DEVELOPMENT OF REGIONAL IMPACT
(DRI #4112)

TRAFFIC STUDY
FOR
DC BLOX - ATL WEST DATA CENTER
ON NORTH RIVER ROAD

DOUGLASVILLE, GEORGIA

Prepared for:

DC BLOX
1040 Crown Pointe Parkway Suite-560
Atlanta, GA 30338

Prepared By:

A&R Engineering Inc.
2160 Kingston Court, Suite O
Marietta, GA 30067
Tel: (770) 690-9255 Fax: (770) 690-9210
www.areng.com

February 26, 2024
A & R Project # 23-198

EXECUTIVE SUMMARY

Traffic impacts were evaluated for the proposed DC BLOX - ATL West Data Center development that will be located at 1701 North River Road in the City of Douglasville, Georgia. The proposed development will include two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF) for a combined total of 761,852 SF. The development proposes access by two driveways on North River Road, as well as an emergency-access driveway on Summer Lake Road to be shared with the property to the west.

Existing and future traffic operations during the AM peak hour (7:00 am – 9:00 am) and PM peak hour (4:00 pm – 6:00 pm) before and after completion of the project were analyzed at the following intersections:

1. Riverside Parkway at North River Road
2. Riverside Parkway at Summer Lake Road
3. Riverside Parkway at Westpoint Parkway
4. North River Road at Site Driveway 1 (Western Access)

Traffic Operations Summary

Table E1 below provides a summary of traffic operations for the "No-Build" and "Build" conditions for the year 2026 with and without improvements. As per GRTA requirements, all approaches that do not meet the level of service (LOS) standard (considered failing) are highlighted in Table E1. Table E-1 also includes the project's total added trip and the respective percentage of overall total "Build" condition approach traffic volume for all failing LOS approaches after all improvements are completed.

TABLE E1 – FUTURE INTERSECTION OPERATIONS AT FAILING APPROACHES

	Intersection	*No-Build Condition: LOS (Delay)*				*Build Condition: LOS (Delay)*							
		NO IMPROVEMENTS		SITE MITIGATION IMPROVEMENTS		NO IMPROVEMENTS		SITE MITIGATION IMPROVEMENTS		SITE VOLUMES AT FAILING APPROACH WITH IMPROVEMENTS		PERCENT SITE TRIPS OF TOTAL APPROACH TRIPS AT FAILING APPROACHES	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2	**Riverside Parkway @ Summer Lake Road**												
	-Eastbound Approach	E (45.7)	E (36.4)	E (45.7)	E (36.4)	E (49.9)	E (37.7)	E (49.9)	E (37.7)	0	0	0%	0
	-Northbound Approach	A (8.7)	A (10.0)	A (8.7)	A (10.0)	A (8.8)	B (10.0)	A (8.8)	B (10.0)	25	33	3%	6%
3	**Riverside Parkway @ Westpoint Parkway**	**A (5.7)**	**A (5.5)**	**A (5.7)**	**A (5.5)**	**A (5.9)**	**A (5.5)**	**A (5.9)**	**A (5.5)**				
	-Eastbound Approach	F (85.3)	C (31.4)	F (85.3)	C (31.4)	F (86.9)	C (31.9)	F (86.9)	C (31.9)	0	No Failing Approach	0%	No Failing Approach
	-Northbound Approach	A (6.0)	A (3.7)	A (6.0)	A (3.7)	A (6.4)	A (3.8)	A (6.4)	A (3.8)	25		2%	
	-Southbound Approach	A (2.2)	A (5.7)	A (2.2)	A (5.7)	A (2.2)	A (5.8)	A (2.2)	A (5.8)	31		6%	

The results of both the future "No-Build" and "Build" traffic operations analysis indicate that the eastbound approach at the intersection of Riverside Parkway and Summer Lake Road will operate at a level of service "E" in the AM and PM peak hours, while the eastbound approach at the signalized intersection of Riverside Parkway and Westpoint Parkway will operate at a level of service "F" during the AM peak hour.

The results of both the future "No-Build" and "Build" traffic operations analysis indicate that the signalized intersection of Riverside Parkway at Westpoint Parkway will continue to operate at an overall level of service "A" in both the AM and PM peak hours. The stop-controlled approaches at the unsignalized intersections will operate at a level of service "E" or better in both the AM and PM peak hours, except for the eastbound approach at the intersection of Riverside Parkway at North River Road, which will operate at a level of service "F" in the PM peak hour for both the "No-Build" and "Build" conditions. Under both "No-Build" and "Build" conditions, the eastbound (North River Road) approach at Riverside Parkway will operate with heavy delays exceeding 300 seconds. These higher delays can be primarily attributed to the projected increase in traffic volumes that will result from the new industrial developments currently under construction along North River Road.

Recommended Site Mitigation Improvements

The following site mitigation improvements are recommended:

Intersection 1: Riverside Parkway at North River Road

- Installation of a traffic signal when warranted upon approval by the City of Douglasville (see paragraph below)
- Addition of an eastbound right turn lane on North River Road
- Protected-permissive left turn phasing to be included for the northbound left approach

The posted speed limit on Riverside Parkway is 45 mph. A signal warrant analysis was performed for the study intersection per MUTCD (2009 Edition) using a major street approach speed limit of 45 mph with the intersection geometry of a one-lane major street approach and a one-lane minor street approach. An eastbound right turn reduction of 100% was applied to the North River Road approach traffic. Using the projected future volumes for the "No-Build" and "Build" conditions, the analysis results indicated that signal warrant 3 will be met for both conditions. Copies of the analyses for both conditions are included in the appendix.

A left turn phase analysis was completed to determine if any left turn movements will meet the criteria for a protected/permissive left turn phase with either a cross-product warrant are a peak volume warrant for the future AM and PM peak hours. The results of the analysis indicated that the northbound left turn movement will warrant a lagging protected/permissive phase based on the projected future "Build" condition volumes (the peak hour volume will be met for the AM peak hour and the cross-product warrant will be met for the PM peak hour). The detailed results for the left turn phase analysis are included in the appendix.

After the recommended site mitigation improvements are implemented, the intersection of Riverside Parkway at North River Road will operate at an overall level of service "C" or better with peak hour traffic, and the eastbound (North River Road) approach will operate at a level of service "D" or better.

Recommendations for Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections:

- Site Driveway 1 (Primary Access): Western full access on North River Road
    - One entering lane and one exiting lanes
    - Stop-sign controlled at the driveway approach with North River Road remaining free flow
    - Provide/confirm adequate sight distance per AASHTO standards

- Site Driveway 2 (Secondary Access): Eastern full access on cul-de-sac at the eastern end of North River Road
    - One entering lane and one exiting lane
    - Stop-sign controlled at the driveway approach with North River Road remaining free flow

TABLE OF CONTENTS

LIST OF TABLES

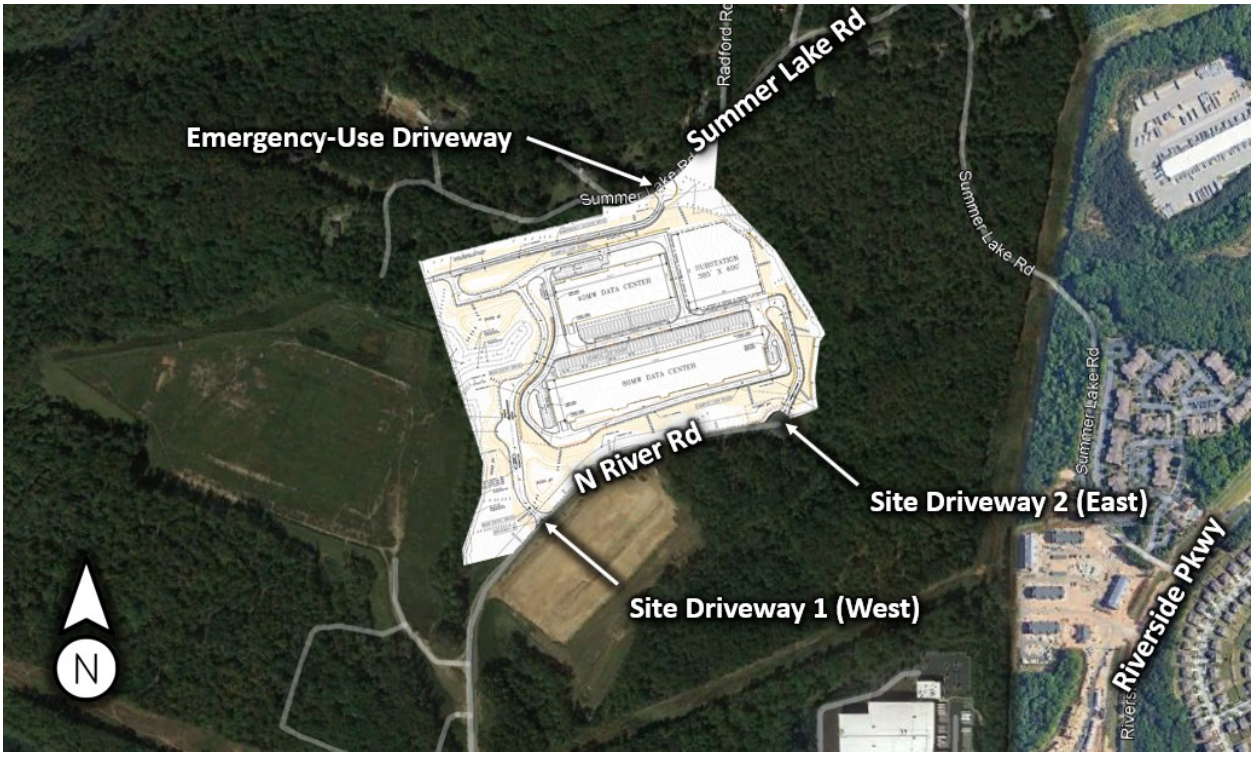
Item **Page**

LIST OF FIGURES

Item **Page**

INTRODUCTION

The purpose of this study is to determine the traffic impact that will result from the proposed DC BLOX - ATL West Data Center development that will be located at 1701 North River Road in the City of Douglasville, Georgia. The traffic analysis evaluates the current operations and the future conditions with the traffic generated by the development. The development will include two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF) for a combined total of 761,852 SF.



The development proposes access at the following locations:

- Site Driveway 1: Full access western driveway on North River Road
- Site Driveway 2: Full access eastern driveway on the cul-de-sac at the end of North River Road
- The development also proposes an emergency-access driveway on Summer Lake Road, to be shared with the property to the west.

Recommendations to improve traffic operations have been identified as appropriate and are discussed in detail in the following sections of the report. This study includes the evaluation of traffic operations for the AM and PM peak hours at the intersections of:

1. Riverside Parkway at North River Road
2. Riverside Parkway at Summer Lake Road
3. Riverside Parkway at Westpoint Parkway
4. North River Road at Site Driveway 1 (Western Access)

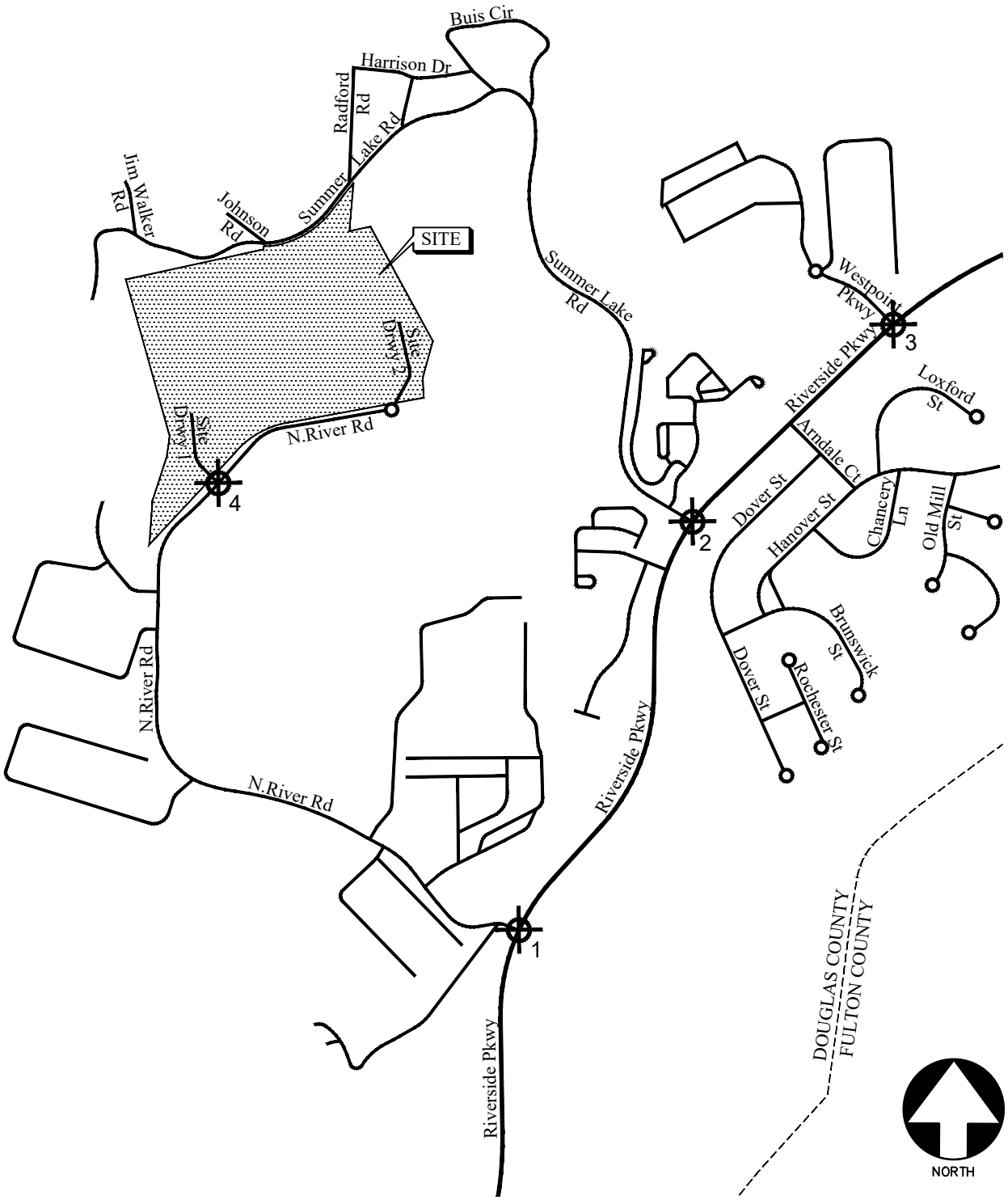
STUDY NETWORK DETERMINATION

The study network was determined by evaluating the amount of traffic that the proposed development will add to each roadway segment in the area. According to GRTA requirements, a roadway segment carries a "significant" amount of traffic if the project contributes 7% or more trips to the two-way daily service volumes of the roadway at the appropriate level of service standard. Upon agreement with GRTA a level of service standard of "D" was used for determining the study area network.

The traffic generated by the proposed project was then assigned to the area roadways using the trip distribution to determine the site-generated traffic on each roadway segment. The boundaries of the study network extend to the most distant intersections where at least 7% of the service volumes on the segment are attributed to project traffic. The following study intersections fell within the 7% rule and/or have been selected as being suitable for evaluation in discussions with ARC, GRTA, GDOT, the City of Douglasville, Douglas County and Cobb County:

1. Riverside Parkway at North River Road
2. Riverside Parkway at Summer Lake Road
3. Riverside Parkway at Westpoint Parkway

The location of the development and the surrounding study network is shown in Figure 1. Other intersections within this corridor, such as unsignalized side streets, right-in/right-out driveways, or private driveways have not been included in the study network.



LOCATION MAP AND STUDY INTERSECTIONS FIGURE 1

A&R Engineering Inc.

EXISTING ROADWAY FACILITIES

The following is a brief description of each of the roadway facilities located in proximity to the site:

Riverside Parkway

Riverside Parkway is a north-south, two-lane, undivided roadway with a posted speed limit of 45 mph in the vicinity of the site. Georgia Department of Transportation (GDOT) traffic counts (Station ID 097-0165) indicate that the daily traffic volume on Riverside Parkway in 2022 was 7,390 vehicles per day south of North River Road. GDOT classifies Riverside Parkway as a minor arterial roadway.

North River Road

North River Road is a two-lane undivided roadway in the vicinity of the site.

Summer Lake Road

Summer Lake Road is a two-lane undivided roadway with a posted speed limit of 25 mph in the vicinity of the site.

Westpoint Parkway

Westpoint Parkway is a two-lane undivided roadway in the vicinity of the site.

