED ISLAND FOR EVERY 10 PARKING SPACES AT LEAST 10 FEET WIDE. EVERY 2 PARKING BAYS SHALL BE SEPARATED BY A LANDSCAPED ISLAND 10 FEET IN WIDTH	1 INTERIOR ISLAND FOR EVERY 10 PARKING SPACES AT LEAST 10 FEET WIDE	NO

1. ASSUMED 25 INDOOR SEATS AND 18 OUTDOOR SEATS (25+18=43/2=21.5 SPACES) AND 6 EMPLOYEES ON THE MAXIMUM SHIFT (6 SPACES) AND 1,000 S.F. OF FLOOR AREA DEVOTED TO CUSTOMER SPACE (1,000 S.F./50=20) = 21.5 + 6 + 20 = 47.5
2. LOCATED WITHIN HALF THE REQUIRED SETBACK, FARTHEST FROM THE PROPERTY LINE, WHEN APPROPRIATELY SCREENED FROM THE STREET AND/OR ABUTTING PROPERTY (SECTION 8.5.1)

ZONING INFORMATION

LOCATION: LISBON, CT

ZONE: BV-II (BUSINESS VILLAGE DISTRICT)

USE: RETAIL AND RESTAURANT (PERMITTED USE), DRIVE-THRU WINDOW (SPECIAL PERMIT)

ITEM #	ITEM	REQUIREMENTS	PROPOSED	VARIANCE
1	MINIMUM LOT AREA	40,000 S.F.	284,882 S.F. (6.54 AC.)	NO
2	MINIMUM BUILDABLE AREA	25,000 S.F. (1)	>25,000 S.F.	NO
2A	MINIMUM WIDTH OF RECTANGLE	110 FEET	> 110 FEET	NO
3	MINIMUM LOT FRONTAGE	150 FEET	229.0 FEET	NO
4	MINIMUM FRONT SETBACK	40 FEET	97.5 FEET	NO
5	MINIMUM SIDE SETBACK	20 FEET	93.9 FEET	NO
6	MINIMUM REAR SETBACK	20 FEET	542.1 FEET	NO
7	MAXIMUM BUILDING HEIGHT	35 FEET	<35 FEET	NO
8	MAXIMUM IMPERVIOUS LOT COVERAGE	40 PERCENT	23.20 PERCENT	NO
9	MAXIMUM BUILDING COVERAGE	40 PERCENT	3.5 PERCENT	NO

1. "BUILDABLE AREA" SHALL INCLUDE THE CONTIGUOUS AREA OF A LOT EXCLUSIVE OF WETLANDS, WATERCOURSES, WATER BODIES, WETLANDS BUFFER AREAS (50' MINIMUM), DETENTION AREAS, UTILITY AND DRAINAGE EASEMENTS, RIGHTS-OF-WAYS, THE REQUIRED FRONT YARD, AND ONE-HALF THE SIDE AND REAR YARD SETBACK. NO MORE THAN 20% OF THE REQUIRED MINIMUM BUILDABLE AREA SHALL CONTAIN SLOPES IN EXCESS OF 20% (SECTION 8.4.2)

FOR PERMITTING PURPOSES ONLY
NOT RELEASED FOR CONSTRUCTION

APPROVED BY THE LISBON PLANNING & ZONING COMMISSION

Chairperson | Date

GRAPHIC SCALE
40 20 0 40
SCALE IN FEET

Architecture
Engineering
Environmental
Land Surveying

BL Companies

355 Research Parkway
Meriden, CT 06450
(203) 630-1406

PROPOSED DEVELOPMENT
143 RIVER ROAD
LISBON, CONNECTICUT

REVISIONS
No. Date Desc.

Designed B.C.M.
Drawn B.C.M.
Reviewed R.M.R.
Scale 1"=40'
Project No. 2201674
Date 11/29/2022
CAD File: SP220167401

Title
SITE PLAN

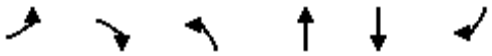
Sheet No.
SP-1

Xref (s): ; BD220167401 ; XC220167401 ; XY220167403

11/28/2022, BMALONEY, G:\JOBS22\16\2201674\DWG\SP220167401.DWG,SP-1 24X36 40SC.

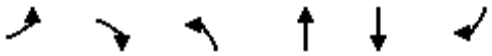
CAPACITY ANALYSES

EXISTING



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	350	410	0
Future Volume (vph)	0	0	0	350	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	380	446	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	380	446	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.9%		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	350	410	0
Future Volume (vph)	0	0	0	350	410	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	380	446	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	380	446	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 17.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	350	410	0
Future Vol, veh/h	0	0	0	350	410	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	380	446	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	223	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	665	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	665	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

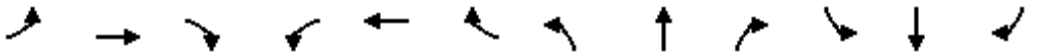
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	350	410	0
Future Vol, veh/h	0	0	0	350	410	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	380	446	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	223	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	665	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	665	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

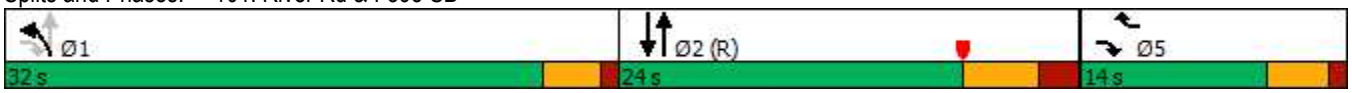


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	140	0	0	50	65	250	0	0	265	210
Future Volume (vph)	0	0	140	0	0	50	65	250	0	0	265	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.934	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1550	0	0	1611	1770	1863	0	0	3236	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1550	0	0	1611	1770	1863	0	0	3236	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259			681					223	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	2%	2%	7%
Adj. Flow (vph)	0	0	175	0	0	64	68	263	0	0	282	223
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	175	0	0	64	68	263	0	0	505	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			7.0			7.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			14.0			14.0	32.0	24.0			24.0	
Total Split (%)			20.0%			20.0%	45.7%	34.3%			34.3%	
Maximum Green (s)			9.7			9.7	28.0	17.9			17.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lead	Lag			Lag	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			14.2			7.0	6.9	52.6			45.4	
Actuated g/C Ratio			0.20			0.10	0.10	0.75			0.65	
v/c Ratio			0.34			0.08	0.39	0.19			0.23	
Control Delay			2.5			0.2	35.8	5.9			3.8	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			2.5			0.2	35.8	5.9			3.8	
LOS			A			A	D	A			A	
Approach Delay		2.5			0.2			12.0			3.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)			0			0	25	69			24	
Queue Length 95th (ft)			2			0	64	74			50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		631			389			569			829	
Turn Bay Length (ft)												
Base Capacity (vph)			523			809	708	1399			2175	
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			0.33			0.08	0.10	0.19			0.23	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 36 (51%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 31.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	85	100	215	135	80	325
Future Volume (vph)	85	100	215	135	80	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	1524	3406	1524	1703	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	1524	3406	1524	1703	3406
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		119		155		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.84	0.84	0.87	0.87	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	101	119	247	155	83	339
Shared Lane Traffic (%)						
Lane Group Flow (vph)	101	119	247	155	83	339
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		5.0	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	24.0	24.0	33.0		13.0	33.0
Total Split (%)	34.3%	34.3%	47.1%		18.6%	47.1%
Maximum Green (s)	20.0	20.0	26.9		9.0	26.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lag		Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	7.5	7.5	42.7	55.4	7.5	42.7
Actuated g/C Ratio	0.11	0.11	0.61	0.79	0.11	0.61
v/c Ratio	0.28	0.44	0.12	0.13	0.46	0.16
Control Delay	30.6	11.9	6.5	1.6	34.1	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	11.9	6.5	1.6	34.1	8.4
LOS	C	B	A	A	C	A
Approach Delay	20.5		4.6			13.5