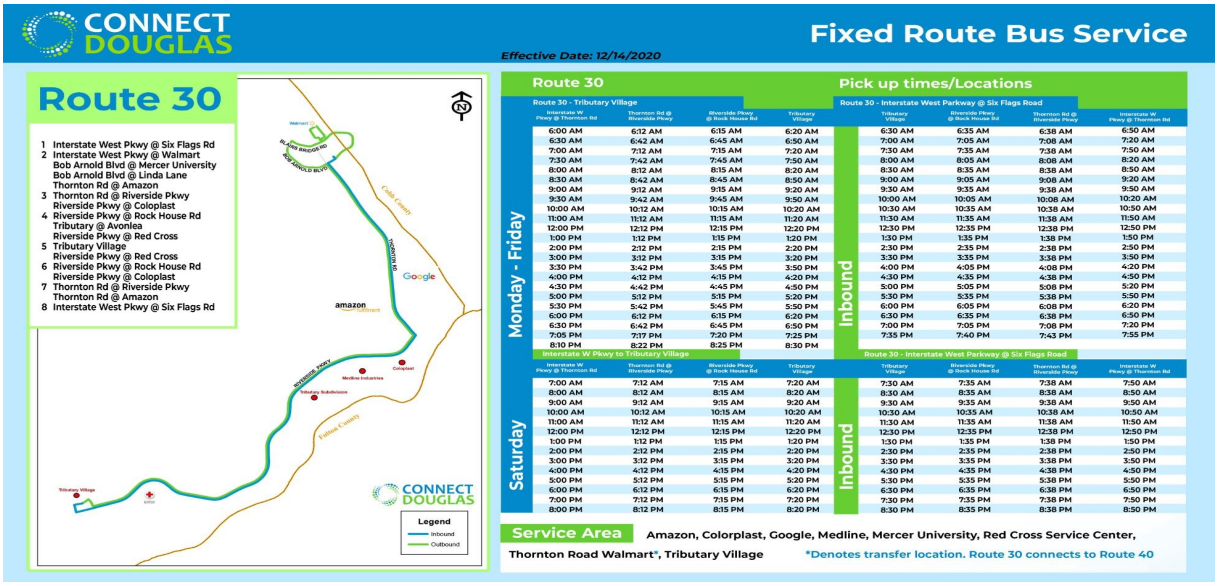
Existing Bicycle and Pedestrian Facilities

- Sidewalks are present on the west/north side of North River Road
- A crosswalk is present on North River Road at its intersection with Riverside Parkway
- Northbound and southbound bike lanes are available on Riverside Parkway

Below is a map showing bike paths on Riverside Parkway, SR 92 (Fairburn Road) and waking trails on SR 92/SR 154/SR 166:

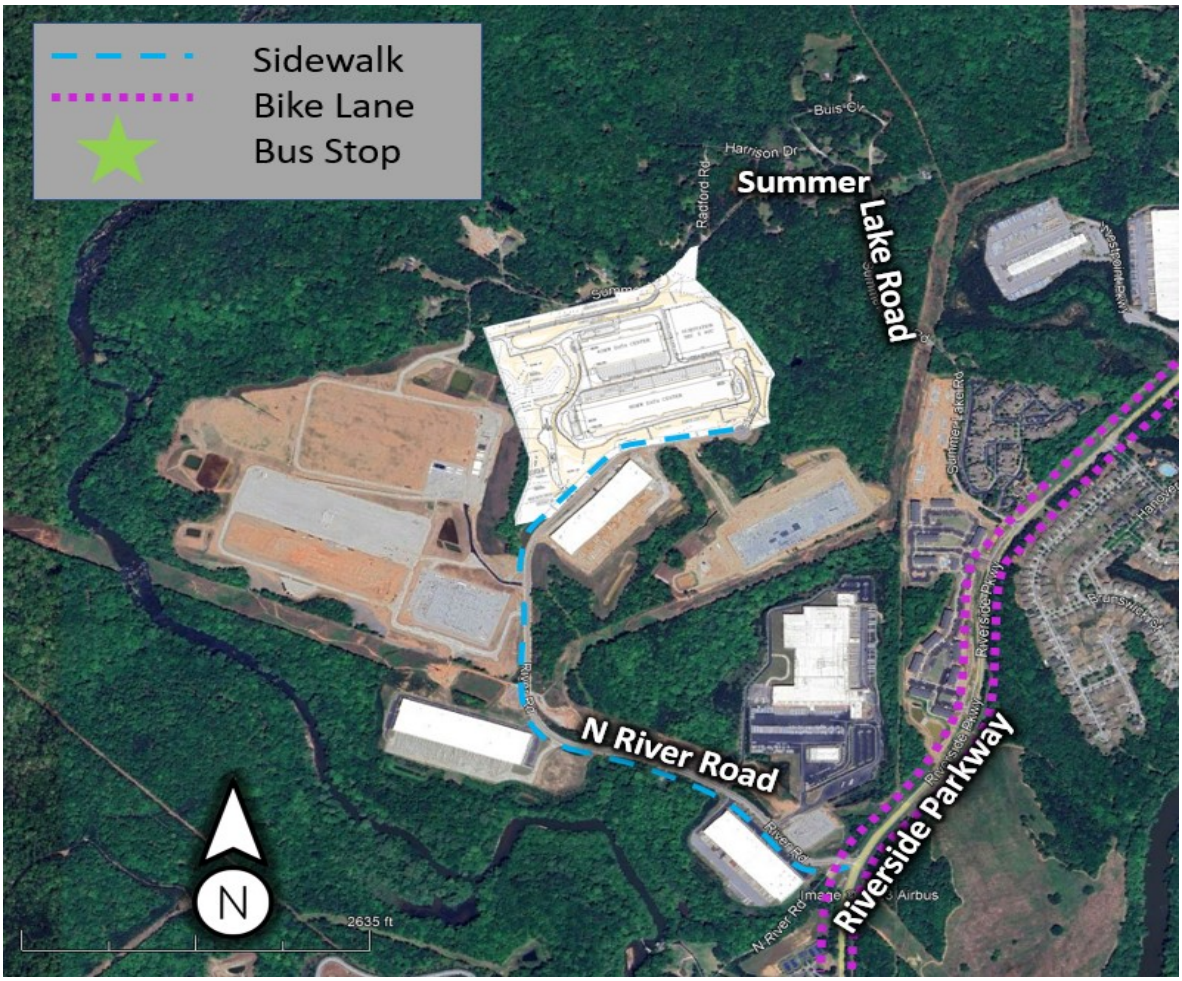
Alternative Modes of Access

- There are no high-capacity transit stations in the vicinity of the proposed development.
- Douglas County's public transit bus route 30 passes through Riverside Parkway in the vicinity of the development, and its closest bus stop relative to the development is by the Rock House Road intersection, approximately 1.25 miles to the north of North River Road. A graphic with information about route 30 for Douglas County bus transit is available on the following page.



The graphic below includes the location of existing sidewalks in the study network.

Existing Alternative Transportation Map



STUDY METHODOLOGY

In this study, the methodology used for evaluating traffic operations at each of the subject intersections is based on the criteria set forth in the Transportation Research Board's Highway Capacity Manual, 6th edition (HCM 6). Synchro software, which utilizes the HCM methodology, was used for the analysis. The following is a description of the methodology employed for the analysis of unsignalized and signalized intersections.

Unsignalized Intersections

For unsignalized intersections controlled by a stop sign on minor streets, the level of service (LOS) for motor vehicles with controlled movements is determined by the computed control delay according to the thresholds stated in Table 1 below. LOS is determined for each minor street movement (or shared movement), as well as major street left turns. LOS is not defined for the intersection as a whole or for major street approaches. The LOS of any controlled movement which experiences a volume-to-capacity ratio greater than 1 is designed as "F" regardless of the control delay.

Control delay for unsignalized intersections includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Several factors affect the control delay for unsignalized intersections, such as the availability and distribution of gaps in the conflicting traffic stream, critical gaps, and follow-up time for a vehicle in the queue.

Level of service is assigned a letter designation from "A" through "F". Level of service "A" indicates excellent operations with little delay to motorists, while level of service "F" exists when there are insufficient gaps of acceptable size to allow vehicles on the side street to cross the main road without experiencing long delays.

TABLE 1 – LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle)	LOS by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c > 1.0**
≤ 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

*The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection.

Source: Highway Capacity Manual, 6th edition, Exhibit 20-2 *LOS Criteria: Motorized Vehicle Mode*

Signalized Intersections

According to HCM procedures, LOS can be calculated for the entire intersection, each intersection approach, and each lane group. HCM uses control delay alone to characterize LOS for the entire intersection or an approach. Control delay per vehicle is composed of initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. Both control delay and volume-to-capacity ratio are used to characterize LOS for a lane group. A volume-to-capacity ratio greater than 1.0 for a lane group indicates failure from capacity perspective. Therefore, such a lane group is assigned LOS F regardless of the amount of control delay.

Table 2 below summarizes the LOS criteria from HCM for motorized vehicles at signalized intersections.

TABLE 2 – LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Control Delay (sec/vehicle) *	LOS for Lane Group by Volume-to-Capacity Ratio*	
	v/c ≤ 1.0	**v/c > 1.0**
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

*For approach-based and intersection wide assessments, LOS is defined solely by control delay

Source: Highway Capacity Manual, 6th edition, Exhibit 19-8 *LOS Criteria: Motorized Vehicle Mode*

LOS A is typically assigned when the volume-to-capacity (v/c) ratio is low and either progression is exceptionally favorable, or the cycle length is very short. LOS B is typically assigned when the v/c ratio is low and either progression is highly favorable, or the cycle length is short. However, more vehicles are stopped than with LOS A. LOS C is typically assigned when progression is favorable, or the cycle length is moderate. Individual cycle failures (one or more queued vehicles are not able to depart because of insufficient capacity during the cycle) may begin to appear at this level. Many vehicles still pass through the intersection without stopping, but the number of vehicles stopping is significant. LOS D is typically assigned when the v/c ratio is high and either progression is ineffective, or the cycle length is long. There are many vehicle-stops and individual cycle failures are noticeable. LOS E is typically assigned when the v/c ratio is high, progression is very poor, the cycle length is long, and individual cycle failures are frequent. LOS F is typically assigned when the v/c ratio is very high, progression is very poor, the cycle length is long, and most cycles fail to clear the queue.

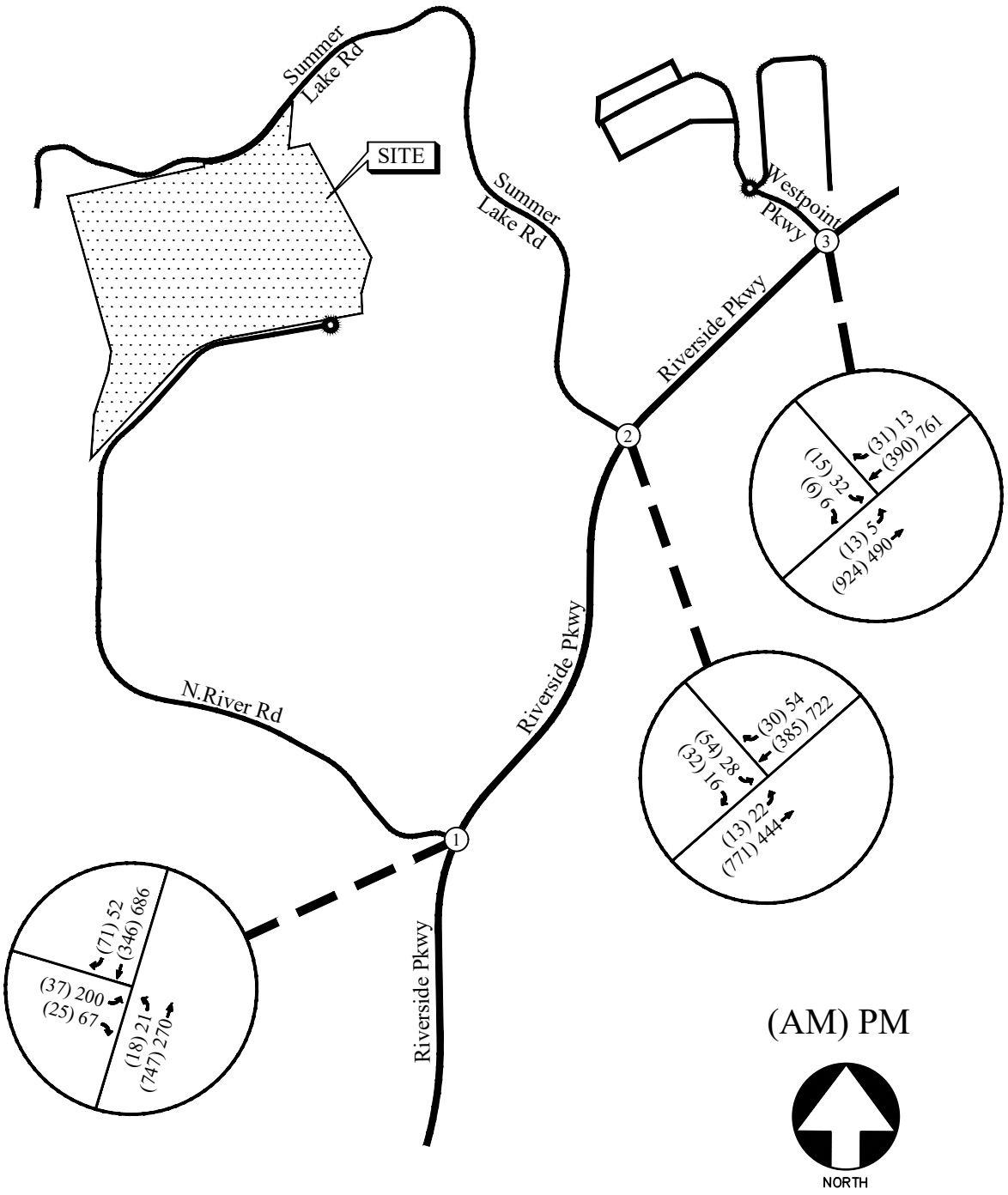
EXISTING 2024 TRAFFIC ANALYSIS

Existing Traffic Volumes

Existing traffic counts were obtained at the following study intersections:

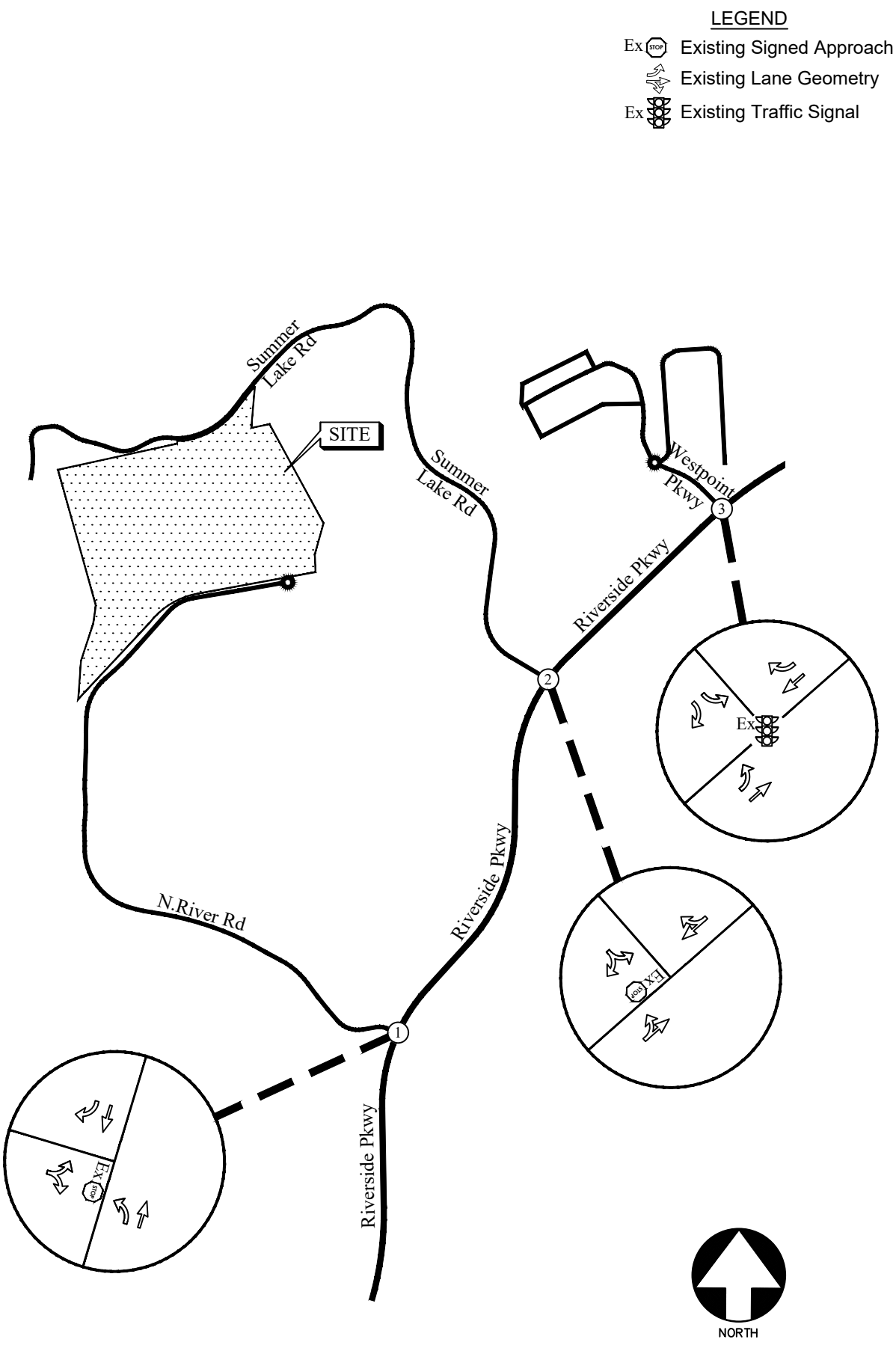
1. Riverside Parkway at North River Road
2. Riverside Parkway at Summer Lake Road
3. Riverside Parkway at Westpoint Parkway

Turning movement counts were collected on Tuesday, February 6, 2024. All turning movement counts were recorded during the AM and PM peak hours between 7:00 am to 9:00 am and 4:00 pm to 6:00 pm, respectively. Truck data was included separately in the counts. The four consecutive 15-minute interval volumes that produced the highest volume at the intersections were then determined. These volumes make up the peak hour traffic volumes for the intersections counted and are shown in Figure 2. The existing traffic control and lane geometry for the intersections are shown in Figure 3.



EXISTING WEEKDAY PEAK-HOUR VOLUMES FIGURE 2

A&R Engineering Inc.



EXISTING TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 3

A&R Engineering Inc.

Existing Traffic Operations

Existing 2024 traffic operations were analyzed at the study intersections in accordance with the HCM methodology. The results of the analyses are shown below in Table 3.

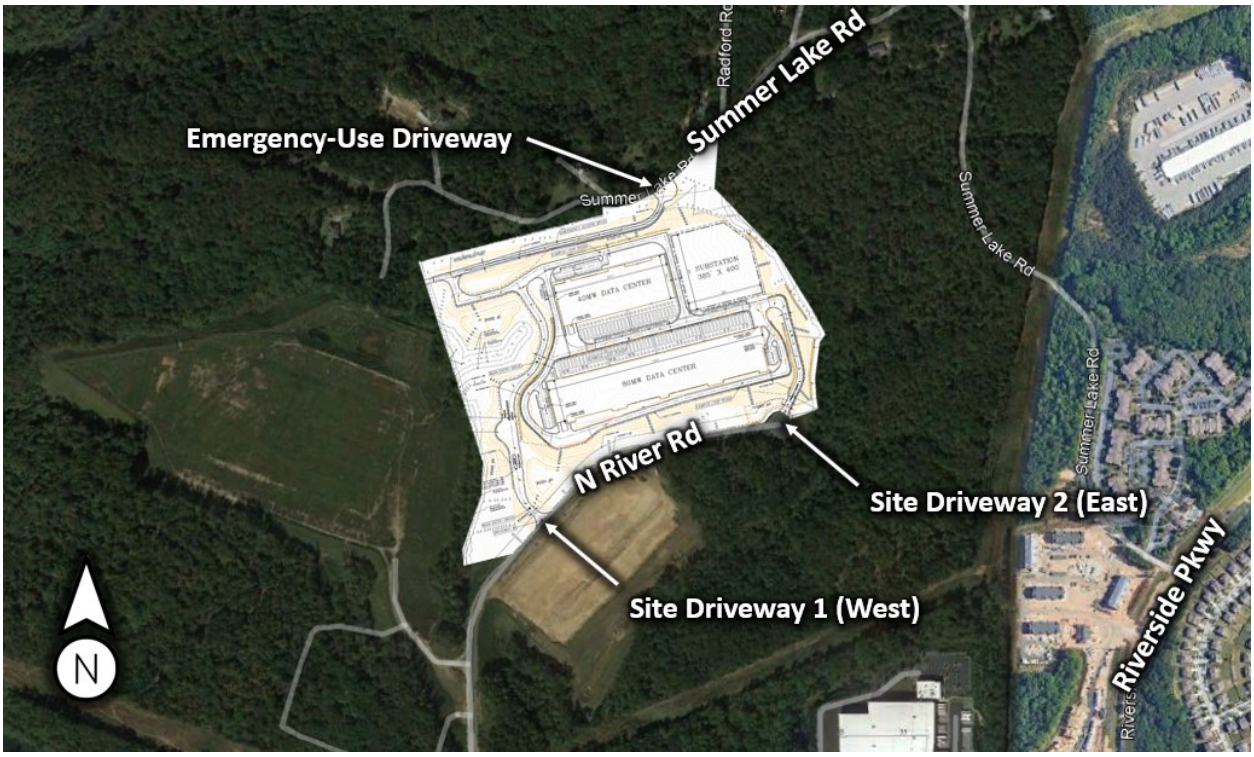
TABLE 3 – EXISTING INTERSECTION OPERATIONS

	Intersection	Traffic Control	AM Peak	PM Peak	LOS Standard
1	**Riverside Parkway @ North River Road** -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	 C (19.8) A (8.2)	 F (78.4) A (9.7)	 D/E D/D
2	**Riverside Parkway @ Summer Lake Road** -Eastbound Approach -Northbound Left	Stop Controlled on EB Approach	 D (29.6) A (8.4)	 D (27.5) A (9.6)	 D/D D/D
3	**Riverside Parkway @ Westpoint Parkway** -Eastbound Approach -Northbound Approach -Southbound Approach	Signalized	**A (5.3)** E (77.6) A (5.4) A (2.3)	**A (5.5)** C (27.5) A (3.7) A (5.7)	**D/D** D/D D/D D/D

The results of the existing traffic operations analysis indicate that the signalized intersection of Riverside Parkway at Westpoint Parkway is operating at an overall level of service "A" in both the AM and PM peak hours. The stop-controlled approaches at the unsignalized intersections are operating at a level of service "D" or better in both the AM and PM peak hours, except for the eastbound approach at the intersection of Riverside Parkway at North River Road, which has a level of service "F" in the PM peak hour. These areas are addressed in the future traffic operations sections.

PROJECT DESCRIPTION

The proposed DC BLOX - ATL West Data Center development will be located at 1701 North River Road in the City of Douglasville, Georgia. The project site is located to the south of I-20 and west of I-285. The development will include two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF) for a combined total of 761,852 SF.



The development proposes access at the following locations:

- Site Driveway 1: Full access western driveway on North River Road
- Site Driveway 2: Full access eastern driveway on the cul-de-sac at the end of North River Road

The development also proposes an emergency-access driveway on Summer Lake Road, to be shared with the property to the west.

Site Plan

A site plan is shown in Figure 4. A digital copy of the site plan is also provided with this report.

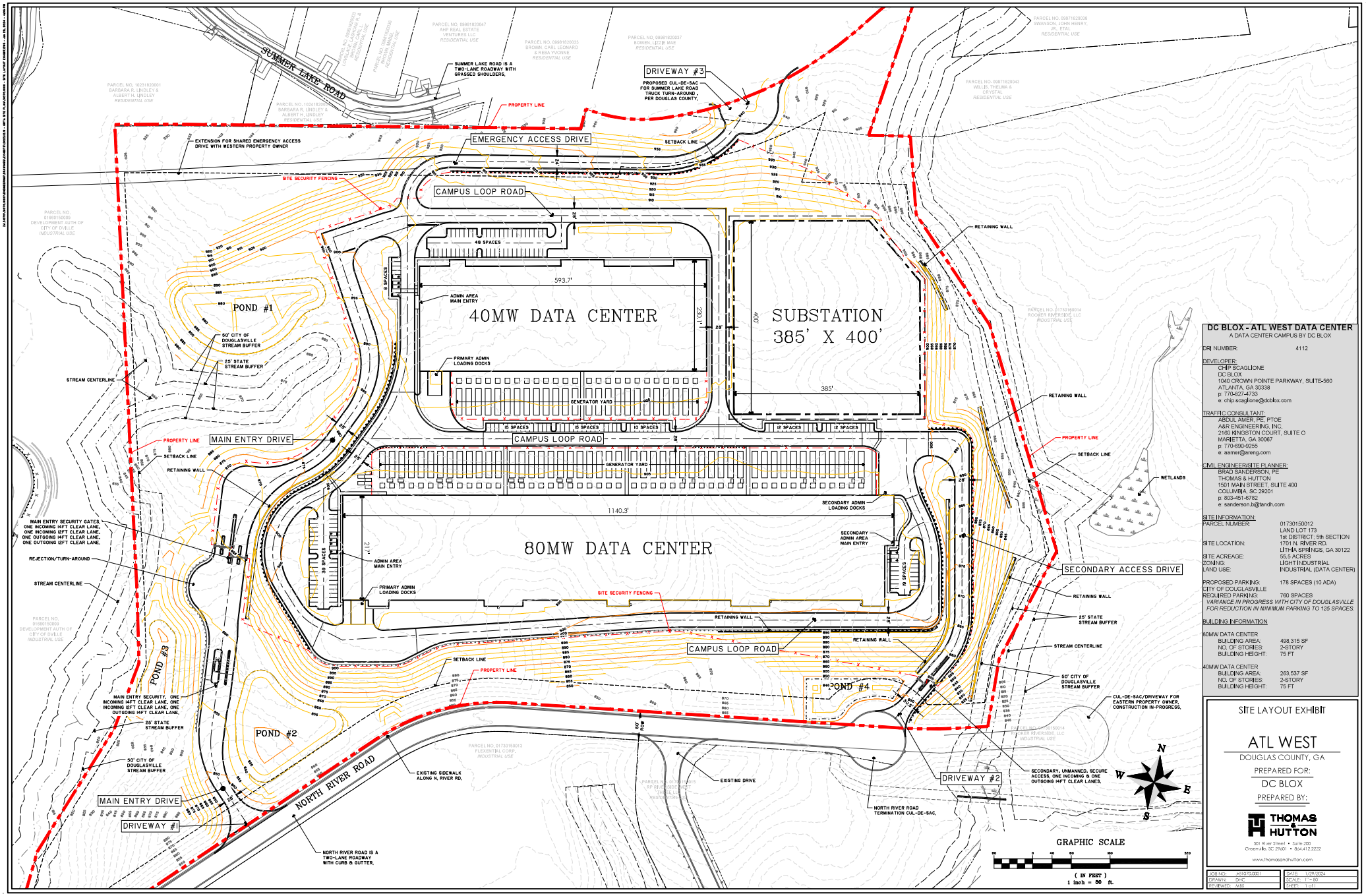
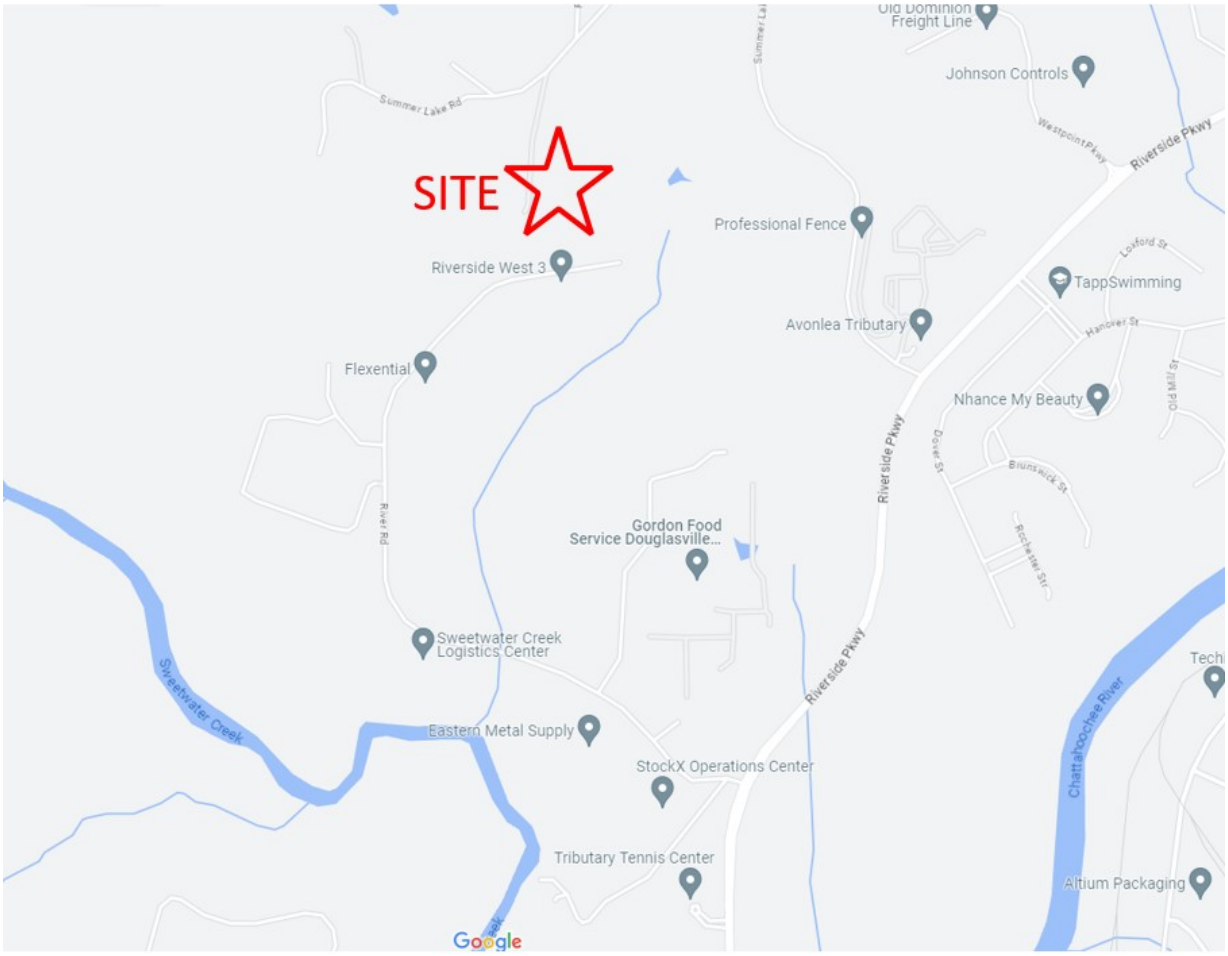


Figure 4 – Site Plan

Planned Bicycle and Pedestrian Facilities

Sidewalks are present on the west/north side of North River Road (including along the proposed site frontage), and a crosswalk is present on North River Road at its intersection with Riverside Parkway. Northbound and southbound bike lanes are available on Riverside Parkway in the vicinity of the proposed development. No new pedestrian or bicycle facilities are proposed.

Potential Pedestrian and Bicycle Destinations



There are no pedestrian/bicycle destinations within a 0.25-mile radius of the property.

Planned Transit Facilities

Douglas County's public transit bus route 30 passes through Riverside Parkway in the vicinity of the development, and its closest bus stop relative to the development is by the Rock House Road intersection, approximately 1.25 miles to the north of North River Road. No new transit facilities are proposed.

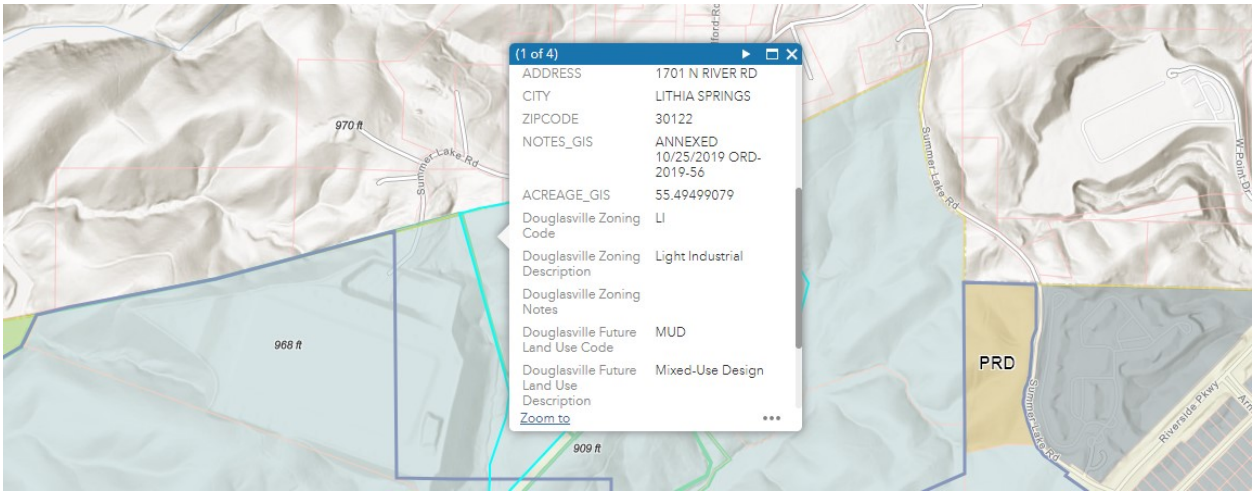
Consistency with Adopted Comprehensive Plan

The proposed development will include two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF respectively) for a combined total of 761,852 SF. The property includes 55.5 acres of land. The site is currently zoned as Light Industrial (LI).