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		A			B
Queue Length 50th (ft)	21	0	22	0	35	38
Queue Length 95th (ft)	38	36	37	14	61	71
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	943	520	2075	1455	226	2075
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	0.11	0.23	0.12	0.11	0.37	0.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	10	5	35	5	150	5	155	20	205	100	105
Future Volume (vph)	45	10	5	35	5	150	5	155	20	205	100	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.950				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1703	0	1687	1776	1509	3303	1792	1524	3273	1776	1509
Flt Permitted	0.656						0.950			0.950		
Satd. Flow (perm)	1176	1703	0	1776	1776	1509	3303	1792	1524	3273	1776	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				301			204			238
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.72	0.72	0.72	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	63	14	7	37	5	158	6	172	22	228	111	117
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	21	0	37	5	158	6	172	22	228	111	117
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	11.0	13.8		11.0	13.8		23.0	22.2	22.2	23.0	22.2	11.0
Total Split (%)	15.7%	19.7%		15.7%	19.7%		32.9%	31.7%	31.7%	32.9%	31.7%	15.7%
Maximum Green (s)	7.0	9.0		7.0	8.0		16.7	16.0	16.0	16.8	16.0	7.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)							7.0				7.0	
Flash Dont Walk (s)							22.0				22.0	
Pedestrian Calls (#/hr)							0				0	
Act Effct Green (s)	10.1	5.8		7.2	5.1	70.0	5.0	35.9	35.9	8.8	49.9	8.4
Actuated g/C Ratio	0.14	0.08		0.10	0.07	1.00	0.07	0.51	0.51	0.13	0.71	0.12
v/c Ratio	0.27	0.14		0.21	0.04	0.10	0.03	0.19	0.02	0.56	0.09	0.30
Control Delay	26.2	25.5		28.1	30.8	0.1	30.6	13.6	0.1	33.1	5.2	6.2
Queue Delay	0.0	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	26.2	25.5		28.1	30.8	0.1	30.6	13.6	0.1	33.1	5.2	6.2
LOS	C	C		C	C	A	C	B	A	C	A	A
Approach Delay		26.0			6.1			12.6			19.4	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)	26	6		15	2	0	1	34	0	52	7	0
Queue Length 95th (ft)	38	19		32	12	0	6	101	0	71	48	13
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	251	225		205	202	1509	788	920	881	785	1266	404
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.09		0.18	0.02	0.10	0.01	0.19	0.02	0.29	0.09	0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 54 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 42.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 202: River Rd & Lowes/Walmart

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	800	750	0
Future Volume (vph)	0	0	0	800	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	870	815	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	870	815	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.5%		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	800	750	0
Future Volume (vph)	0	0	0	800	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	870	815	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	870	815	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	800	750	0
Future Vol, veh/h	0	0	0	800	750	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	870	815	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	408	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	506	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	506	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	800	750	0
Future Vol, veh/h	0	0	0	800	750	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	870	815	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	408	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	506	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	506	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

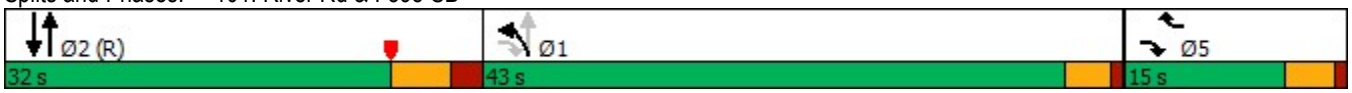
Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	255	0	0	75	145	545	0	0	360	155
Future Volume (vph)	0	0	255	0	0	75	145	545	0	0	360	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.955	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3380	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			410					75	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	0	0	283	0	0	83	154	580	0	0	400	172
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	283	0	0	83	154	580	0	0	572	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			21.0			5.1	11.9	74.5			58.6	
Actuated g/C Ratio			0.23			0.06	0.13	0.83			0.65	
v/c Ratio			0.55			0.17	0.66	0.38			0.26	
Control Delay			15.4			0.8	43.7	5.0			6.5	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			15.4			0.8	43.7	5.0			6.5	
LOS			B			A	D	A			A	
Approach Delay		15.4			0.8			13.1			6.5	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)			50			0	86	58			53	
Queue Length 95th (ft)			117			0	91	217			94	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			600			552	767	1543			2227	
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			0.47			0.15	0.20	0.38			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

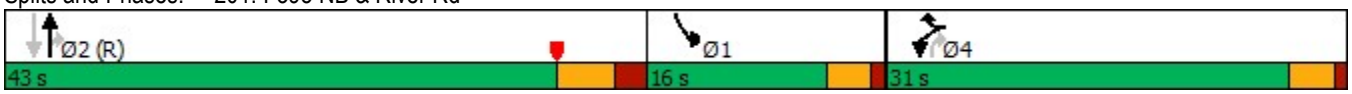


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	225	205	485	315	90	525
Future Volume (vph)	225	205	485	315	90	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		241		328		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.85	0.85	0.96	0.96	0.94	0.94
Adj. Flow (vph)	265	241	505	328	96	559
Shared Lane Traffic (%)						
Lane Group Flow (vph)	265	241	505	328	96	559
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	11.7	11.7	55.6	71.3	8.6	55.6
Actuated g/C Ratio	0.13	0.13	0.62	0.79	0.10	0.62
v/c Ratio	0.59	0.58	0.23	0.25	0.57	0.26
Control Delay	42.1	10.8	7.8	0.5	45.6	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	10.8	7.8	0.5	45.6	13.4
LOS	D	B	A	A	D	B
Approach Delay	27.2		5.0			18.1
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	74	0	65	0	43	88
Queue Length 95th (ft)	101	52	113	0	96	145
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	643	2184	1322	236	2184
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	0.26	0.37	0.23	0.25	0.41	0.26

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd

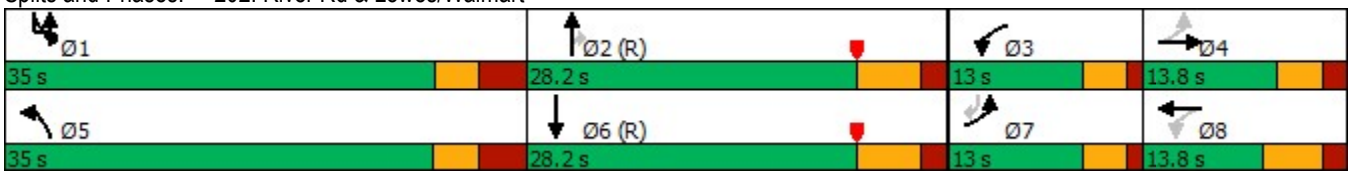


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	45	5	105	45	410	10	230	125	360	170	220
Future Volume (vph)	160	45	5	105	45	410	10	230	125	360	170	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1801	0	1770	1863	1583	3433	1863	1583	3433	1863	1583
Flt Permitted	0.482			0.889			0.950			0.950		
Satd. Flow (perm)	881	1801	0	1656	1863	1583	3433	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				423			159			242
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	167	47	5	108	46	423	11	247	134	396	187	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	52	0	108	46	423	11	247	134	396	187	242
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	28.2	13.0
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	31.3%	14.4%
Maximum Green (s)	9.0	9.0		9.0	8.0		28.7	22.0	22.0	28.8	22.0	9.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	17.5	8.8		14.3	6.6	90.0	5.0	40.7	40.7	14.4	59.1	10.5
Actuated g/C Ratio	0.19	0.10		0.16	0.07	1.00	0.06	0.45	0.45	0.16	0.66	0.12
v/c Ratio	0.62	0.29		0.39	0.34	0.27	0.06	0.29	0.17	0.72	0.15	0.61
Control Delay	40.0	38.3		32.3	46.2	0.4	41.0	19.9	3.0	34.7	15.6	18.2
Queue Delay	0.0	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	40.0	38.3		32.3	46.2	0.4	41.0	19.9	3.0	34.7	15.6	18.2
LOS	D	D		C	D	A	D	B	A	C	B	B
Approach Delay		39.6			10.0			14.7			25.6	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	77	25		48	25	0	3	96	0	121	76	6
Queue Length 95th (ft)	133	60		90	59	0	11	171	27	154	164	91
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	278	205		291	165	1583	1094	842	803	1098	1222	404
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.25		0.37	0.28	0.27	0.01	0.29	0.17	0.36	0.15	0.60

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 202: River Rd & Lowes/Walmart



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	905	990	0
Future Volume (vph)	0	0	0	905	990	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	984	1076	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	984	1076	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		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	905	990	0
Future Volume (vph)	0	0	0	905	990	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	984	1076	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	984	1076	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	905	990	0
Future Vol, veh/h	0	0	0	905	990	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	984	1076	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	538	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	417	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	417	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	905	990	0
Future Vol, veh/h	0	0	0	905	990	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	984	1076	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	538	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	417	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	417	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

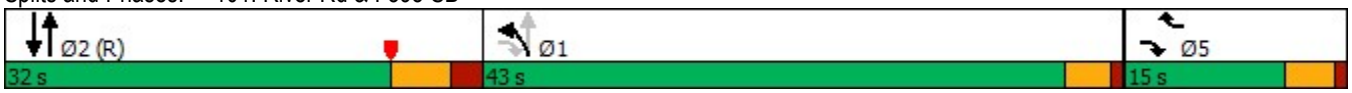
Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	375	0	0	70	195	435	0	0	450	160
Future Volume (vph)	0	0	375	0	0	70	195	435	0	0	450	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.961	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3401	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3401	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			497					56	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	0	0	408	0	0	80	210	468	0	0	489	174
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	408	0	0	80	210	468	0	0	663	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	4.5	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			26.9			8.0	14.9	71.6			52.7	
Actuated g/C Ratio			0.30			0.09	0.17	0.80			0.59	
v/c Ratio			0.73			0.13	0.72	0.32			0.33	
Control Delay			26.8			0.5	43.0	6.1			10.4	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			26.8			0.5	43.0	6.1			10.4	
LOS			C			A	D	A			B	
Approach Delay		26.8			0.5			17.5			10.4	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)			150			0	75	107			83	
Queue Length 95th (ft)			212			0	106	179			156	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			611			632	767	1482			2013	
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			0.67			0.13	0.27	0.32			0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