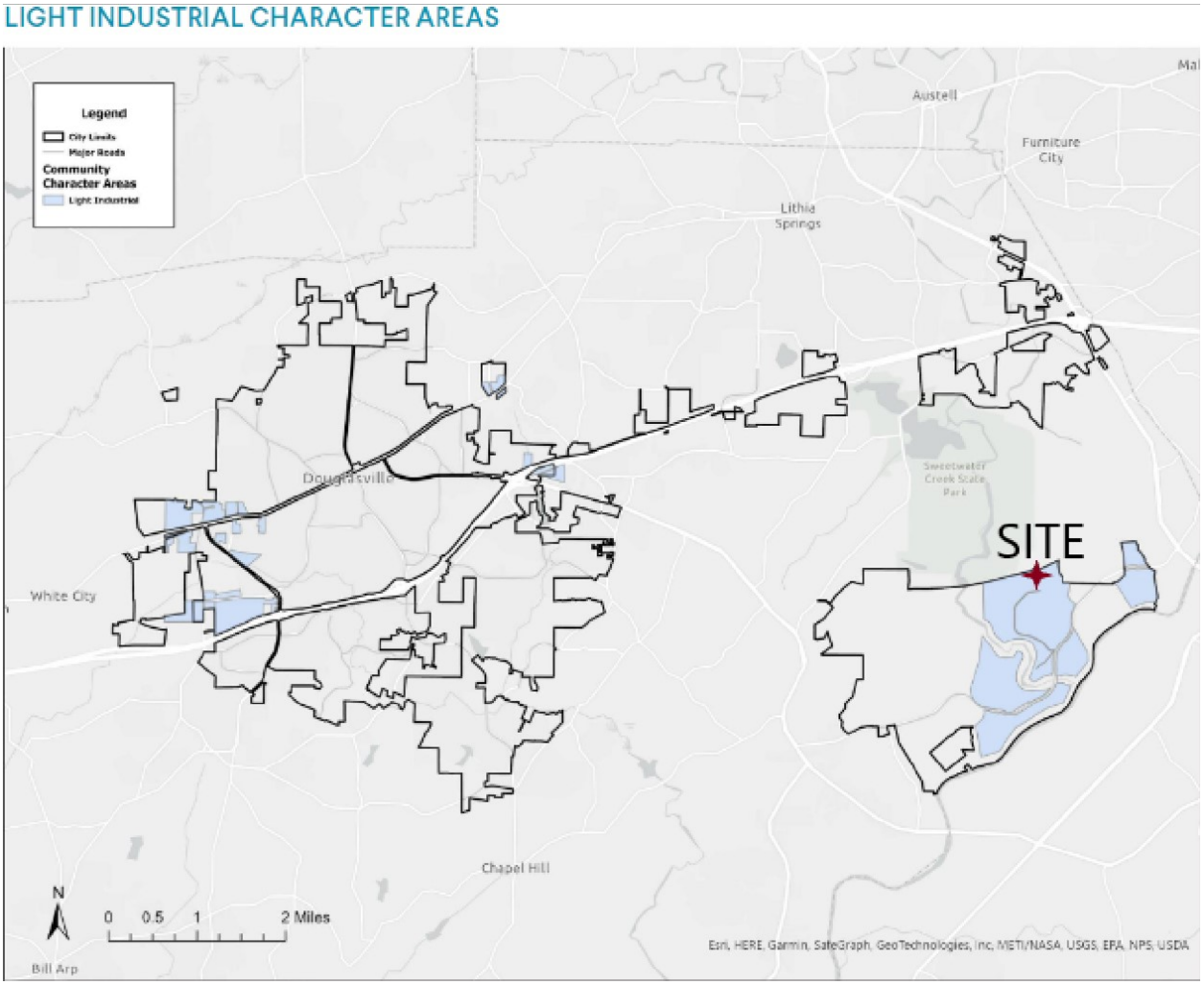
Future Land Use Map

Douglasville Future Land Use	MUD (Mixed-Use Design)
City of Douglasville's Vision	The City of Douglasville's Vision: As a prosperous, vibrant, and family oriented community, Douglasville actively embraces the City's location, history, and natural resources to support economic development and an exciting quality of life. Douglasville is committed to directing the allocation of resources and investment in the future to maintain a standard of "excellence" in city government.
Character Area Definition, Land-Use Vision & Goals	The updated Character Area Map is consistent with the Goals and Objectives of the City of Douglasville and satisfies the DCA's guidance for comprehensive plans to identify character areas based on existing and future land uses. Character Area: Light Industrial character areas are characterized by lots suitable for this type of development. Light Industrial uses are mostly for smaller scale uses. This includes uses such as warehouses, e-commerce, and similar types of facilities. A buffer is normally required to separate from non-industrial uses. Light Industrial Land Use Goals for City of Douglasville in their 2023 Douglasville Comprehensive Plan Update: **Goal:** • *Increase the number of high wage employers with more employment options to the city that will benefit residents.* • *Retain and support existing businesses.* • *Increase workforce development efforts to better prepare and connect young to jobs.*
Relation to Existing Land Use Plans	The proposed development is consistent with the land use vision and goals listed above.
Chattahoochee River/Metropolitan River Protection Act	N/A

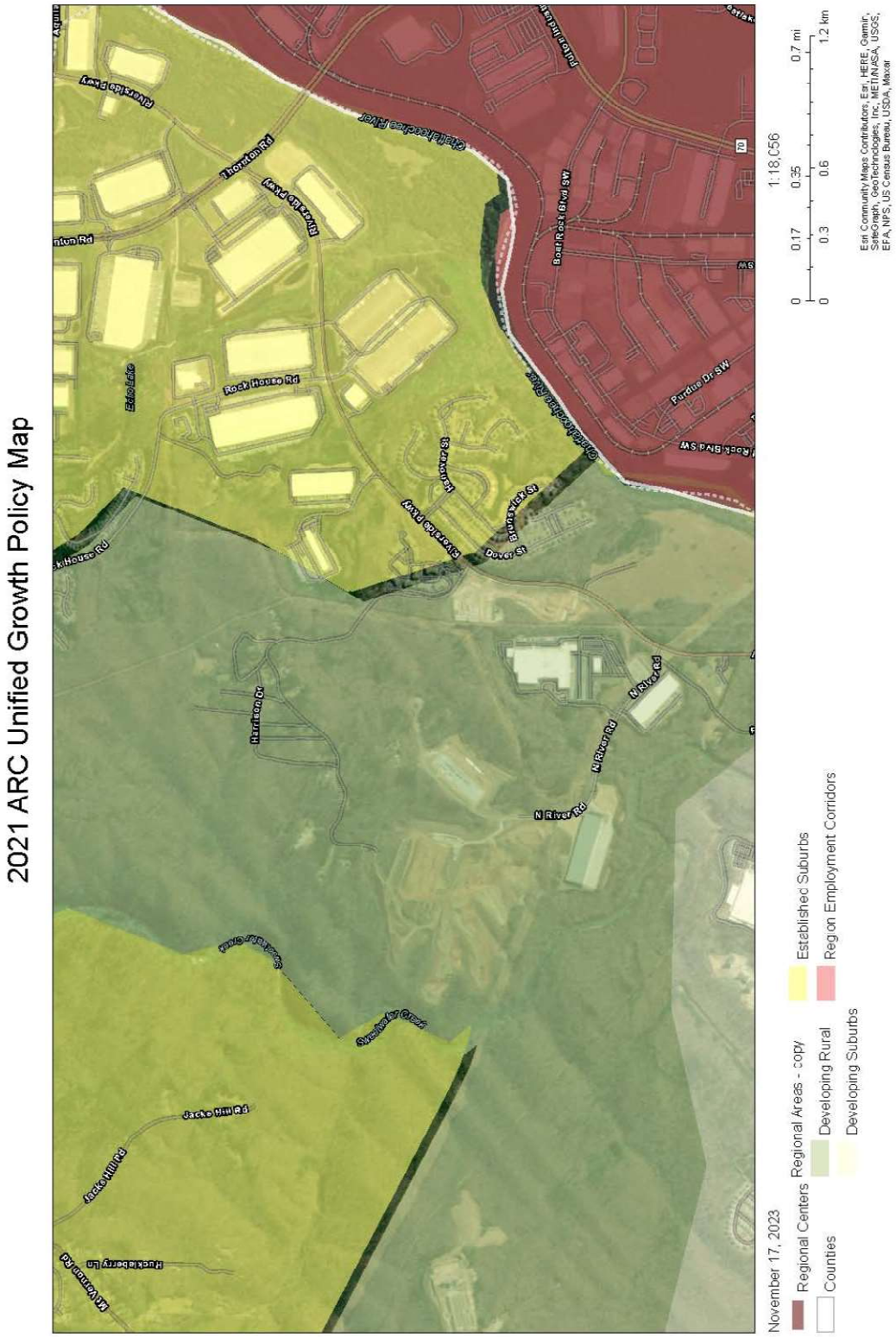
City of Douglasville Zoning Information



City of Douglasville's Light Industrial Character Area Map



ARC's Growth Policy Map



Project Phasing

This project has been evaluated for the complete build-out of the development in one phase in 2026.

Trip Generation

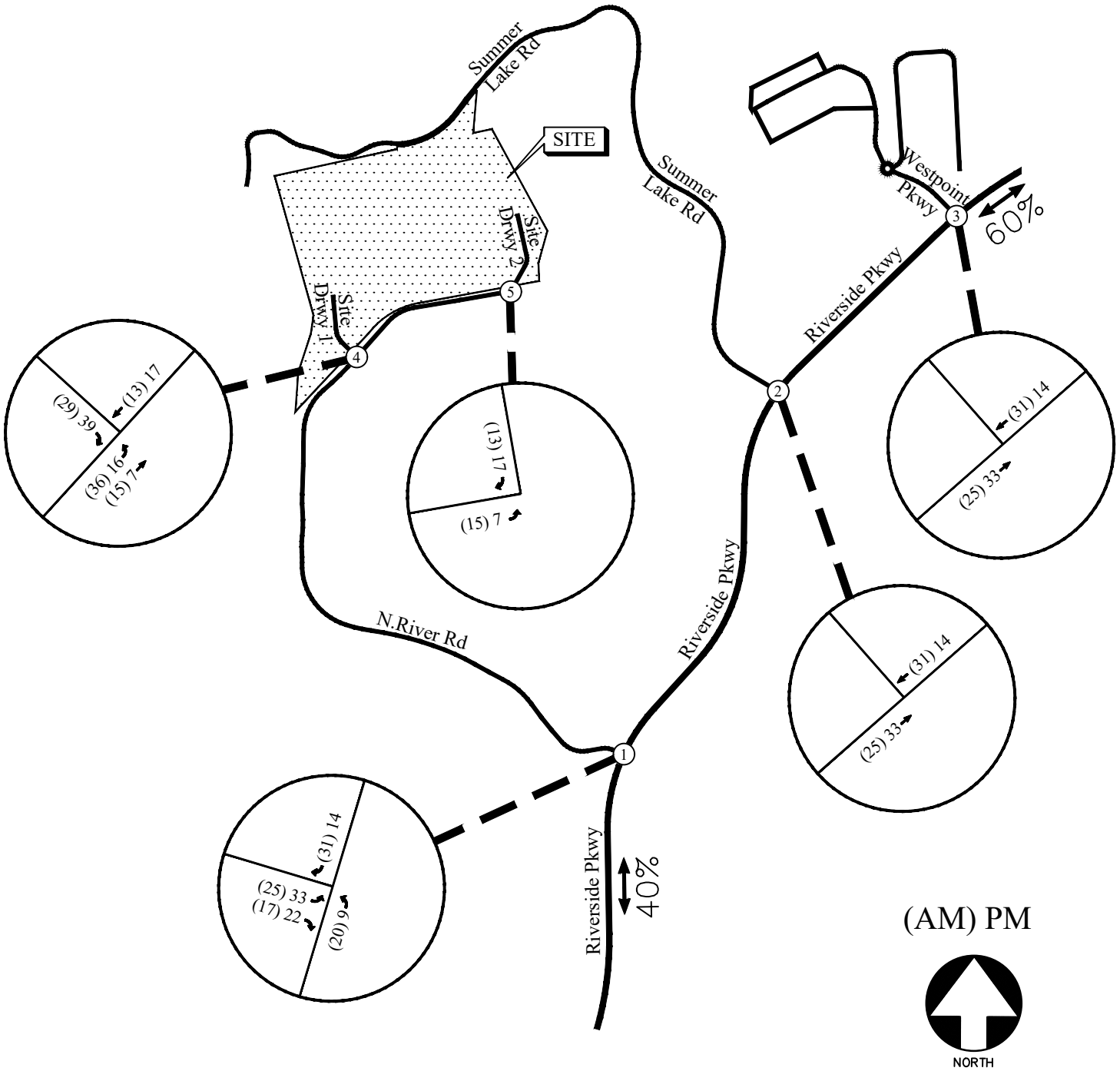
Trip generation estimates for the project were based on the rates and equations published in the 11th edition of the Institute of Transportation Engineers (ITE) Trip Generation report. This reference contains traffic volume count data collected at similar facilities nationwide. The trip generation was based on the ITE land use category *160 – Data Center*. The calculated total trip generation for the proposed development is shown in Table 4.

TABLE 4 – TRIP GENERATION (PROPOSED DEVELOPMENT)

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	2-way
ITE 160 – Data Center	761,852 SF	51	42	93	23	55	78	754

Trip Distribution

The trip distribution describes how traffic arrives and departs from the site. Trip distribution for this site was developed based on the nature of the development, the locations of major roadways and highways that will serve this development, and a review of existing travel patterns in the study area. The site-generated peak hour traffic volumes, shown in Table 4, were assigned to the study area intersections based on this distribution. The outer-leg distribution and AM and PM peak hour new traffic generated by the site are shown in Figure 5.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (PROPOSED DEVELOPMENT)

FIGURE 5

A&R Engineering Inc.

FUTURE 2026 TRAFFIC ANALYSIS

The future 2026 traffic operations are analyzed for the "Build" and "No-Build" conditions. This provides a basis of reference for determining both the contribution of the site to overall traffic conditions and the additional improvements needed to provide sufficient site access and capacity for passing traffic.

Improvements that are identified as "System Improvements" address deficiencies that are found within the existing road network prior to any impacts from the proposed development's added traffic. Improvements that are identified as "Site Mitigation Improvements" address further impacts that are a result of the proposed development's added traffic. Note that survey and construction drawings would be needed to verify the feasibility and extent of additional right-of-way required for any recommended improvements.

Future "No-Build" Conditions

The "No-Build" (or background) conditions provide an assessment of how traffic will operate in the study horizon year without the study site being developed as proposed, with projected increases in through traffic volumes due to normal annual growth. The future "No-Build" volumes consist of the existing traffic volumes (Figure 2) plus increases for annual growth of traffic and traffic from other nearby planned developments.

Annual Traffic Growth

To evaluate future traffic operations in this area, a projection of normal traffic growth was applied to the existing volumes. The Georgia Department of Transportation recorded average daily traffic volumes at several locations in the vicinity of the site. Based on a series of historic data (2015 to 2019) from 4 GDOT traffic stations near the proposed development, a growth factor of 3.1% was calculated. A 3% growth factor was applied to the existing traffic volumes to estimate the future year traffic volumes prior to the addition of site-generated traffic.

Planned and Programmed Improvements in Study Area

The following improvements have been identified in the Regional Transportation Plan (Plan 2040), GDOT GeoPi, and/or the local comprehensive transportation plan. These improvements are within the vicinity of the proposed development.

TABLE 5 – PLANNED AND PROGRAMMED IMPROVEMENTS

Item #	Project Name	From / To Points	Sponsor	GDOT PI #	ARC ID #	Design FY	ROW / UTL FY	CST FY
1	GREENWAY TRAIL FM BOUNDARY WATERS PARK TO SWEETWATER CK PARK	Sweetwater Creek State Park at the northern termini and Boundary Waters Park at the southern project termini.	GDOT	0012877	DO-298	N/A	N/A	N/A
2	LOWER RIVER ROAD	N/A	GDOT	H003855	N/A	N/A	N/A	N/A

GDOT PI # 0012877

This is a project for an approximately 11-mile trail section to establish a substantial link in the Chattahoochee Hill Country for an extension of the Regional Greenway Trail System. Trail master plan includes portions of four counties (Carroll, Coweta, Douglas, and Fulton) and the City of Chattahoochee Hills. A 98-mile trail is planned to interconnect all parts of the Chattahoochee Hill Country. Implementing this plan is a long-term project, with the first trail segment now open in the Boundary Waters Park in Douglas County: 3/4 of a mile of 100% accessible trail, 12-feet wide, concrete construction, that is suitable for walkers, runners, joggers, and cyclists. The trailhead is located behind the Boundary Waters Aquatic Center in the Boundary Waters Park located in Douglas County, Georgia.

This project, P.I.# 0012877 is a proposed 11-mile link between Sweetwater Creek State Park at the northern termini and Boundary Waters Park at the southern project termini connecting to the existing .75-mile trail generally following the Chattahoochee River, Riverside Parkway and Rock House Road.

Nearby Planned Developments

There are three planned data center developments in the vicinity of the proposed site which are already under construction and are all expected to be complete by 2026. A planned 980,000 SF data center development (DRI #3080) consisting of four buildings on North River Road will be located west of the proposed DC BLOX development. This adjacent planned project will have two driveways on North River Road along with an emergency connection to Summer Lake Road. The second under-construction development (Riverside West 200) consists of a 204,700 SF data center located to the south of North River Road. The third development (Riverside West 3) consists of a 310,000 SF data center and is located to the southeast of the cull-de-sac at the end of North River Road.