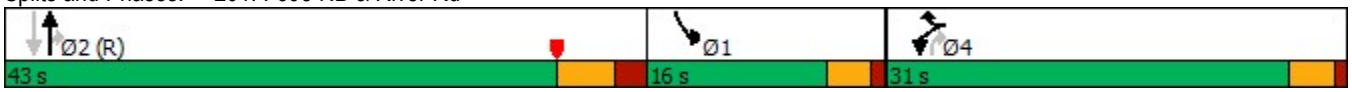


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	110	520	385	100	725
Future Volume (vph)	265	110	520	385	100	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		122		372		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	294	122	536	397	111	806
Shared Lane Traffic (%)						
Lane Group Flow (vph)	294	122	536	397	111	806
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	12.5	12.5	54.2	70.7	9.2	54.2
Actuated g/C Ratio	0.14	0.14	0.60	0.79	0.10	0.60
v/c Ratio	0.62	0.38	0.25	0.30	0.62	0.38
Control Delay	41.9	10.0	7.7	0.5	47.5	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	10.0	7.7	0.5	47.5	11.8
LOS	D	A	A	A	D	B
Approach Delay	32.5		4.7			16.1
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	82	0	72	0	64	104
Queue Length 95th (ft)	117	45	112	0	m95	196
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	560	2133	1323	236	2133
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	0.29	0.22	0.25	0.30	0.47	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 41.5%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 201: I-395 NB & River Rd



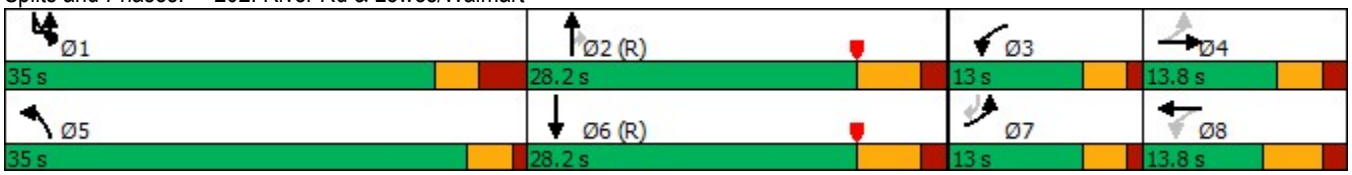
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	75	10	110	65	510	5	200	155	550	145	295
Future Volume (vph)	195	75	10	110	65	510	5	200	155	550	145	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.982				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1829	0	1770	1863	1583	3433	1863	1583	3433	1863	1583
Flt Permitted	0.515			0.697			0.950			0.950		
Satd. Flow (perm)	959	1829	0	1298	1863	1583	3433	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				560			168			321
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	82	11	121	71	560	5	217	168	598	158	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	93	0	121	71	560	5	217	168	598	158	321
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	28.2	13.0
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	31.3%	14.4%
Maximum Green (s)	9.0	9.0		9.0	8.0		30.9	22.0	22.0	28.8	22.0	9.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		1.0	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		4.1	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	21.7	10.6		16.6	7.1	90.0	5.0	31.3	31.3	19.8	55.5	11.8
Actuated g/C Ratio	0.24	0.12		0.18	0.08	1.00	0.06	0.35	0.35	0.22	0.62	0.13
v/c Ratio	0.63	0.42		0.42	0.49	0.35	0.03	0.33	0.25	0.79	0.14	0.66
Control Delay	37.2	40.3		30.5	51.0	0.6	40.6	26.6	5.5	33.6	12.3	19.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	40.3		30.5	51.0	0.6	40.6	26.6	5.5	33.6	12.3	19.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		C	D	A	D	C	A	C	B	B
Approach Delay		38.1			10.2			17.7			26.1	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	95	45		52	39	0	1	97	0	159	59	32
Queue Length 95th (ft)	#174	97		100	82	0	7	168	47	211	122	116
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	338	236		295	165	1583	1178	648	660	1098	1148	487
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.39		0.41	0.43	0.35	0.00	0.33	0.25	0.54	0.14	0.66

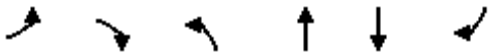
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 21.5 Intersection LOS: C
Intersection Capacity Utilization 60.0% 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: 202: River Rd & Lowes/Walmart

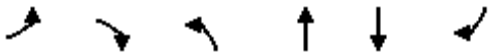


NO BUILD



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	365	435	0
Future Volume (vph)	0	0	0	365	435	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	397	473	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	397	473	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		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	365	435	0
Future Volume (vph)	0	0	0	365	435	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	397	473	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	397	473	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	365	435	0
Future Vol, veh/h	0	0	0	365	435	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	397	473	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	237	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	651	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	651	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

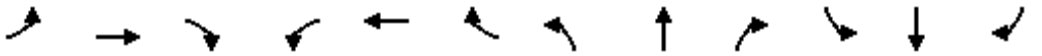
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	365	435	0
Future Vol, veh/h	0	0	0	365	435	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	397	473	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	237	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	651	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	651	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

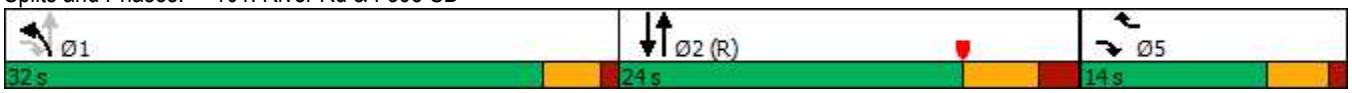


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	145	0	0	50	65	265	0	0	280	215
Future Volume (vph)	0	0	145	0	0	50	65	265	0	0	280	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.935	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1550	0	0	1611	1770	1863	0	0	3240	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1550	0	0	1611	1770	1863	0	0	3240	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			238			662					229	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	2%	2%	7%
Adj. Flow (vph)	0	0	181	0	0	64	68	279	0	0	298	229
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	181	0	0	64	68	279	0	0	527	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			7.0			7.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			14.0			14.0	32.0	24.0			24.0	
Total Split (%)			20.0%			20.0%	45.7%	34.3%			34.3%	
Maximum Green (s)			9.7			9.7	28.0	17.9			17.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lead	Lag			Lag	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			14.3			7.0	6.9	52.6			45.3	
Actuated g/C Ratio			0.20			0.10	0.10	0.75			0.65	
v/c Ratio			0.36			0.08	0.39	0.20			0.24	
Control Delay			3.3			0.2	35.5	5.8			3.9	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			3.3			0.2	35.5	5.8			3.9	
LOS			A			A	D	A			A	
Approach Delay		3.3			0.2			11.6			3.9	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)			0			0	25	74			26	
Queue Length 95th (ft)			10			0	65	75			53	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		631			389			569			829	
Turn Bay Length (ft)												
Base Capacity (vph)			506			793	708	1398			2178	
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			0.36			0.08	0.10	0.20			0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 36 (51%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 32.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

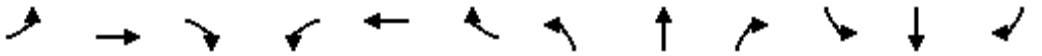


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	105	225	140	80	345
Future Volume (vph)	90	105	225	140	80	345
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	1524	3406	1524	1703	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	1524	3406	1524	1703	3406
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		125		161		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.84	0.84	0.87	0.87	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	107	125	259	161	83	359
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	125	259	161	83	359
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		5.0	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	24.0	24.0	33.0		13.0	33.0
Total Split (%)	34.3%	34.3%	47.1%		18.6%	47.1%
Maximum Green (s)	20.0	20.0	26.9		9.0	26.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lag		Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	7.6	7.6	42.6	55.4	7.5	42.6
Actuated g/C Ratio	0.11	0.11	0.61	0.79	0.11	0.61
v/c Ratio	0.30	0.45	0.12	0.13	0.46	0.17
Control Delay	30.8	11.9	6.4	1.5	34.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	11.9	6.4	1.5	34.1	8.6
LOS	C	B	A	A	C	A
Approach Delay	20.6		4.5			13.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		A			B
Queue Length 50th (ft)	22	0	23	0	34	41
Queue Length 95th (ft)	39	37	37	0	65	75
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	943	524	2072	1431	226	2072
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	0.11	0.24	0.13	0.11	0.37	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	10	5	35	5	155	5	165	50	210	115	110
Future Volume (vph)	45	10	5	35	5	155	5	165	50	210	115	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.950				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1703	1703	0	1687	1776	1509	3303	1792	1524	3273	1776	1509
Flt Permitted	0.656						0.950			0.950		
Satd. Flow (perm)	1176	1703	0	1776	1776	1509	3303	1792	1524	3273	1776	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7				301			204			238
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.72	0.72	0.72	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	63	14	7	37	5	163	6	183	56	233	128	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	21	0	37	5	163	6	183	56	233	128	122
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	11.0	13.8		11.0	13.8		23.0	22.2	22.2	23.0	22.2	11.0
Total Split (%)	15.7%	19.7%		15.7%	19.7%		32.9%	31.7%	31.7%	32.9%	31.7%	15.7%
Maximum Green (s)	7.0	9.0		7.0	8.0		16.7	16.0	16.0	16.8	16.0	7.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)							7.0				7.0	
Flash Dont Walk (s)							22.0				22.0	
Pedestrian Calls (#/hr)							0				0	
Act Effct Green (s)	10.1	5.8		7.2	5.1	70.0	5.0	35.8	35.8	8.9	49.9	8.4
Actuated g/C Ratio	0.14	0.08		0.10	0.07	1.00	0.07	0.51	0.51	0.13	0.71	0.12
v/c Ratio	0.27	0.14		0.21	0.04	0.11	0.03	0.20	0.06	0.56	0.10	0.31
Control Delay	26.2	25.5		28.1	30.8	0.1	30.6	13.7	0.1	32.7	6.8	6.3
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	26.2	25.5		28.1	30.8	0.1	30.6	13.7	0.1	32.7	6.8	6.3
LOS	C	C		C	C	A	C	B	A	C	A	A
Approach Delay		26.0			5.9			11.0			19.2	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)	26	6		15	2	0	1	37	0	54	8	0
Queue Length 95th (ft)	38	19		32	12	0	6	107	0	73	68	16
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	251	225		205	202	1509	788	917	879	785	1266	404
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.09		0.18	0.02	0.11	0.01	0.20	0.06	0.30	0.10	0.30