Trip generation for these developments was estimated using the ITE land use *160 – Data Center*, and the projected volumes are shown below in Table 6.

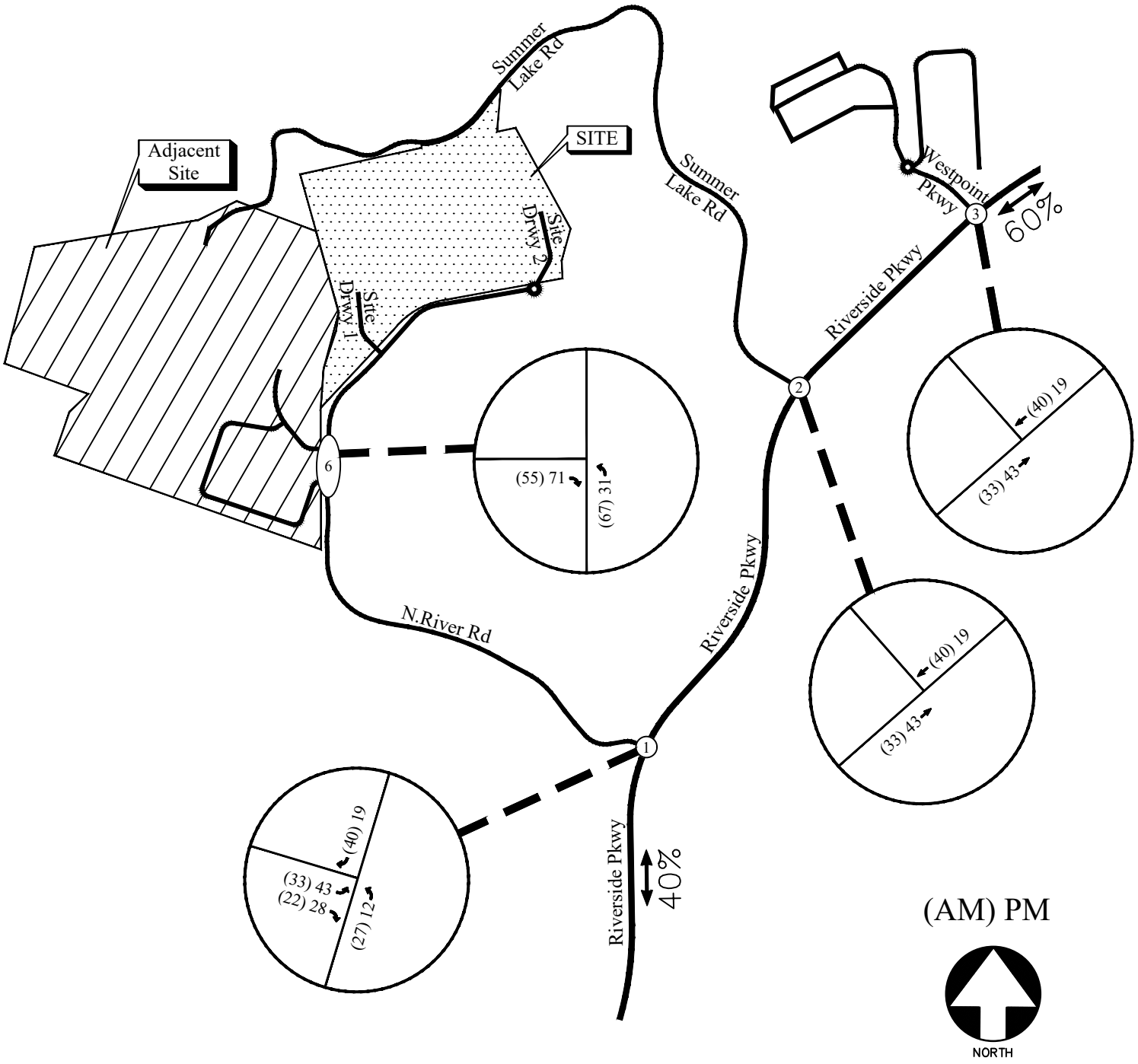
TABLE 6 – TRIP GENERATION (NEARBY DEVELOPMENTS)

Land Use	Size	AM Peak Hour			PM Peak Hour			24 Hour
		Enter	Exit	Total	Enter	Exit	Total	2-way
Data Center (Adjacent Site)	980,000 SF	67	55	122	31	71	102	970
Data Center (Riverside West 200)	204,700 sf	12	9	21	5	12	17	203
Data Center (Riverside West 3)	310,000 sf	19	16	35	9	19	28	307

The Table 6 trips for these nearby developments were assigned to their respective driveways using the same outer leg distribution as the proposed DC BLOX site. The trip distribution and the AM and PM peak hour volumes for the nearby developments are shown in Figure 6A (Adjacent Site), Figure 6B (Riverside West 200 Site) and Figure 6C (Riverside West 3 Site). These volumes were added to the future year traffic volumes prior to the addition of site-generated traffic. The resulting future "No-Build" volumes on the roadway are shown in Figure 7.

Future "Build" Conditions

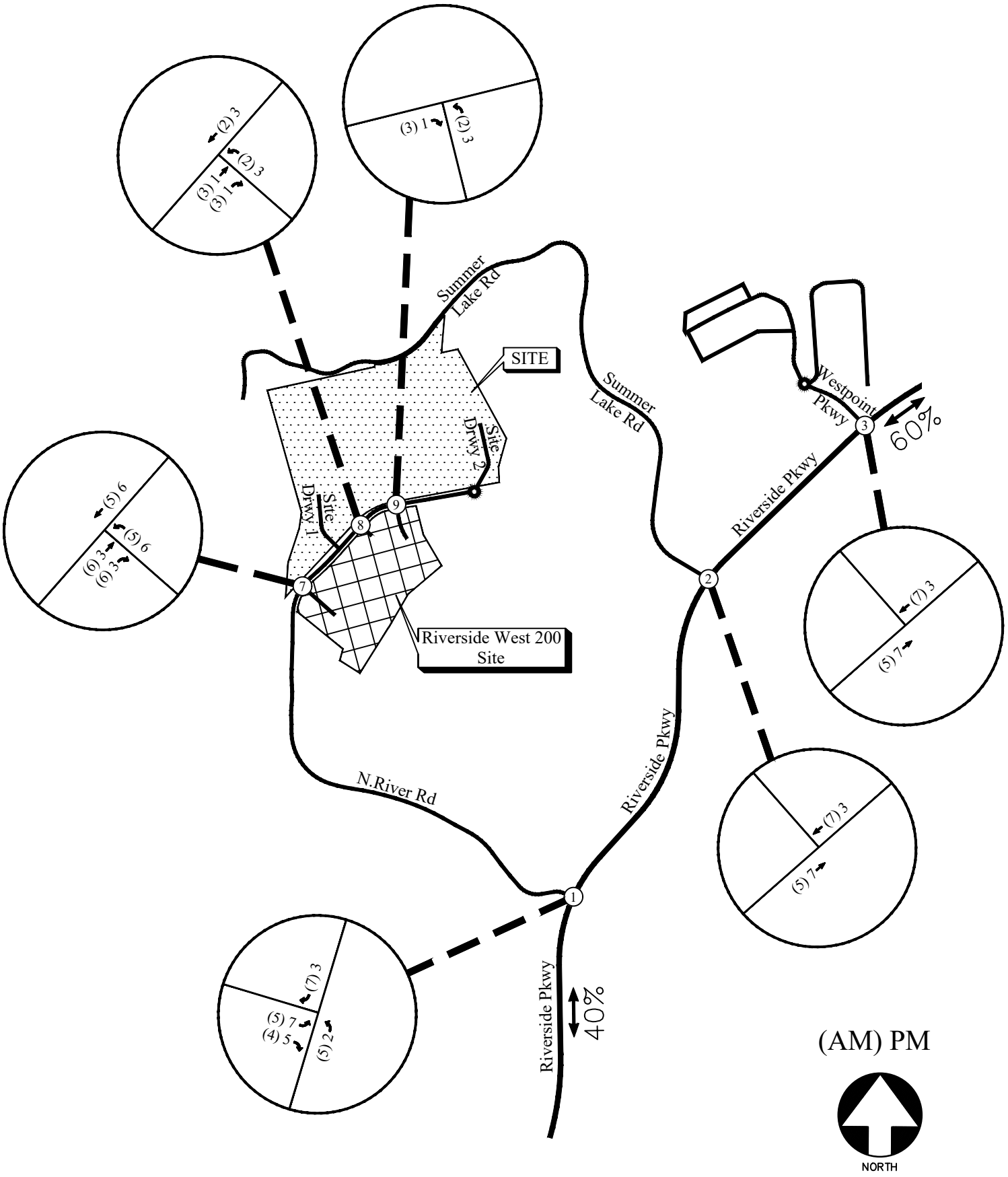
The "Build" or development conditions include the estimated background traffic from the "No-Build" conditions plus the traffic from the proposed development. To evaluate future traffic operations in this area, the additional traffic volumes from the site (Figure 5) were added to base traffic volumes (Figure 7) to calculate the future traffic volumes after the construction of the development. These total future "Build" traffic volumes are shown in Figure 8.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (ADJACENT DEVELOPMENT)

FIGURE 6A

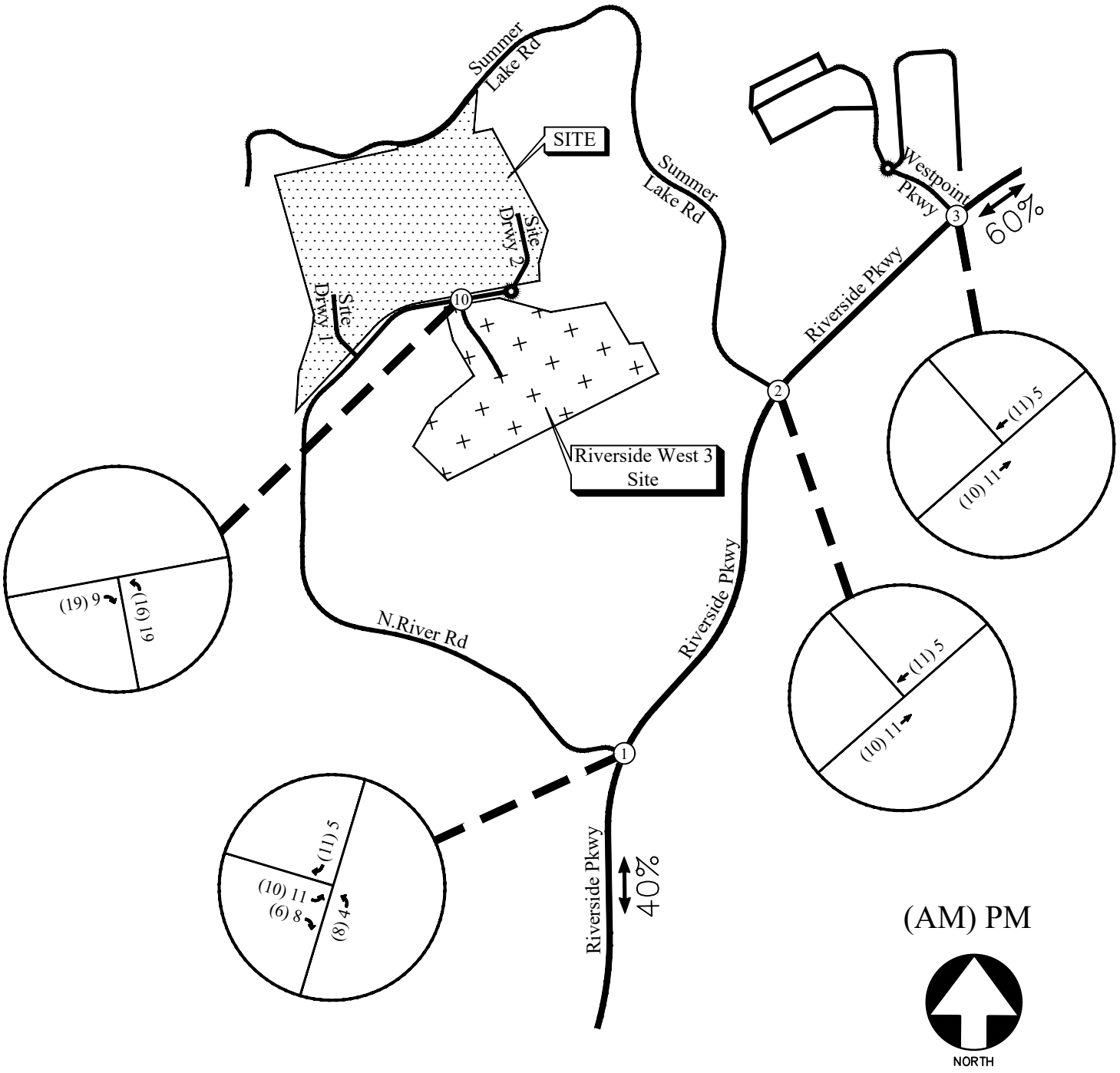
A&R Engineering Inc.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (RIVERSIDE WEST 200)

FIGURE 6B

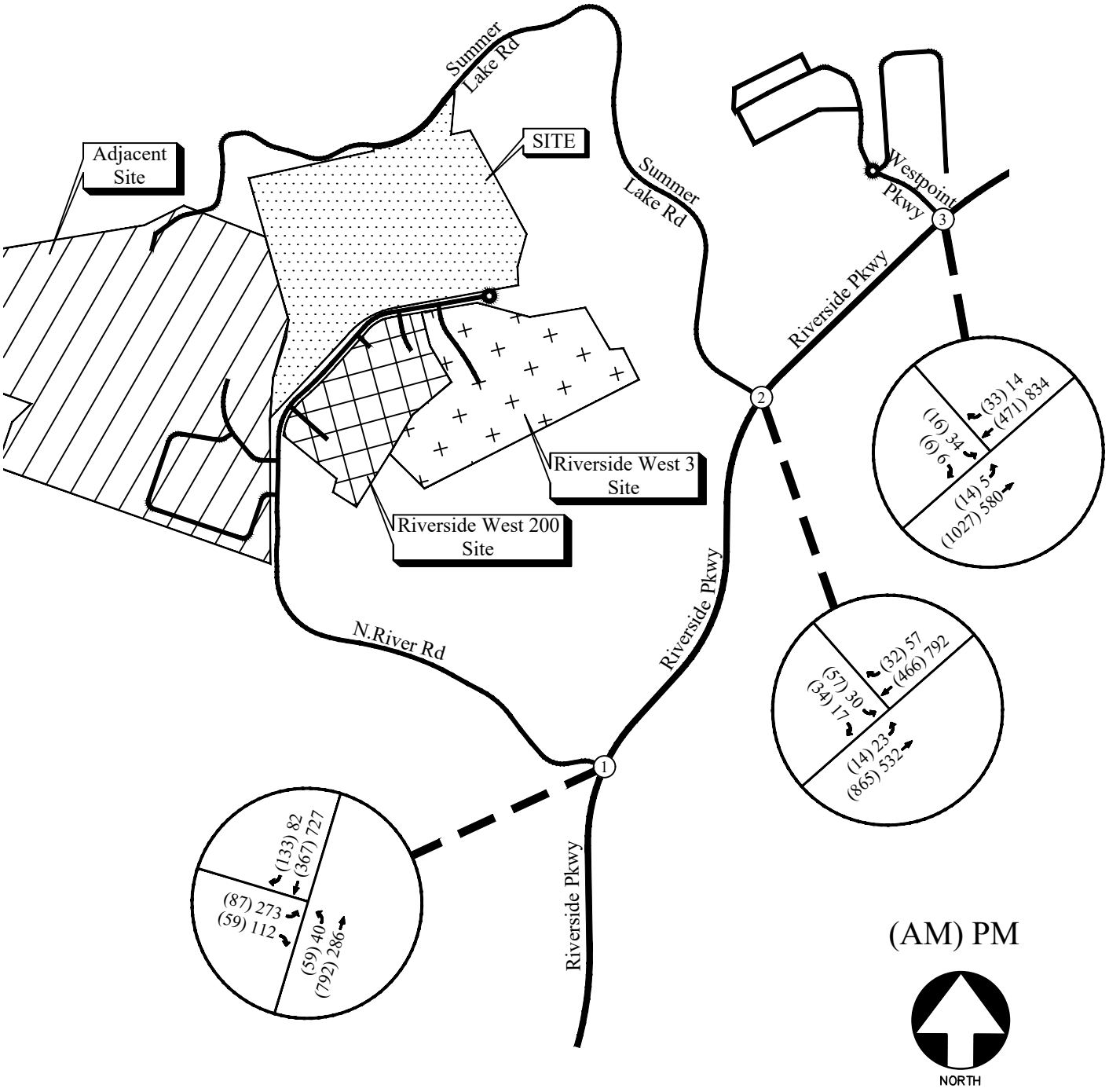
A&R Engineering Inc.