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 54 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 42.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 202: River Rd & Lowes/Walmart

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	835	780	0
Future Volume (vph)	0	0	0	835	780	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	908	848	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	908	848	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.1%		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	835	780	0
Future Volume (vph)	0	0	0	835	780	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	908	848	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	908	848	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	835	780	0
Future Vol, veh/h	0	0	0	835	780	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	908	848	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	424	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	495	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	495	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	835	780	0
Future Vol, veh/h	0	0	0	835	780	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	908	848	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	424	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	495	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	495	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

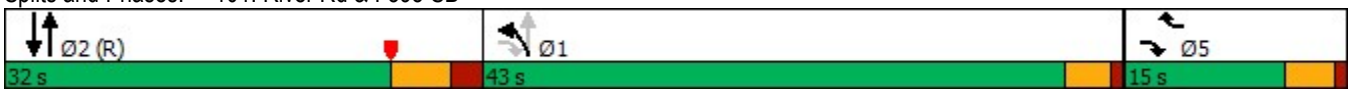
Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	265	0	0	75	150	570	0	0	380	160
Future Volume (vph)	0	0	265	0	0	75	150	570	0	0	380	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.955	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3380	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159			392					72	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	0	0	294	0	0	83	160	606	0	0	422	178
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	294	0	0	83	160	606	0	0	600	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			21.4			5.1	12.3	74.5			58.2	
Actuated g/C Ratio			0.24			0.06	0.14	0.83			0.65	
v/c Ratio			0.58			0.18	0.66	0.39			0.27	
Control Delay			17.8			0.9	43.2	5.8			6.8	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			17.8			0.9	43.2	5.8			6.8	
LOS			B			A	D	A			A	
Approach Delay		17.8			0.9			13.6			6.8	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)			64			0	89	88			58	
Queue Length 95th (ft)			133			0	95	231			102	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			593			536	767	1541			2212	
Starvation Cap Reductn			0			0	0	0			0	
Spillback Cap Reductn			0			0	0	0			0	
Storage Cap Reductn			0			0	0	0			0	
Reduced v/c Ratio			0.50			0.15	0.21	0.39			0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 43.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

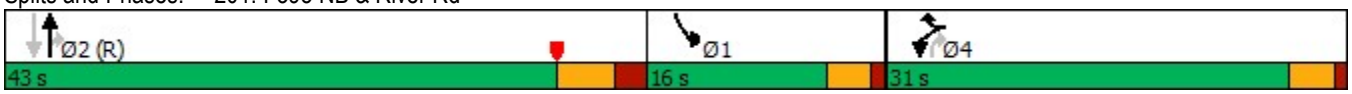


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	230	210	510	325	95	550
Future Volume (vph)	230	210	510	325	95	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		247		339		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.85	0.85	0.96	0.96	0.94	0.94
Adj. Flow (vph)	271	247	531	339	101	585
Shared Lane Traffic (%)						
Lane Group Flow (vph)	271	247	531	339	101	585
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	11.9	11.9	55.2	71.1	8.8	55.2
Actuated g/C Ratio	0.13	0.13	0.61	0.79	0.10	0.61
v/c Ratio	0.60	0.58	0.24	0.26	0.58	0.27
Control Delay	42.0	10.7	8.2	0.5	45.4	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	10.7	8.2	0.5	45.4	13.0
LOS	D	B	A	A	D	B
Approach Delay	27.1		5.2			17.8
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	76	0	72	0	46	91
Queue Length 95th (ft)	103	52	119	0	96	151
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	647	2170	1321	236	2170
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	0.26	0.38	0.24	0.26	0.43	0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 40.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd

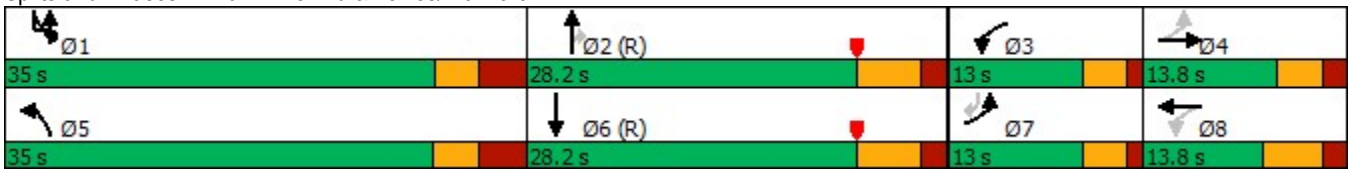


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	45	5	110	45	420	10	250	130	370	185	225
Future Volume (vph)	165	45	5	110	45	420	10	250	130	370	185	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1801	0	1770	1863	1583	3433	1863	1583	3433	1863	1583
Flt Permitted	0.471			0.889			0.950			0.950		
Satd. Flow (perm)	860	1801	0	1656	1863	1583	3433	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				433			159			247
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	172	47	5	113	46	433	11	269	140	407	203	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	52	0	113	46	433	11	269	140	407	203	247
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	28.2	13.0
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	31.3%	14.4%
Maximum Green (s)	9.0	9.0		9.0	8.0		28.7	22.0	22.0	28.8	22.0	9.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	17.4	8.9		14.1	6.6	90.0	5.0	40.5	40.5	14.7	59.1	10.5
Actuated g/C Ratio	0.19	0.10		0.16	0.07	1.00	0.06	0.45	0.45	0.16	0.66	0.12
v/c Ratio	0.64	0.28		0.42	0.34	0.27	0.06	0.32	0.18	0.73	0.17	0.61
Control Delay	42.1	38.2		33.3	46.2	0.4	41.0	20.3	3.3	34.9	15.5	18.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	42.1	38.2		33.3	46.2	0.4	41.0	20.3	3.3	34.9	15.5	18.5
LOS	D	D		C	D	A	D	C	A	C	B	B
Approach Delay		41.2			10.2			15.1			25.6	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	80	25		50	25	0	3	108	0	125	91	7
Queue Length 95th (ft)	#147	60		97	59	0	11	183	30	157	175	93
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	274	206		288	165	1583	1094	838	799	1098	1223	406
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.25		0.39	0.28	0.27	0.01	0.32	0.18	0.37	0.17	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 20.8		Intersection LOS: C	
Intersection Capacity Utilization 53.9%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 202: River Rd & Lowes/Walmart



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	950	1040	0
Future Volume (vph)	0	0	0	950	1040	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	0	0	5085	5085	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1033	1130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1033	1130	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.1%		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	950	1040	0
Future Volume (vph)	0	0	0	950	1040	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1863	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1033	1130	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1033	1130	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	950	1040	0
Future Vol, veh/h	0	0	0	950	1040	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1033	1130	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	565	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	401	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	401	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	950	1040	0
Future Vol, veh/h	0	0	0	950	1040	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1033	1130	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	565	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	401	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	401	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

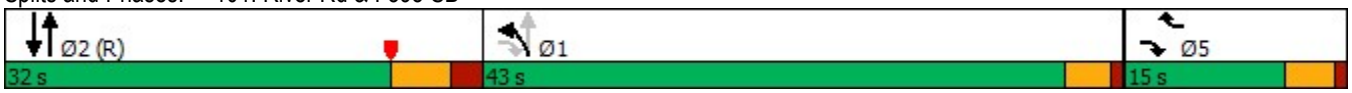
Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	-	0	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	385	0	0	70	200	470	0	0	485	165
Future Volume (vph)	0	0	385	0	0	70	200	470	0	0	485	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.962	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3405	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3405	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			96			467					52	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	0	0	418	0	0	80	215	505	0	0	527	179
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	418	0	0	80	215	505	0	0	706	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	4.5	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			28.3			9.1	15.2	70.5			51.3	
Actuated g/C Ratio			0.31			0.10	0.17	0.78			0.57	
v/c Ratio			0.73			0.14	0.72	0.35			0.36	
Control Delay			27.7			0.5	41.8	7.5			11.6	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			27.7			0.5	41.8	7.5			11.6	
LOS			C			A	D	A			B	
Approach Delay		27.7			0.5			17.7			11.6	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)			163			0	73	112			97	
Queue Length 95th (ft)			225			0	104	209			174	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			608			609	767	1459			1962	
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			0.13	0.28	0.35			0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 51.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

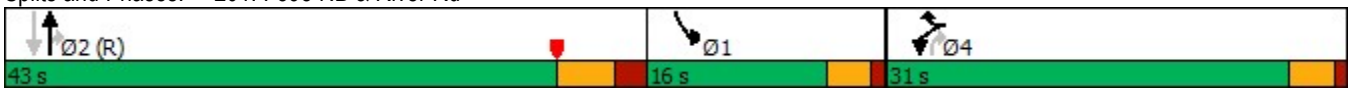


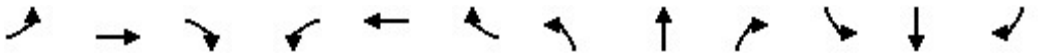
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	275	115	555	395	105	765
Future Volume (vph)	275	115	555	395	105	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		128		350		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	306	128	572	407	117	850
Shared Lane Traffic (%)						
Lane Group Flow (vph)	306	128	572	407	117	850
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	12.8	12.8	53.8	70.5	9.4	53.8
Actuated g/C Ratio	0.14	0.14	0.60	0.78	0.10	0.60
v/c Ratio	0.63	0.38	0.27	0.31	0.64	0.40
Control Delay	41.9	9.8	8.1	0.6	49.2	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	9.8	8.1	0.6	49.2	12.9
LOS	D	A	A	A	D	B
Approach Delay	32.4		5.0			17.3
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	86	0	82	0	60	146
Queue Length 95th (ft)	120	46	123	0	m104	212
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	564	2114	1316	236	2114
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	0.30	0.23	0.27	0.31	0.50	0.40

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 42.1%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 201: I-395 NB & River Rd





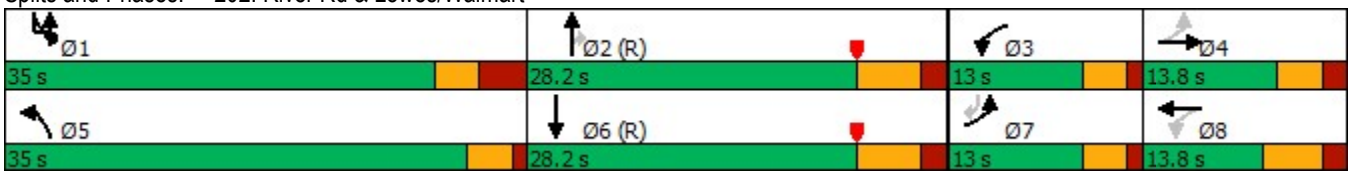
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	195	75	10	115	65	525	5	230	160	565	170	305
Future Volume (vph)	195	75	10	115	65	525	5	230	160	565	170	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	350		200
Storage Lanes	1		0	1		1	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt		0.982				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1829	0	1770	1863	1583	3433	1863	1583	3433	1863	1583
Flt Permitted	0.537			0.697			0.950			0.950		
Satd. Flow (perm)	1000	1829	0	1298	1863	1583	3433	1863	1583	3433	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				577			174			332
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		219			406			401			500	
Travel Time (s)		6.0			11.1			7.8			9.7	
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	212	82	11	126	71	577	5	250	174	614	185	332
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	93	0	126	71	577	5	250	174	614	185	332
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	NA	custom
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		Free			2			7
Detector Phase	7	4		3	8		5	2	2	1	6	7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	15.0	5.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	21.2	9.0
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	28.2	13.0
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	31.3%	14.4%
Maximum Green (s)	9.0	9.0		9.0	8.0		30.9	22.0	22.0	28.8	22.0	9.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	4.3	3.0
All-Red Time (s)	1.0	1.8		1.0	1.8		1.0	1.9	1.9	3.2	1.9	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		4.1	6.2	6.2	6.2	6.2	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	2.5	1.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	C-Min	None
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	20.8	10.1		16.4	7.1	90.0	5.0	31.6	31.6	20.2	56.1	11.2
Actuated g/C Ratio	0.23	0.11		0.18	0.08	1.00	0.06	0.35	0.35	0.22	0.62	0.12
v/c Ratio	0.65	0.44		0.45	0.49	0.36	0.03	0.38	0.26	0.80	0.16	0.68
Control Delay	39.6	41.4		31.9	51.0	0.7	40.6	26.9	5.3	32.9	12.0	20.7
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	41.4		31.9	51.0	0.7	40.6	26.9	5.3	32.9	12.0	20.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	D		C	D	A	D	C	A	C	B	C
Approach Delay		40.2			10.4			18.3			25.9	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	95	45		54	39	0	1	115	0	169	73	54
Queue Length 95th (ft)	#199	97		106	82	0	7	190	46	218	142	#128
Internal Link Dist (ft)		139			326			321			420	
Turn Bay Length (ft)										350		200
Base Capacity (vph)	327	227		290	165	1583	1178	653	668	1098	1161	487
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.41		0.43	0.43	0.36	0.00	0.38	0.26	0.56	0.16	0.68

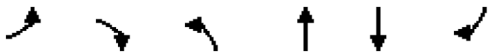
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 21.8 Intersection LOS: C
Intersection Capacity Utilization 60.4% 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: 202: River Rd & Lowes/Walmart

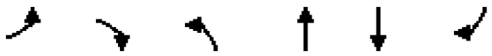


BUILD



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	63	419	425	63
Future Volume (vph)	0	0	63	419	425	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt					0.981	
Flt Protected				0.994		
Satd. Flow (prot)	0	0	0	5055	4989	0
Flt Permitted				0.994		
Satd. Flow (perm)	0	0	0	5055	4989	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	68	455	462	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	523	530	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	128	0	482	425	0
Future Volume (vph)	0	128	0	482	425	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	139	0	524	462	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	139	0	524	462	0
Sign Control	Stop			Free	Free	

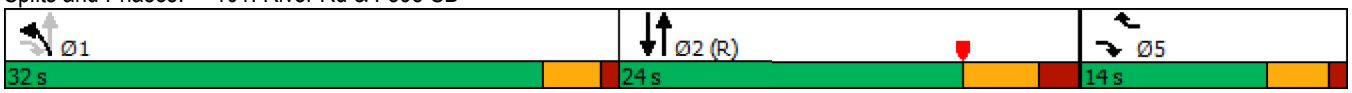
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.8%		ICU Level of Service A	
Analysis Period (min) 15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	166	0	0	50	86	276	0	0	291	215
Future Volume (vph)	0	0	166	0	0	50	86	276	0	0	291	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.936	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1550	0	0	1611	1770	1863	0	0	3245	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1550	0	0	1611	1770	1863	0	0	3245	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			224			648					229	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.80	0.80	0.80	0.78	0.78	0.78	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	2%	2%	2%	2%	2%	7%
Adj. Flow (vph)	0	0	208	0	0	64	91	291	0	0	310	229
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	208	0	0	64	91	291	0	0	539	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			7.0			7.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			14.0			14.0	32.0	24.0			24.0	
Total Split (%)			20.0%			20.0%	45.7%	34.3%			34.3%	
Maximum Green (s)			9.7			9.7	28.0	17.9			17.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lead	Lag			Lag	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			17.4			7.5	7.7	52.1			42.2	
Actuated g/C Ratio			0.25			0.11	0.11	0.74			0.60	
v/c Ratio			0.38			0.09	0.47	0.21			0.26	
Control Delay			4.5			0.2	35.0	6.2			4.8	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			4.5			0.2	35.0	6.2			4.8	
LOS			A			A	D	A			A	
Approach Delay		4.5			0.2			13.1			4.8	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)			0			0	32	72			28	
Queue Length 95th (ft)			23			0	78	83			62	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		631			389			569			829	
Turn Bay Length (ft)												
Base Capacity (vph)			530			781	708	1387			2047	
Starvation Cap Reductn			0			0	0	0			0	
Spillback Cap Reductn			0			0	0	0			0	
Storage Cap Reductn			0			0	0	0			0	
Reduced v/c Ratio			0.39			0.08	0.13	0.21			0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 36 (51%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 33.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: River Rd & I-395 SB