TRIP DISTRIBUTION AND SITE-GENERATED WEEKDAY PEAK HOUR VOLUMES (RIVERSIDE WEST 3)

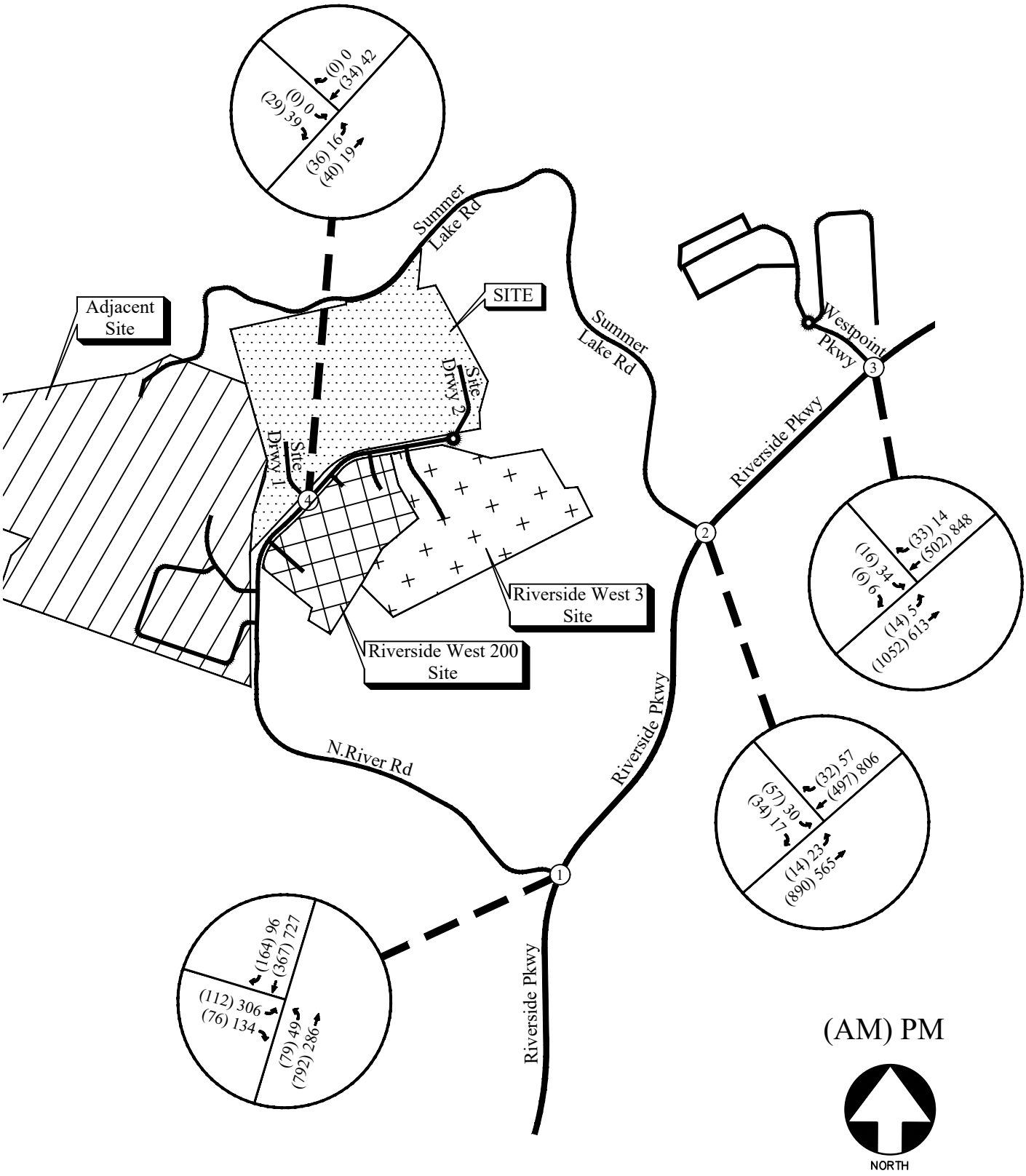
FIGURE 6C

A&R Engineering Inc.



FUTURE (NO-BUILD) WEEKDAY PEAK HOUR VOLUMES FIGURE 7

A&R Engineering Inc.



FUTURE (BUILD) WEEKDAY PEAK HOUR VOLUMES FIGURE 8

A&R Engineering Inc.

Auxiliary Lane Analysis

A left turn lane analysis has been completed for both site driveways per GDOT standards. The analysis below is based off the projected site volumes in the Trip Generation section. According to the estimated ITE trip generation, the 24-hour two-way volume for traffic entering and exiting the site is 754 vehicles. The AADT on North River Road was assumed to be under 6,000 vehicles based on historic GDOT volumes for the similar surrounding roadways. The speed limit on North River Road was taken as 30 mph.

A right turn lane analysis was not conducted since all site traffic is projected to approach from the west on North River Road and enter by turning left. There is no outlet to the east on North River Road, which ends at a cull-de-sac.

Left Turn Lane Analysis

For a two-lane roadway with an AADT under 6,000 vehicles and a posted speed limit of 30 mph, the daily site-generated traffic left turn movements threshold to warrant a turn lane is 300 left-turning vehicles a day. The projected left turn volumes per day at each driveway are included in Table 7 below.

TABLE 7 – GDOT REQUIREMENTS FOR LEFT TURN LANES

Intersection	Left Turn Traffic (% total entering)	Left Turn Volume (vehicles/day)	Roadway Speed / # Lanes / ADT	GDOT Threshold (vehicles/ day)	Warrants Met?
North River Road @ Site Driveway 1 (Western)	70% (Eastbound)	**264** (Total Trips) ÷ 2 × 0.7 = (754) ÷ 2 x 0.7 = 264	30 mph / 2-Lane / < 6,000	300	No
North River Road @ Site Driveway 2 (Eastern)	30% (Eastbound)	**113** (Total Trips) ÷ 2 × 0.3 = (754) ÷ 2 x 0.3 = 113	30 mph / 2-Lane / < 6,000	300	No

Based on GDOT standards, a left turn lane is not warranted at either proposed site driveway.

Future Traffic Operations

The future "No-Build" and "Build" traffic operations were analyzed using the volumes in Figure 7 and 8, respectively. The results of the future traffic operations analysis are shown below in Table 8.

TABLE 8 – FUTURE INTERSECTION OPERATIONS

	Intersection	LOS (Delay)			
		NO-BULD		BUILD	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**Riverside Parkway @ North River Road**				
	-Eastbound Approach	E (45.3)	F (*)	F (104.7)	F (*)
	-Northbound Left	A (8.4)	B (10.1)	A (8.5)	B (10.1)
2	**Riverside Parkway @ Summer Lake Road**				
	-Eastbound Approach	E (45.7)	E (36.4)	E (49.9)	E (37.7)
	-Northbound Left	A (8.7)	A (10.0)	A (8.8)	B (10.0)
3	**Riverside Parkway @ Westpoint Parkway**	**A (5.7)**	**A (5.5)**	**A (5.9)**	**A (5.5)**
	-Eastbound Approach	F (85.3)	C (31.4)	F (86.9)	C (31.9)
	-Northbound Approach	A (6.0)	A (3.7)	A (6.4)	A (3.8)
	-Southbound Approach	A (2.2)	A (5.7)	A (2.2)	A (5.8)
4	**North River Road @ Site Driveway 1 (Western)**				
	-Eastbound Approach	-	-	A (8.6)	A (8.7)
	-Northbound Left			A (7.3)	A (7.3)

* Delay exceeds 300 seconds

The results of both the future "No-Build" and "Build" traffic operations analysis indicate that the signalized intersection of Riverside Parkway at Westpoint Parkway will continue to operate at an overall level of service "A" in both the AM and PM peak hours. The stop-controlled approaches at the unsignalized intersections will operate at a level of service "E" or better in both the AM and PM peak hours, except for the eastbound approach at the intersection of Riverside Parkway at North River Road, which will operate at a level of service "F" in the PM peak hour for both the "No-Build" and "Build" conditions. Under both "No-Build" and "Build" conditions, the eastbound (North River Road) approach at Riverside Parkway will operate with heavy delays exceeding 300 seconds. To address the heavier traffic volumes on North River Road that will result from the proposed development, as well as the traffic from the surrounding under-construction industrial developments along the same road, some site mitigation improvements at the intersection with Riverside Parkway are recommended (next page).

Recommended Site Mitigation Improvements

The following site mitigation improvements are recommended:

Intersection 1: Riverside Parkway at North River Road

- Installation of a traffic signal when warranted upon approval by the City of Douglasville
- Addition of an eastbound right turn lane on North River Road
- Protected-permissive left turn phasing to be included for the northbound left approach

The posted speed limit on Riverside Parkway is 45 mph. A signal warrant analysis was performed for the study intersection per MUTCD (2009 Edition) using a major street approach speed limit of 45 mph with the intersection geometry of a one-lane major street approach and a one-lane minor street approach. An eastbound right turn reduction of 100% was applied to the North River Road approach traffic. Using the projected future volumes for the "No-Build" and "Build" conditions, the analysis results indicated that signal warrant 3 will be met for both conditions. Copies of the analyses for both conditions are included in the appendix.

A left turn phase analysis was completed to determine if any left turn movements will meet the criteria for a protected/permissive left turn phase with either a cross-product warrant are a peak volume warrant for the future AM and PM peak hours. The results of the analysis indicated that the northbound left turn movement will warrant a lagging protected/permissive phase based on the projected future "Build" condition volumes (the peak hour volume will be met for the AM peak hour and the cross-product warrant will be met for the PM peak hour). The detailed results for the left turn phase analysis are included in the appendix.

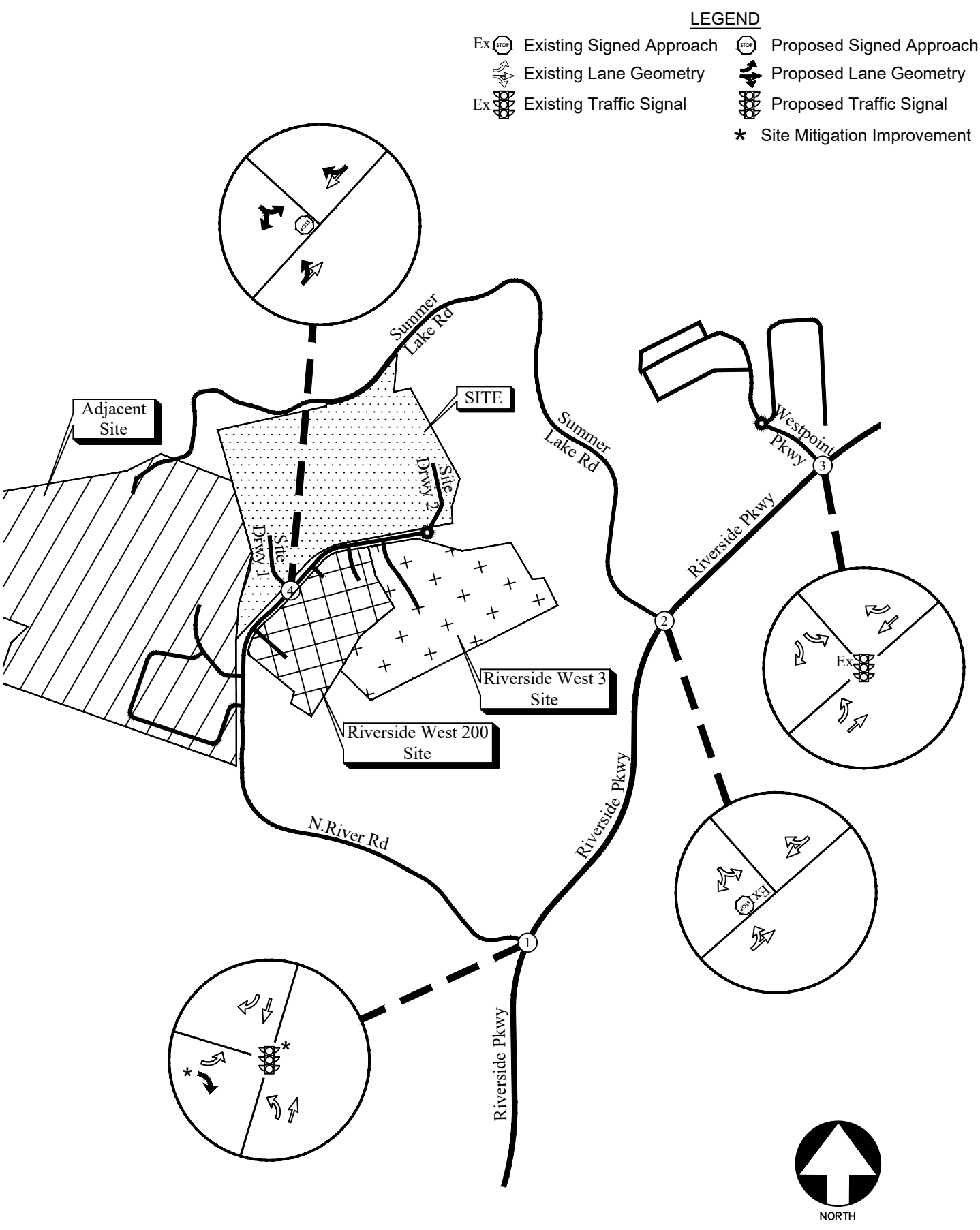
The results of the future traffic operations with the recommended site mitigation improvements are shown below in Table 9.

TABLE 9 – FUTURE INTERSECTION OPERATIONS WITH IMPROVEMENTS

Intersection		LOS (Delay)			
		NO-BULD		BUILD	
		AM Peak	PM Peak	AM Peak	PM Peak
1	**Riverside Parkway @ North River Road**	**A (7.1)**	**B (12.9)**	**A (9.6)**	**C (22.8)**
	-Eastbound Approach	C (27.5)	C (24.4)	C (28.8)	D (42.6)
	-Northbound Approach	A (6.6)	A (7.0)	A (7.1)	A (7.1)
	-Southbound Approach	A (3.5)	B (11.3)	A (9.6)	C (21.8)

After the recommended improvements are implemented, the intersection of Riverside Parkway at North River Road will operate at an overall level of service "C" or better with peak hour traffic, and the eastbound (North River Road) approach will operate at a level of service "D" or better.

Recommendations for future traffic control and lane geometry are shown in Figure 9.



FUTURE TRAFFIC CONTROL AND LANE GEOMETRY FIGURE 9

A&R Engineering Inc.

CONCLUSIONS AND RECOMMENDATIONS

Traffic impacts were evaluated for the proposed DC BLOX - ATL West Data Center development that will be located at 1701 North River Road in the City of Douglasville, Georgia. The proposed development will include two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF) for a combined total of 761,852 SF.

The development proposes access at the following locations:

- Site Driveway 1: Full access western driveway on North River Road
- Site Driveway 2: Full access eastern driveway on the cul-de-sac at the end of North River Road
- The development also proposes an emergency-access driveway on Summer Lake Road, to be shared with the property to the west.

This study included the evaluation of traffic operations for the AM and PM peak hours at the intersections of:

1. Riverside Parkway at North River Road
2. Riverside Parkway at Summer Lake Road
3. Riverside Parkway at Westpoint Parkway
4. North River Road at Site Driveway 1 (Western Access)

The analysis included the evaluation of Future operations for “No-Build” and “Build” conditions, both of which account for increases in annual growth of through traffic and added traffic from other nearby planned developments. The results of both the future “No-Build” and “Build” traffic operations analysis indicate that the signalized intersection of Riverside Parkway at Westpoint Parkway will continue to operate at an overall level of service “A” in both the AM and PM peak hours. The stop-controlled approaches at the unsignalized intersections will operate at a level of service “E” or better in both the AM and PM peak hours, except for the eastbound approach at the intersection of Riverside Parkway at North River Road, which will operate at a level of service “F” in the PM peak hour for both the “No-Build” and “Build” conditions. Under both “No-Build” and “Build” conditions, the eastbound (North River Road) approach at Riverside Parkway will operate with heavy delays exceeding 300 seconds. To address the heavier traffic volumes on North River Road that will result from the proposed development, as well as the traffic from the surrounding under-construction industrial developments along the same road, some site mitigation improvements at the intersection with Riverside Parkway are recommended (next page).

Recommended Site Mitigation Improvements

The following site mitigation improvements are recommended:

Intersection 1: Riverside Parkway at North River Road

- Installation of a traffic signal when warranted upon approval by the City of Douglasville (see paragraph below)
- Addition of an eastbound right turn lane on North River Road
- Protected-permissive left turn phasing to be included for the northbound left approach

The posted speed limit on Riverside Parkway is 45 mph. A signal warrant analysis was performed for the study intersection per MUTCD (2009 Edition) using a major street approach speed limit of 45 mph with the intersection geometry of a one-lane major street approach and a one-lane minor street approach. An eastbound right turn reduction of 100% was applied to the North River Road approach traffic. Using the projected future volumes for the "No-Build" and "Build" conditions, the analysis results indicated that signal warrant 3 will be met for both conditions. Copies of the analyses for both conditions are included in the appendix.