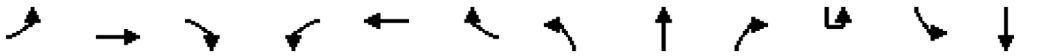


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	111	105	257	162	80	377
Future Volume (vph)	111	105	257	162	80	377
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	1524	3406	1524	1703	3406
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	1524	3406	1524	1703	3406
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		125		186		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.84	0.84	0.87	0.87	0.96	0.96
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Adj. Flow (vph)	132	125	295	186	83	393
Shared Lane Traffic (%)						
Lane Group Flow (vph)	132	125	295	186	83	393
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		5.0	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	24.0	24.0	33.0		13.0	33.0
Total Split (%)	34.3%	34.3%	47.1%		18.6%	47.1%
Maximum Green (s)	20.0	20.0	26.9		9.0	26.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lag		Lead	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	7.8	7.8	42.4	55.4	7.5	42.4
Actuated g/C Ratio	0.11	0.11	0.61	0.79	0.11	0.61
v/c Ratio	0.36	0.45	0.14	0.15	0.46	0.19
Control Delay	31.5	11.7	5.4	0.7	33.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	11.7	5.4	0.7	33.6	8.3
LOS	C	B	A	A	C	A
Approach Delay	21.8		3.6			12.7

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach LOS	C		A			B
Queue Length 50th (ft)	27	0	21	0	33	46
Queue Length 95th (ft)	47	37	32	0	61	81
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	943	524	2064	1429	226	2064
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	0.14	0.24	0.14	0.13	0.37	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 38.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd



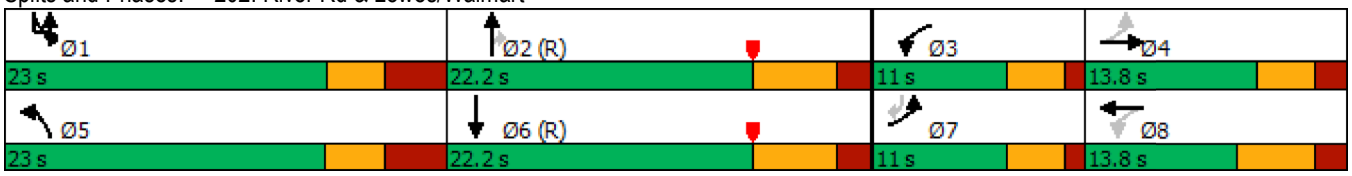
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	45	10	5	35	5	155	5	218	50	64	210	179
Future Volume (vph)	45	10	5	35	5	155	5	218	50	64	210	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0		350	
Storage Lanes	1		0	1		1	2		1		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.97	1.00
Frt		0.950				0.850			0.850			
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1703	1703	0	1687	1776	1509	3303	1792	1524	0	3273	1776
Flt Permitted	0.656						0.950				0.950	
Satd. Flow (perm)	1176	1703	0	1776	1776	1509	3303	1792	1524	0	3273	1776
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		7				301			204			
Link Speed (mph)		25			25			35				35
Link Distance (ft)		219			406			401				500
Travel Time (s)		6.0			11.1			7.8				9.7
Peak Hour Factor	0.72	0.72	0.72	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	6%	6%	6%	7%	7%	7%
Adj. Flow (vph)	63	14	7	37	5	163	6	242	56	71	233	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	21	0	37	5	163	6	242	56	0	304	199
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4			8		Free			2			
Detector Phase	7	4		3	8		5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	5.0	15.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	11.2	21.2
Total Split (s)	11.0	13.8		11.0	13.8		23.0	22.2	22.2	23.0	23.0	22.2
Total Split (%)	15.7%	19.7%		15.7%	19.7%		32.9%	31.7%	31.7%	32.9%	32.9%	31.7%
Maximum Green (s)	7.0	9.0		7.0	8.0		16.7	16.0	16.0	16.8	16.8	16.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	3.0	4.3
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	3.2	1.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2		6.2	6.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	1.5	2.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	None	C-Min
Walk Time (s)							7.0					7.0
Flash Dont Walk (s)							22.0					22.0
Pedestrian Calls (#/hr)							0					0
Act Effct Green (s)	9.7	5.6		7.3	5.1	70.0	5.0	34.5	34.5		10.4	50.0
Actuated g/C Ratio	0.14	0.08		0.10	0.07	1.00	0.07	0.49	0.49		0.15	0.71
v/c Ratio	0.28	0.15		0.21	0.04	0.11	0.03	0.27	0.07		0.63	0.16
Control Delay	26.7	26.0		28.3	30.6	0.1	30.6	15.2	0.1		32.7	7.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	110
Future Volume (vph)	110
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1509
Flt Permitted	
Satd. Flow (perm)	1509
Right Turn on Red	Yes
Satd. Flow (RTOR)	238
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	7%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	122
Turn Type	custom
Protected Phases	
Permitted Phases	7
Detector Phase	7
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	9.0
Total Split (s)	11.0
Total Split (%)	15.7%
Maximum Green (s)	7.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	1.5
Recall Mode	None
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	8.2
Actuated g/C Ratio	0.12
v/c Ratio	0.32
Control Delay	4.6
Queue Delay	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Total Delay	26.7	26.0		28.3	30.6	0.1	30.6	15.2	0.1		32.7	7.9
LOS	C	C		C	C	A	C	B	A		C	A
Approach Delay		26.5			6.0			12.7				19.3
Approach LOS		C			A			B				B
Queue Length 50th (ft)	26	6		15	2	0	1	53	0		69	13
Queue Length 95th (ft)	38	19		33	12	0	6	144	0		91	115
Internal Link Dist (ft)		139			326			321				420
Turn Bay Length (ft)											350	
Base Capacity (vph)	243	225		206	202	1509	788	882	854		785	1269
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	0.26	0.09		0.18	0.02	0.11	0.01	0.27	0.07		0.39	0.16

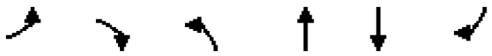
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 54 (77%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 202: River Rd & Lowes/Walmart



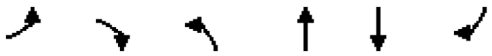
Lane Group	SBR
Total Delay	4.6
LOS	A
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	11
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	401
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.30

Intersection Summary



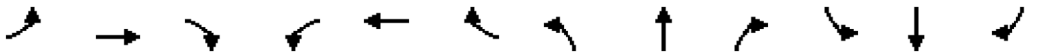
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	46	869	774	46
Future Volume (vph)	0	0	46	869	774	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt					0.992	
Flt Protected				0.997		
Satd. Flow (prot)	0	0	0	5070	5045	0
Flt Permitted				0.997		
Satd. Flow (perm)	0	0	0	5070	5045	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	50	945	841	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	995	891	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	81	0	915	774	0
Future Volume (vph)	0	81	0	915	774	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	88	0	995	841	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	88	0	995	841	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	281	0	0	75	163	577	0	0	388	160
Future Volume (vph)	0	0	281	0	0	75	163	577	0	0	388	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.956	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3383	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			152			387					70	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90
Adj. Flow (vph)	0	0	312	0	0	83	173	614	0	0	431	178
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	312	0	0	83	173	614	0	0	609	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	5.0	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			22.1			5.2	13.0	74.4			57.5	
Actuated g/C Ratio			0.25			0.06	0.14	0.83			0.64	
v/c Ratio			0.61			0.18	0.68	0.40			0.28	
Control Delay			19.7			0.9	42.4	6.2			7.2	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			19.7			0.9	42.4	6.2			7.2	
LOS			B			A	D	A			A	
Approach Delay		19.7			0.9			14.1			7.2	
Approach LOS		B			A			B			A	
Queue Length 50th (ft)			78			0	97	70			61	
Queue Length 95th (ft)			148			0	100	242			107	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			600			532	767	1541			2186	
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			0.52			0.16	0.23	0.40			0.28	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 43.7%		ICU Level of Service A	
Analysis Period (min) 15			

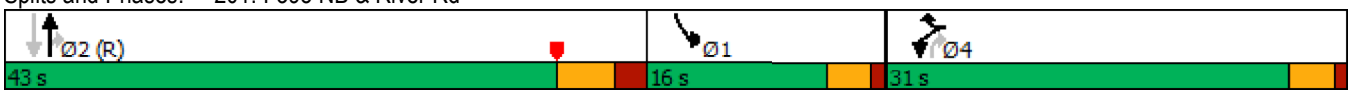
Splits and Phases: 101: River Rd & I-395 SB