A left turn phase analysis was completed to determine if any left turn movements will meet the criteria for a protected/permissive left turn phase with either a cross-product warrant are a peak volume warrant for the future AM and PM peak hours. The results of the analysis indicated that the northbound left turn movement will warrant a lagging protected/permissive phase based on the projected future "Build" condition volumes (the peak hour volume will be met for the AM peak hour and the cross-product warrant will be met for the PM peak hour). The detailed results for the left turn phase analysis are included in the appendix.

After the recommended improvements are implemented, the intersection of Riverside Parkway at North River Road will operate at an overall level of service "C" or better with peak hour traffic, and the eastbound (North River Road) approach will operate at a level of service "D" or better.

Recommendations for Site Access Configuration

The following access configuration is recommended for the proposed site driveway intersections:

- Site Driveway 1 (Primary Access): Western full access on North River Road
    - One entering lane and one exiting lanes
    - Stop-sign controlled at the driveway approach with North River Road remaining free flow
    - Provide/confirm adequate sight distance per AASHTO standards

- Site Driveway 2 (Secondary Access): Eastern full access on cul-de-sac at the eastern end of North River Road
    - One entering lane and one exiting lane
    - Stop-sign controlled at the driveway approach with North River Road remaining free flow

Appendix

Existing Intersection Traffic Counts

A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC DATA
Riverside Parkway @ N River Road
7-9 am | 4-6 pm

File Name : 20240043
Site Code : 20240043
Start Date : 02-06-2024
Page No : 1

Groups Printed- Cars & Buses - Trucks

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				N River Rd Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	206	0	211	0	94	13	107	9	0	7	16	0	0	0	0	334
07:15 AM	4	196	0	200	0	95	18	113	7	0	6	13	0	0	0	0	326
07:30 AM	4	201	0	205	0	89	20	109	10	0	6	16	0	0	0	0	330
07:45 AM	5	144	0	149	0	68	20	88	11	0	6	17	0	0	0	0	254
Total	18	747	0	765	0	346	71	417	37	0	25	62	0	0	0	0	1244
08:00 AM	10	145	0	155	0	63	19	82	13	0	8	21	0	0	0	0	258
08:15 AM	3	121	0	124	0	59	17	76	9	0	5	14	0	0	0	0	214
08:30 AM	5	103	0	108	0	59	18	77	13	0	4	17	0	0	0	0	202
08:45 AM	3	63	0	66	0	46	17	63	13	0	5	18	0	0	0	0	147
Total	21	432	0	453	0	227	71	298	48	0	22	70	0	0	0	0	821
*** BREAK ***																	
04:00 PM	2	74	0	76	0	131	9	140	21	0	11	32	0	0	0	0	248
04:15 PM	5	72	0	77	0	132	11	143	28	0	9	37	0	0	0	0	257
04:30 PM	4	63	0	67	0	186	7	193	29	0	8	37	0	0	0	0	297
04:45 PM	6	62	0	68	0	160	10	170	11	0	14	25	0	0	0	0	263
Total	17	271	0	288	0	609	37	646	89	0	42	131	0	0	0	0	1065
05:00 PM	9	89	0	98	0	197	6	203	32	0	12	44	0	0	0	0	345
05:15 PM	4	71	0	75	0	153	15	168	42	0	15	57	0	0	0	0	300
05:30 PM	4	50	0	54	0	185	11	196	77	0	16	93	0	0	0	0	343
05:45 PM	4	60	0	64	0	151	20	171	49	0	24	73	0	0	0	0	308
Total	21	270	0	291	0	686	52	738	200	0	67	267	0	0	0	0	1296
Grand Total	77	1720	0	1797	0	1868	231	2099	374	0	156	530	0	0	0	0	4426
Apprch %	4.3	95.7	0		0	89	11		70.6	0	29.4		0	0	0		
Total %	1.7	38.9	0	40.6	0	42.2	5.2	47.4	8.5	0	3.5	12	0	0	0	0	
Cars & Buses	63	1635	0	1698	0	1773	211	1984	348	0	135	483	0	0	0	0	4165
% Cars & Buses	81.8	95.1	0	94.5	0	94.9	91.3	94.5	93	0	86.5	91.1	0	0	0	0	94.1
Trucks	14	85	0	99	0	95	20	115	26	0	21	47	0	0	0	0	261
% Trucks	18.2	4.9	0	5.5	0	5.1	8.7	5.5	7	0	13.5	8.9	0	0	0	0	5.9

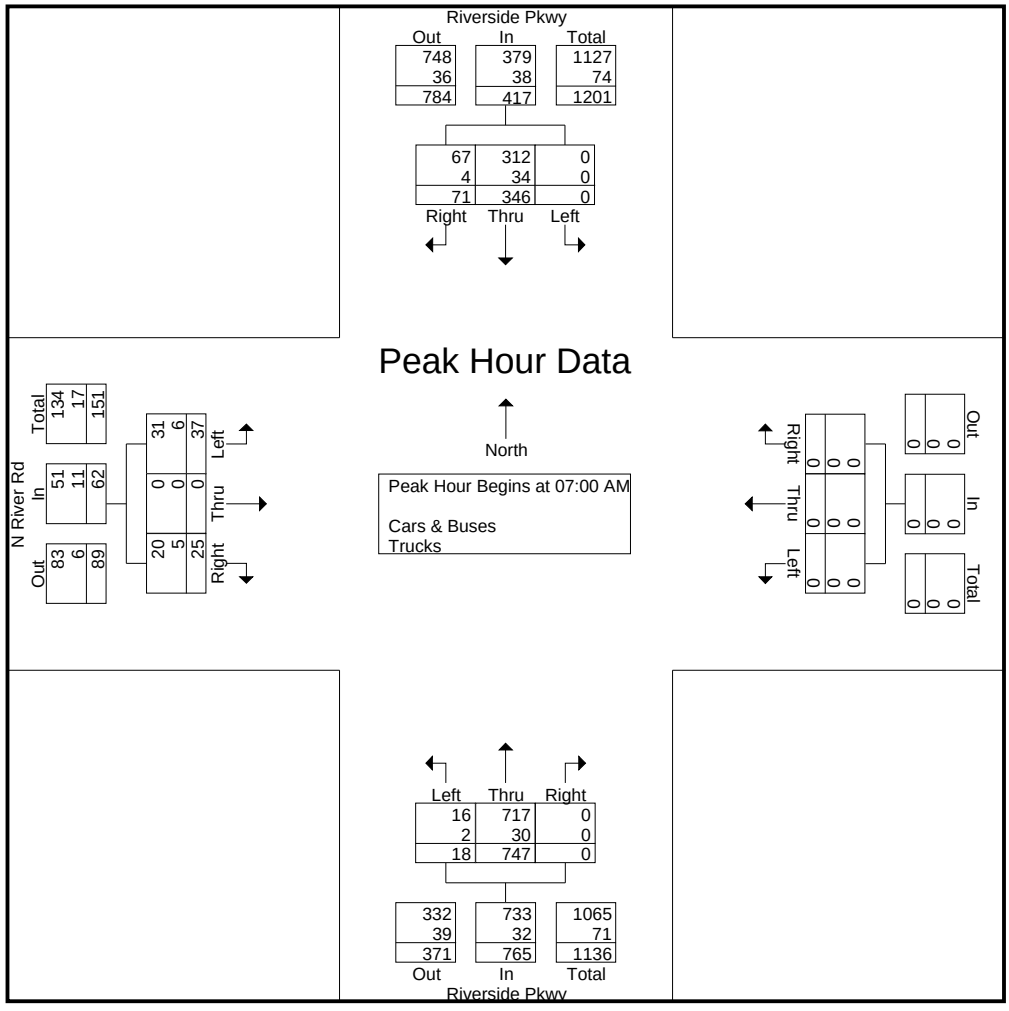
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC DATA
Riverside Parkway @ N River Road
7-9 am | 4-6 pm

File Name : 20240043
Site Code : 20240043
Start Date : 02-06-2024
Page No : 2

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				N River Rd Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**5**	**206**	0	**211**	0	94	13	107	9	0	**7**	16	0	0	0	0	**334**
07:15 AM	4	196	0	200	0	**95**	18	**113**	7	0	6	13	0	0	0	0	326
07:30 AM	4	201	0	205	0	89	**20**	109	10	0	6	16	0	0	0	0	330
07:45 AM	5	144	0	149	0	68	20	88	**11**	0	6	**17**	0	0	0	0	254
Total Volume	18	747	0	765	0	346	71	417	37	0	25	62	0	0	0	0	1244
% App. Total	2.4	97.6	0		0	83	17		59.7	0	40.3		0	0	0		
PHF	.900	.907	.000	.906	.000	.911	.888	.923	.841	.000	.893	.912	.000	.000	.000	.000	.931
Cars & Buses	16	717	0	733	0	312	67	379	31	0	20	51	0	0	0	0	1163
% Cars & Buses	88.9	96.0	0	95.8	0	90.2	94.4	90.9	83.8	0	80.0	82.3	0	0	0	0	93.5
Trucks	2	30	0	32	0	34	4	38	6	0	5	11	0	0	0	0	81
% Trucks	11.1	4.0	0	4.2	0	9.8	5.6	9.1	16.2	0	20.0	17.7	0	0	0	0	6.5



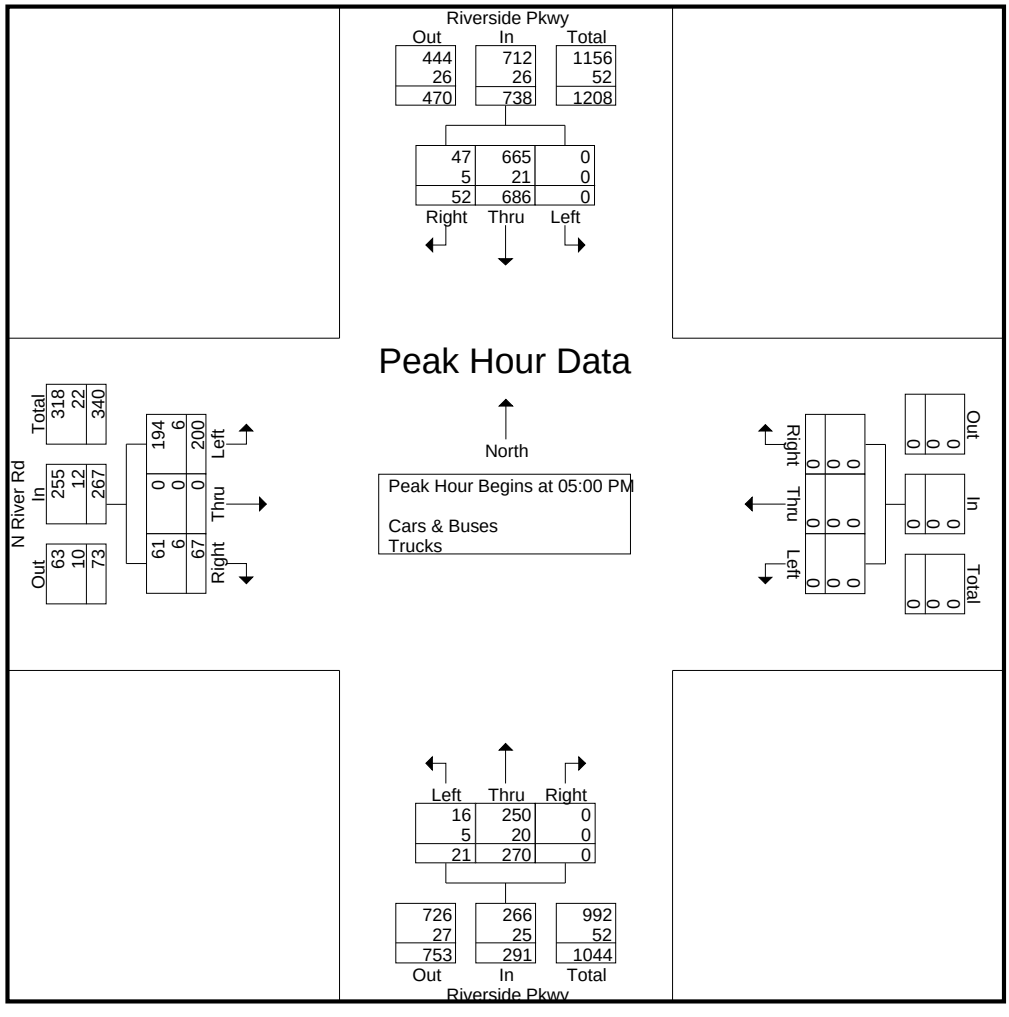
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC DATA
Riverside Parkway @ N River Road
7-9 am | 4-6 pm

File Name : 20240043
Site Code : 20240043
Start Date : 02-06-2024
Page No : 3

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				N River Rd Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**9**	**89**	0	**98**	0	**197**	6	**203**	32	0	12	44	0	0	0	0	**345**
05:15 PM	4	71	0	75	0	153	15	168	42	0	15	57	0	0	0	0	300
05:30 PM	4	50	0	54	0	185	11	196	**77**	0	16	**93**	0	0	0	0	343
05:45 PM	4	60	0	64	0	151	**20**	171	49	0	**24**	73	0	0	0	0	308
Total Volume	21	270	0	291	0	686	52	738	200	0	67	267	0	0	0	0	1296
% App. Total	7.2	92.8	0		0	93	7		74.9	0	25.1		0	0	0		
PHF	.583	.758	.000	.742	.000	.871	.650	.909	.649	.000	.698	.718	.000	.000	.000	.000	.939
Cars & Buses	16	250	0	266	0	665	47	712	194	0	61	255	0	0	0	0	1233
% Cars & Buses	76.2	92.6	0	91.4	0	96.9	90.4	96.5	97.0	0	91.0	95.5	0	0	0	0	95.1
Trucks	5	20	0	25	0	21	5	26	6	0	6	12	0	0	0	0	63
% Trucks	23.8	7.4	0	8.6	0	3.1	9.6	3.5	3.0	0	9.0	4.5	0	0	0	0	4.9



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Parkway @ Summer Lake Road
7-9 am | 4-6 pm

File Name : 20240044
Site Code : 20240044
Start Date : 02-06-2024

Groups Printed- Cars & Buses - Trucks

	Riverside Parkway Northbound				Riverside Parkway Southbound				Summer Lake Road Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	212	0	215	0	100	6	106	22	0	7	29	0	0	0	0	350
07:15 AM	0	203	0	203	0	101	7	108	14	0	12	26	0	0	0	0	337
07:30 AM	5	206	0	211	0	101	10	111	9	0	8	17	0	0	0	0	339
07:45 AM	5	150	0	155	0	83	7	90	9	0	5	14	0	0	0	0	259
Total	13	771	0	784	0	385	30	415	54	0	32	86	0	0	0	0	1285
08:00 AM	4	154	0	158	0	77	6	83	7	0	5	12	0	0	0	0	253
08:15 AM	3	127	0	130	0	75	5	80	10	0	1	11	0	0	0	0	221
08:30 AM	4	112	0	116	0	75	7	82	10	0	2	12	0	0	0	0	210
08:45 AM	2	73	0	75	0	60	0	60	11	0	3	14	0	0	0	0	149
Total	13	466	0	479	0	287	18	305	38	0	11	49	0	0	0	0	833
*** BREAK ***																	
04:00 PM	3	92	0	95	0	138	16	154	9	0	2	11	0	0	0	0	260
04:15 PM	8	92	0	100	0	136	15	151	7	0	7	14	0	0	0	0	265
04:30 PM	3	89	0	92	0	188	8	196	18	0	5	23	0	0	0	0	311
04:45 PM	2	71	0	73	0	167	6	173	3	0	3	6	0	0	0	0	252
Total	16	344	0	360	0	629	45	674	37	0	17	54	0	0	0	0	1088
05:00 PM	3	118	0	121	0	201	15	216	7	0	2	9	0	0	0	0	346
05:15 PM	4	107	0	111	0	165	12	177	6	0	3	9	0	0	0	0	297
05:30 PM	5	121	0	126	0	190	17	207	7	0	6	13	0	0	0	0	346
05:45 PM	10	98	0	108	0	166	10	176	8	0	5	13	0	0	0	0	297
Total	22	444	0	466	0	722	54	776	28	0	16	44	0	0	0	0	1286
Grand Total	64	2025	0	2089	0	2023	147	2170	157	0	76	233	0	0	0	0	4492
Apprch %	3.1	96.9	0		0	93.2	6.8		67.4	0	32.6		0	0	0		
Total %	1.4	45.1	0	46.5	0	45	3.3	48.3	3.5	0	1.7	5.2	0	0	0	0	
Cars & Buses	63	1920	0	1983	0	1908	146	2054	157	0	76	233	0	0	0	0	4270
% Cars & Buses	98.4	94.8	0	94.9	0	94.3	99.3	94.7	100	0	100	100	0	0	0	0	95.1
Trucks	1	105	0	106	0	115	1	116	0	0	0	0	0	0	0	0	222
% Trucks	1.6	5.2	0	5.1	0	5.7	0.7	5.3	0	0	0	0	0	0	0	0	4.9