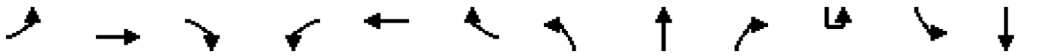
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	246	210	530	339	95	574
Future Volume (vph)	246	210	530	339	95	574
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		247		353		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.85	0.85	0.96	0.96	0.94	0.94
Adj. Flow (vph)	289	247	552	353	101	611
Shared Lane Traffic (%)						
Lane Group Flow (vph)	289	247	552	353	101	611
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	12.4	12.4	54.7	71.1	8.8	54.7
Actuated g/C Ratio	0.14	0.14	0.61	0.79	0.10	0.61
v/c Ratio	0.61	0.57	0.26	0.27	0.58	0.28
Control Delay	41.9	10.3	9.2	0.6	44.9	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.9	10.3	9.2	0.6	44.9	13.3
LOS	D	B	A	A	D	B
Approach Delay	27.3		5.8			17.8
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	81	0	85	0	46	97
Queue Length 95th (ft)	108	51	134	0	92	155
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	647	2151	1324	236	2151
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	0.28	0.38	0.26	0.27	0.43	0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 40.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 201: I-395 NB & River Rd





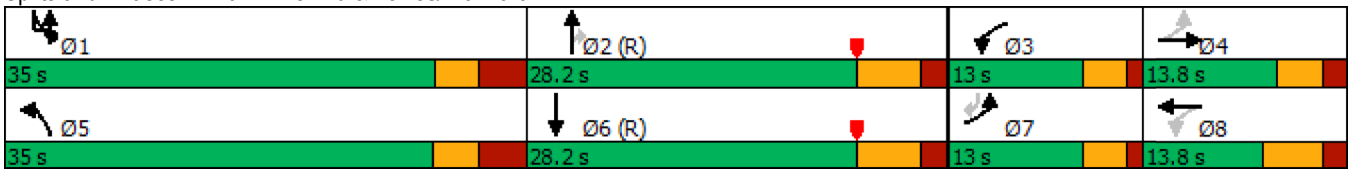
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	165	45	5	110	45	420	10	289	130	41	370	225
Future Volume (vph)	165	45	5	110	45	420	10	289	130	41	370	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0		350	
Storage Lanes	1		0	1		1	2		1		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.97	1.00
Frt		0.986				0.850			0.850			
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1736	1801	0	1770	1863	1583	3433	1863	1583	0	3433	1863
Flt Permitted	0.494			0.889			0.950				0.950	
Satd. Flow (perm)	902	1801	0	1656	1863	1583	3433	1863	1583	0	3433	1863
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		5				433			159			
Link Speed (mph)		25			25			35				35
Link Distance (ft)		219			406			401				500
Travel Time (s)		6.0			11.1			7.8				9.7
Peak Hour Factor	0.96	0.96	0.96	0.97	0.97	0.97	0.93	0.93	0.93	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	172	47	5	113	46	433	11	311	140	45	407	247
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	52	0	113	46	433	11	311	140	0	452	247
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4			8		Free			2			
Detector Phase	7	4		3	8		5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	5.0	15.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	11.2	21.2
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	35.0	28.2
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	38.9%	31.3%
Maximum Green (s)	9.0	9.0		9.0	8.0		28.7	22.0	22.0	28.8	28.8	22.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	3.0	4.3
All-Red Time (s)	1.0	1.8		1.0	1.8		3.2	1.9	1.9	3.2	3.2	1.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		6.3	6.2	6.2		6.2	6.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	1.5	2.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	None	C-Min
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	16.8	8.6		14.1	6.6	90.0	5.0	39.6	39.6		15.9	59.5
Actuated g/C Ratio	0.19	0.10		0.16	0.07	1.00	0.06	0.44	0.44		0.18	0.66
v/c Ratio	0.66	0.30		0.42	0.34	0.27	0.06	0.38	0.18		0.75	0.20
Control Delay	43.3	38.9		33.5	46.2	0.4	41.0	21.7	3.4		35.2	14.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	225
Future Volume (vph)	225
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	247
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.91
Heavy Vehicles (%)	2%
Adj. Flow (vph)	247
Shared Lane Traffic (%)	
Lane Group Flow (vph)	247
Turn Type	custom
Protected Phases	
Permitted Phases	7
Detector Phase	7
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	9.0
Total Split (s)	13.0
Total Split (%)	14.4%
Maximum Green (s)	9.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	1.5
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	22.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	10.1
Actuated g/C Ratio	0.11
v/c Ratio	0.62
Control Delay	18.2
Queue Delay	0.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Total Delay	43.3	38.9		33.5	46.2	0.4	41.0	21.7	3.4		35.2	14.9
LOS	D	D		C	D	A	D	C	A		D	B
Approach Delay		42.3			10.3			16.6				25.4
Approach LOS		D			B			B				C
Queue Length 50th (ft)	80	25		50	25	0	3	131	0		135	112
Queue Length 95th (ft)	#144	60		97	59	0	11	218	31		169	200
Internal Link Dist (ft)		139			326			321				420
Turn Bay Length (ft)											350	
Base Capacity (vph)	268	200		288	165	1583	1094	820	785		1098	1230
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	0.64	0.26		0.39	0.28	0.27	0.01	0.38	0.18		0.41	0.20

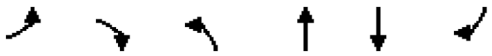
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 21.3		Intersection LOS: C	
Intersection Capacity Utilization 57.1%		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: 202: River Rd & Lowes/Walmart



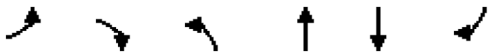
Lane Group	SBR
Total Delay	18.2
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	6
Queue Length 95th (ft)	84
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	402
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.61

Intersection Summary



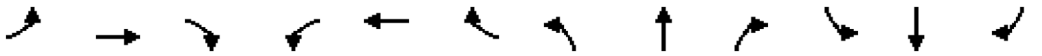
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	80	1012	1029	79
Future Volume (vph)	0	0	80	1012	1029	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	0.91	0.91
Frt					0.989	
Flt Protected				0.996		
Satd. Flow (prot)	0	0	0	5065	5029	0
Flt Permitted				0.996		
Satd. Flow (perm)	0	0	0	5065	5029	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	282			176	251	
Travel Time (s)	6.4			4.0	5.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	87	1100	1118	86
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1187	1204	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			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	147	0	1092	1029	0
Future Volume (vph)	0	147	0	1092	1029	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	1.00
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1611	0	5085	5085	0
Flt Permitted						
Satd. Flow (perm)	0	1611	0	5085	5085	0
Link Speed (mph)	25			35	35	
Link Distance (ft)	323			500	176	
Travel Time (s)	8.8			9.7	3.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	160	0	1187	1118	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	160	0	1187	1118	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			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	412	0	0	70	225	482	0	0	499	165
Future Volume (vph)	0	0	412	0	0	70	225	482	0	0	499	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.865			0.865					0.963	
Flt Protected							0.950					
Satd. Flow (prot)	0	0	1611	0	0	1611	1770	1863	0	0	3408	0
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	1611	0	0	1611	1770	1863	0	0	3408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			456					50	
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		711			469			649			909	
Travel Time (s)		19.4			12.8			12.6			17.7	
Peak Hour Factor	0.92	0.92	0.92	0.88	0.88	0.88	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	0	0	448	0	0	80	242	518	0	0	542	179
Shared Lane Traffic (%)			0%									
Lane Group Flow (vph)	0	0	448	0	0	80	242	518	0	0	721	0
Turn Type			custom			Prot	Prot	NA			NA	
Protected Phases			5			5	1	2			2	
Permitted Phases			1					1				
Detector Phase			5			5	1	2			2	
Switch Phase												
Minimum Initial (s)			5.0			5.0	4.5	15.0			15.0	
Minimum Split (s)			11.3			11.3	9.0	21.1			21.1	
Total Split (s)			15.0			15.0	43.0	32.0			32.0	
Total Split (%)			16.7%			16.7%	47.8%	35.6%			35.6%	
Maximum Green (s)			10.7			10.7	39.0	25.9			25.9	
Yellow Time (s)			3.3			3.3	3.0	4.0			4.0	
All-Red Time (s)			1.0			1.0	1.0	2.1			2.1	
Lost Time Adjust (s)			0.0			0.0	0.0	0.0			0.0	
Total Lost Time (s)			4.3			4.3	4.0	6.1			6.1	
Lead/Lag							Lag	Lead			Lead	
Lead-Lag Optimize?							Yes	Yes			Yes	
Vehicle Extension (s)			2.0			2.0	1.5	3.0			3.0	
Recall Mode			None			None	None	C-Min			C-Min	
Act Effct Green (s)			30.4			9.7	16.7	69.9			49.2	
Actuated g/C Ratio			0.34			0.11	0.19	0.78			0.55	
v/c Ratio			0.74			0.14	0.74	0.36			0.38	
Control Delay			27.9			0.5	38.7	8.3			12.9	
Queue Delay			0.0			0.0	0.0	0.0			0.0	
Total Delay			27.9			0.5	38.7	8.3			12.9	
LOS			C			A	D	A			B	
Approach Delay		27.9			0.5			18.0			12.9	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)			179			0	74	109			107	
Queue Length 95th (ft)			241			0	104	217			188	
Internal Link Dist (ft)		631			389			569			829	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Bay Length (ft)												
Base Capacity (vph)			630			602	767	1446			1887	
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			0.71			0.13	0.32	0.36			0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 41 (46%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 53.2%		ICU Level of Service A	
Analysis Period (min) 15			

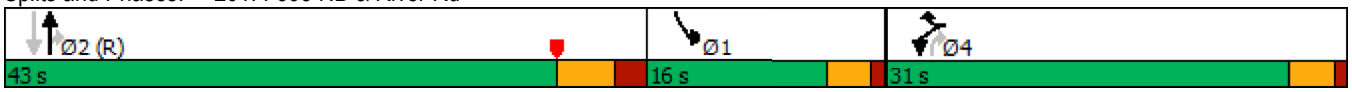
Splits and Phases: 101: River Rd & I-395 SB

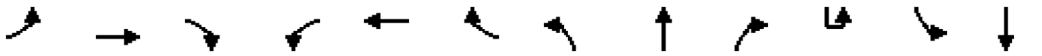
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	302	115	592	420	105	806
Future Volume (vph)	302	115	592	420	105	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200	0		0	220	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3433	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3433	1583	3539	1583	1770	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		128		350		
Link Speed (mph)	25		35			35
Link Distance (ft)	414		251			649
Travel Time (s)	11.3		4.9			12.6
Peak Hour Factor	0.90	0.90	0.97	0.97	0.90	0.90
Adj. Flow (vph)	336	128	610	433	117	896
Shared Lane Traffic (%)						
Lane Group Flow (vph)	336	128	610	433	117	896
Turn Type	Prot	Prot	NA	custom	Prot	NA
Protected Phases	4	4	2		1	
Permitted Phases				2 4		2
Detector Phase	4	4	2	2 4	1	2
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0		2.9	20.0
Minimum Split (s)	11.0	11.0	26.1		9.0	26.1
Total Split (s)	31.0	31.0	43.0		16.0	43.0
Total Split (%)	34.4%	34.4%	47.8%		17.8%	47.8%
Maximum Green (s)	27.0	27.0	36.9		12.0	36.9
Yellow Time (s)	3.0	3.0	4.0		3.0	4.0
All-Red Time (s)	1.0	1.0	2.1		1.0	2.1
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.0	6.1		4.0	6.1
Lead/Lag			Lead		Lag	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	2.0	2.0	3.5		1.5	3.5
Recall Mode	None	None	C-Min		Min	C-Min
Act Effct Green (s)	13.6	13.6	53.0	70.5	9.4	53.0
Actuated g/C Ratio	0.15	0.15	0.59	0.78	0.10	0.59
v/c Ratio	0.65	0.37	0.29	0.33	0.64	0.43
Control Delay	41.7	9.3	9.4	0.8	50.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	9.3	9.4	0.8	50.7	12.6
LOS	D	A	A	A	D	B
Approach Delay	32.8		5.8			17.0
Approach LOS	C		A			B

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Length 50th (ft)	94	0	97	0	52	152
Queue Length 95th (ft)	129	45	134	8	m107	221
Internal Link Dist (ft)	334		171			569
Turn Bay Length (ft)	200				220	
Base Capacity (vph)	1029	564	2083	1316	236	2083
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	0.33	0.23	0.29	0.33	0.50	0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBSB, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 42.8%		ICU Level of Service A	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 201: I-395 NB & River Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	200	75	10	115	65	525	5	298	160	74	565	243
Future Volume (vph)	200	75	10	115	65	525	5	298	160	74	565	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0		350	
Storage Lanes	1		0	1		1	2		1		0	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.97	1.00
Frt		0.982				0.850			0.850			
Flt Protected	0.950			0.950			0.950				0.950	
Satd. Flow (prot)	1770	1829	0	1770	1863	1583	3433	1863	1583	0	3433	1863
Flt Permitted	0.587			0.697			0.950				0.950	
Satd. Flow (perm)	1093	1829	0	1298	1863	1583	3433	1863	1583	0	3433	1863
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)		6				472			174			
Link Speed (mph)		25			25			35				35
Link Distance (ft)		219			406			401				500
Travel Time (s)		6.0			11.1			7.8				9.7
Peak Hour Factor	0.92	0.92	0.92	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	82	11	126	71	577	5	324	174	80	614	264
Shared Lane Traffic (%)												
Lane Group Flow (vph)	217	93	0	126	71	577	5	324	174	0	694	264
Turn Type	pm+pt	NA		pm+pt	NA	Free	Prot	NA	Perm	Prot	Prot	NA
Protected Phases	7	4		3	8		5	2		1	1	6
Permitted Phases	4			8		Free			2			
Detector Phase	7	4		3	8		5	2	2	1	1	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	15.0	15.0	5.0	5.0	15.0
Minimum Split (s)	9.0	9.8		9.0	10.8		11.3	21.2	21.2	11.2	11.2	21.2
Total Split (s)	13.0	13.8		13.0	13.8		35.0	28.2	28.2	35.0	35.0	28.2
Total Split (%)	14.4%	15.3%		14.4%	15.3%		38.9%	31.3%	31.3%	38.9%	38.9%	31.3%
Maximum Green (s)	9.0	9.0		9.0	8.0		30.9	22.0	22.0	28.8	28.8	22.0
Yellow Time (s)	3.0	3.0		3.0	4.0		3.1	4.3	4.3	3.0	3.0	4.3
All-Red Time (s)	1.0	1.8		1.0	1.8		1.0	1.9	1.9	3.2	3.2	1.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	4.8		4.0	5.8		4.1	6.2	6.2		6.2	6.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.5	2.0		1.5	2.0		1.5	2.5	2.5	1.5	1.5	2.5
Recall Mode	None	None		None	None		None	C-Min	C-Min	None	None	C-Min
Walk Time (s)	7.0									7.0	7.0	7.0
Flash Dont Walk (s)	22.0									22.0	22.0	22.0
Pedestrian Calls (#/hr)	0									0	0	0
Act Effct Green (s)	19.2	9.4		16.2	7.1	90.0	5.0	30.5	30.5		22.2	57.1
Actuated g/C Ratio	0.21	0.10		0.18	0.08	1.00	0.06	0.34	0.34		0.25	0.63
v/c Ratio	0.70	0.47		0.45	0.49	0.36	0.03	0.51	0.27		0.82	0.22
Control Delay	43.8	43.7		33.0	51.0	0.7	40.6	30.0	5.5		33.7	12.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	43.8	43.7		33.0	51.0	0.7	40.6	30.0	5.5		33.7	12.0

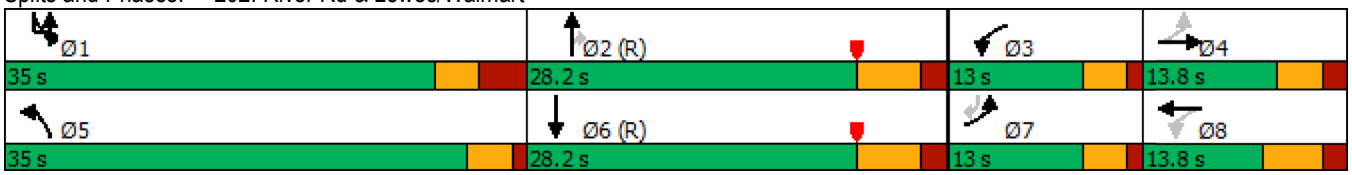
Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	305
Future Volume (vph)	305
Ideal Flow (vphpl)	1900
Storage Length (ft)	200
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	332
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.92
Adj. Flow (vph)	332
Shared Lane Traffic (%)	
Lane Group Flow (vph)	332
Turn Type	custom
Protected Phases	
Permitted Phases	7
Detector Phase	7
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	9.0
Total Split (s)	13.0
Total Split (%)	14.4%
Maximum Green (s)	9.0
Yellow Time (s)	3.0
All-Red Time (s)	1.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	4.0
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Vehicle Extension (s)	1.5
Recall Mode	None
Walk Time (s)	7.0
Flash Dont Walk (s)	22.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	10.2
Actuated g/C Ratio	0.11
v/c Ratio	0.70
Control Delay	19.8
Queue Delay	0.0
Total Delay	19.8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
LOS	D	D		C	D	A	D	C	A		C	B
Approach Delay		43.8			10.5			21.6				25.7
Approach LOS		D			B			C				C
Queue Length 50th (ft)	100	46		55	39	0	1	160	0		185	109
Queue Length 95th (ft)	#200	97		106	82	0	7	257	48		242	189
Internal Link Dist (ft)		139			326			321				420
Turn Bay Length (ft)											350	
Base Capacity (vph)	310	212		285	165	1583	1178	630	651		1098	1181
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	0.70	0.44		0.44	0.43	0.36	0.00	0.51	0.27		0.63	0.22

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 36 (40%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.8 Intersection LOS: C
Intersection Capacity Utilization 66.0% 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: 202: River Rd & Lowes/Walmart



Lane Group	SBR
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	39
Queue Length 95th (ft)	#117
Internal Link Dist (ft)	
Turn Bay Length (ft)	200
Base Capacity (vph)	474
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.70

Intersection Summary