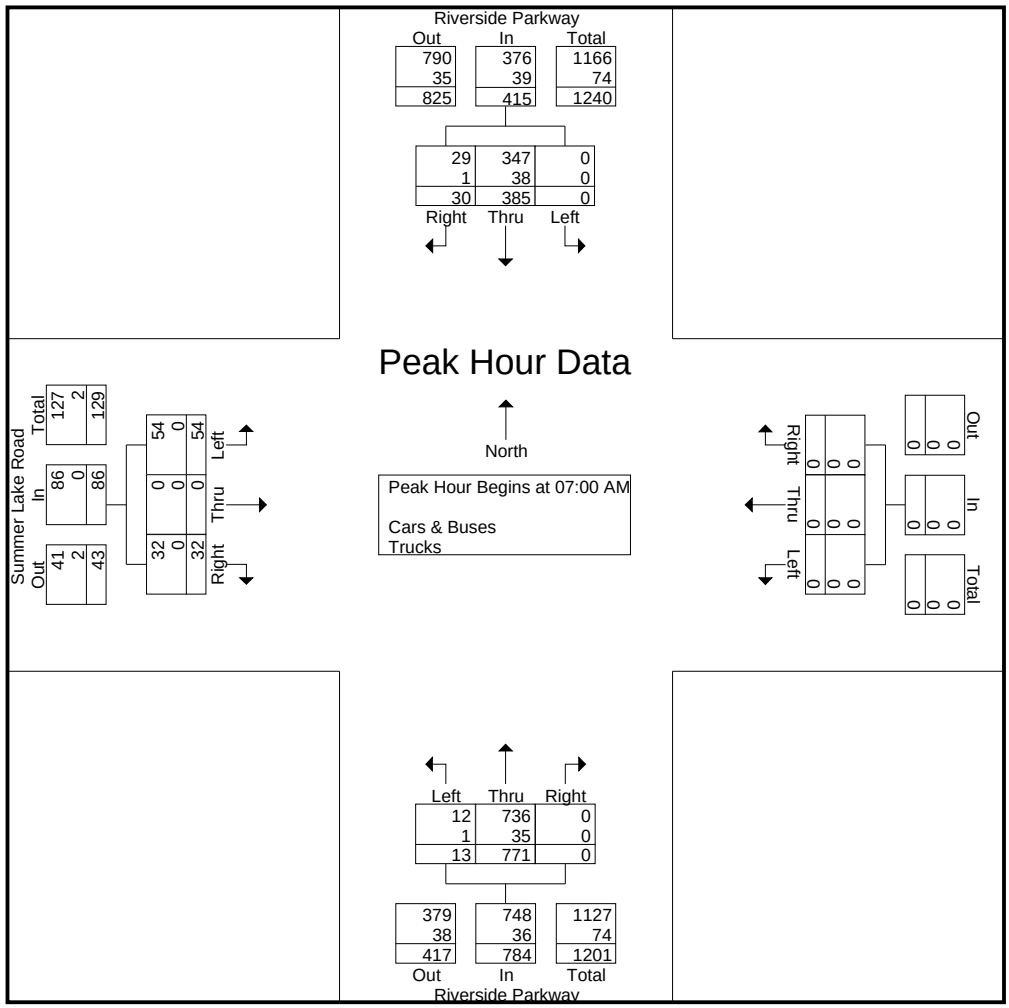
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Parkway @ Summer Lake Road
7-9 am | 4-6 pm

File Name : 20240044
Site Code : 20240044
Start Date : 02-06-2024
Page No : 2

	Riverside Parkway Northbound				Riverside Parkway Southbound				Summer Lake Road Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	3	**212**	0	**215**	0	100	6	106	**22**	0	7	**29**	0	0	0	0	**350**
07:15 AM	0	203	0	203	0	**101**	7	108	14	0	**12**	26	0	0	0	0	337
07:30 AM	**5**	206	0	211	0	101	**10**	**111**	9	0	8	17	0	0	0	0	339
07:45 AM	5	150	0	155	0	83	7	90	9	0	5	14	0	0	0	0	259
Total Volume	13	771	0	784	0	385	30	415	54	0	32	86	0	0	0	0	1285
% App. Total	1.7	98.3	0		0	92.8	7.2		62.8	0	37.2		0	0	0		
PHF	.650	.909	.000	.912	.000	.953	.750	.935	.614	.000	.667	.741	.000	.000	.000	.000	.918
Cars & Buses	12	736	0	748	0	347	29	376	54	0	32	86	0	0	0	0	1210
% Cars & Buses	92.3	95.5	0	95.4	0	90.1	96.7	90.6	100	0	100	100	0	0	0	0	94.2
Trucks	1	35	0	36	0	38	1	39	0	0	0	0	0	0	0	0	75
% Trucks	7.7	4.5	0	4.6	0	9.9	3.3	9.4	0	0	0	0	0	0	0	0	5.8



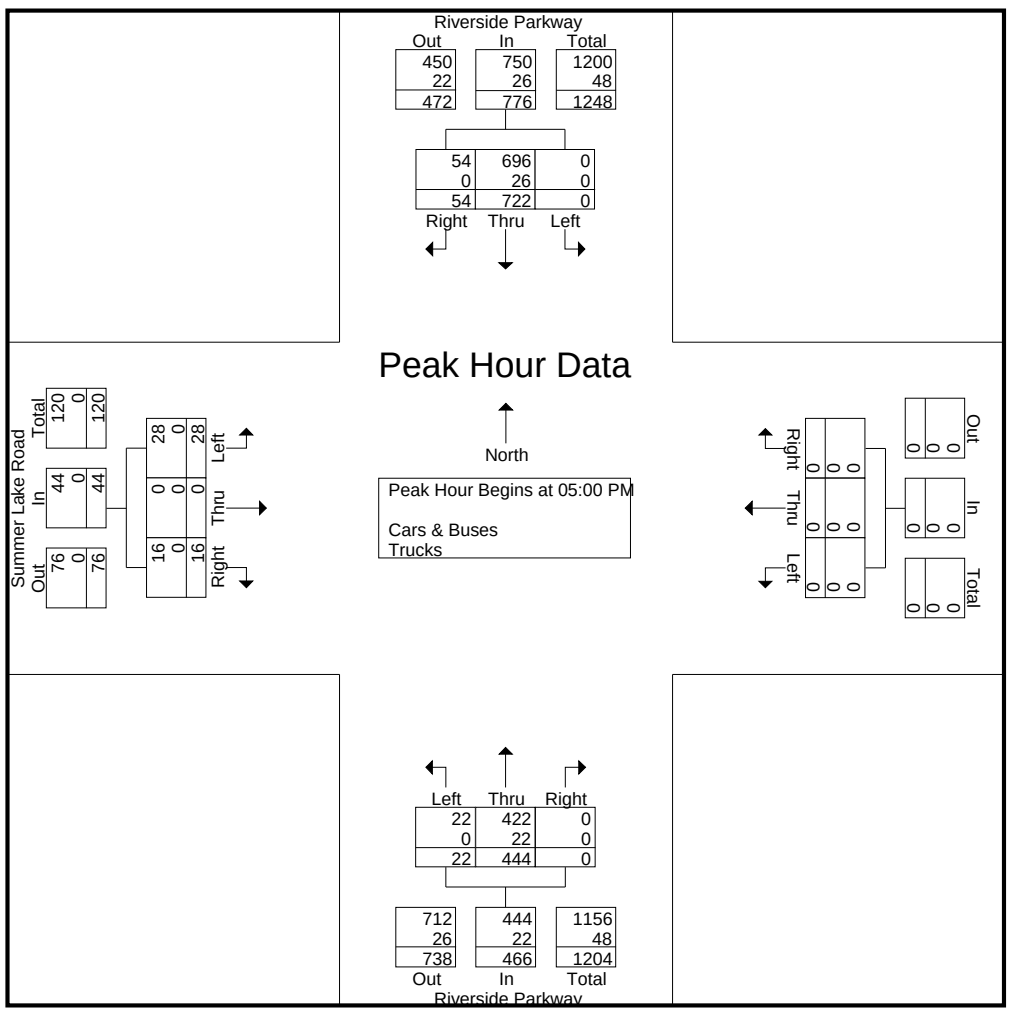
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Parkway @ Summer Lake Road
7-9 am | 4-6 pm

File Name : 20240044
Site Code : 20240044
Start Date : 02-06-2024
Page No : 3

	Riverside Parkway Northbound				Riverside Parkway Southbound				Summer Lake Road Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	3	118	0	121	0	**201**	15	**216**	7	0	2	9	0	0	0	0	**346**
05:15 PM	4	107	0	111	0	165	12	177	6	0	3	9	0	0	0	0	297
05:30 PM	5	**121**	0	**126**	0	190	**17**	207	7	0	**6**	**13**	0	0	0	0	346
05:45 PM	**10**	98	0	108	0	166	10	176	**8**	0	5	13	0	0	0	0	297
Total Volume	22	444	0	466	0	722	54	776	28	0	16	44	0	0	0	0	1286
% App. Total	4.7	95.3	0		0	93	7		63.6	0	36.4		0	0	0		
PHF	.550	.917	.000	.925	.000	.898	.794	.898	.875	.000	.667	.846	.000	.000	.000	.000	.929
Cars & Buses	22	422	0	444	0	696	54	750	28	0	16	44	0	0	0	0	1238
% Cars & Buses	100	95.0	0	95.3	0	96.4	100	96.6	100	0	100	100	0	0	0	0	96.3
Trucks	0	22	0	22	0	26	0	26	0	0	0	0	0	0	0	0	48
% Trucks	0	5.0	0	4.7	0	3.6	0	3.4	0	0	0	0	0	0	0	0	3.7



A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Pkwy @ Westpoint Parkway
7-9 am | 4-6 pm

File Name : 20240045
Site Code : 20240045
Start Date : 02-06-2024

Groups Printed- Cars & Buses - Trucks

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				Westpoint Parkway Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	242	0	248	0	90	6	96	1	0	0	1	0	0	0	0	345
07:15 AM	0	234	0	234	0	101	10	111	5	0	1	6	0	0	0	0	351
07:30 AM	4	233	0	237	0	106	10	116	7	0	1	8	0	0	0	0	361
07:45 AM	3	215	0	218	0	93	5	98	2	0	4	6	0	0	0	0	322
Total	13	924	0	937	0	390	31	421	15	0	6	21	0	0	0	0	1379
08:00 AM	4	168	0	172	0	80	9	89	3	0	1	4	0	0	0	0	265
08:15 AM	2	149	0	151	0	80	8	88	2	0	1	3	0	0	0	0	242
08:30 AM	7	131	0	138	0	93	7	100	2	0	2	4	0	0	0	0	242
08:45 AM	0	105	0	105	0	62	9	71	2	0	2	4	0	0	0	0	180
Total	13	553	0	566	0	315	33	348	9	0	6	15	0	0	0	0	929
*** BREAK ***																	
04:00 PM	1	101	0	102	0	146	7	153	11	0	6	17	0	0	0	0	272
04:15 PM	3	102	0	105	0	160	8	168	8	0	3	11	0	0	0	0	284
04:30 PM	1	99	0	100	0	162	3	165	17	0	15	32	0	0	0	0	297
04:45 PM	0	80	0	80	0	181	6	187	6	0	3	9	0	0	0	0	276
Total	5	382	0	387	0	649	24	673	42	0	27	69	0	0	0	0	1129
05:00 PM	3	131	0	134	0	205	3	208	9	0	4	13	0	0	0	0	355
05:15 PM	0	122	0	122	0	174	3	177	6	0	1	7	0	0	0	0	306
05:30 PM	1	130	0	131	0	210	6	216	11	0	1	12	0	0	0	0	359
05:45 PM	1	107	0	108	0	172	1	173	6	0	0	6	0	0	0	0	287
Total	5	490	0	495	0	761	13	774	32	0	6	38	0	0	0	0	1307
Grand Total	36	2349	0	2385	0	2115	101	2216	98	0	45	143	0	0	0	0	4744
Apprch %	1.5	98.5	0		0	95.4	4.6		68.5	0	31.5		0	0	0		
Total %	0.8	49.5	0	50.3	0	44.6	2.1	46.7	2.1	0	0.9	3	0	0	0	0	
Cars & Buses	26	2246	0	2272	0	2019	66	2085	69	0	36	105	0	0	0	0	4462
% Cars & Buses	72.2	95.6	0	95.3	0	95.5	65.3	94.1	70.4	0	80	73.4	0	0	0	0	94.1
Trucks	10	103	0	113	0	96	35	131	29	0	9	38	0	0	0	0	282
% Trucks	27.8	4.4	0	4.7	0	4.5	34.7	5.9	29.6	0	20	26.6	0	0	0	0	5.9

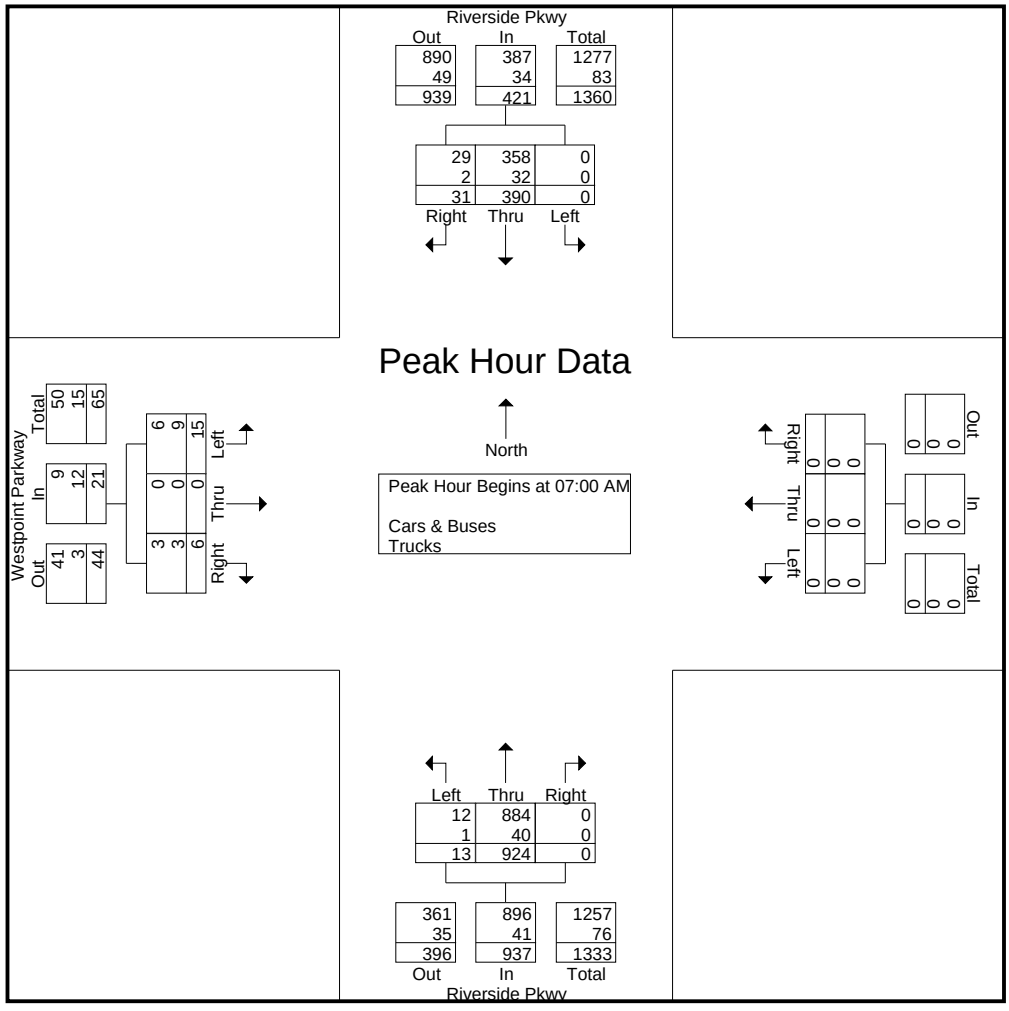
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Pkwy @ Westpoint Parkway
7-9 am | 4-6 pm

File Name : 20240045
Site Code : 20240045
Start Date : 02-06-2024
Page No : 2

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				Westpoint Parkway Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**6**	**242**	0	**248**	0	90	6	96	1	0	0	1	0	0	0	0	345
07:15 AM	0	234	0	234	0	101	**10**	111	5	0	1	6	0	0	0	0	351
07:30 AM	4	233	0	237	0	**106**	10	**116**	**7**	0	1	**8**	0	0	0	0	**361**
07:45 AM	3	215	0	218	0	93	5	98	2	0	**4**	6	0	0	0	0	322
Total Volume	13	924	0	937	0	390	31	421	15	0	6	21	0	0	0	0	1379
% App. Total	1.4	98.6	0		0	92.6	7.4		71.4	0	28.6		0	0	0		
PHF	.542	.955	.000	.945	.000	.920	.775	.907	.536	.000	.375	.656	.000	.000	.000	.000	.955
Cars & Buses	12	884	0	896	0	358	29	387	6	0	3	9	0	0	0	0	1292
% Cars & Buses	92.3	95.7	0	95.6	0	91.8	93.5	91.9	40.0	0	50.0	42.9	0	0	0	0	93.7
Trucks	1	40	0	41	0	32	2	34	9	0	3	12	0	0	0	0	87
% Trucks	7.7	4.3	0	4.4	0	8.2	6.5	8.1	60.0	0	50.0	57.1	0	0	0	0	6.3



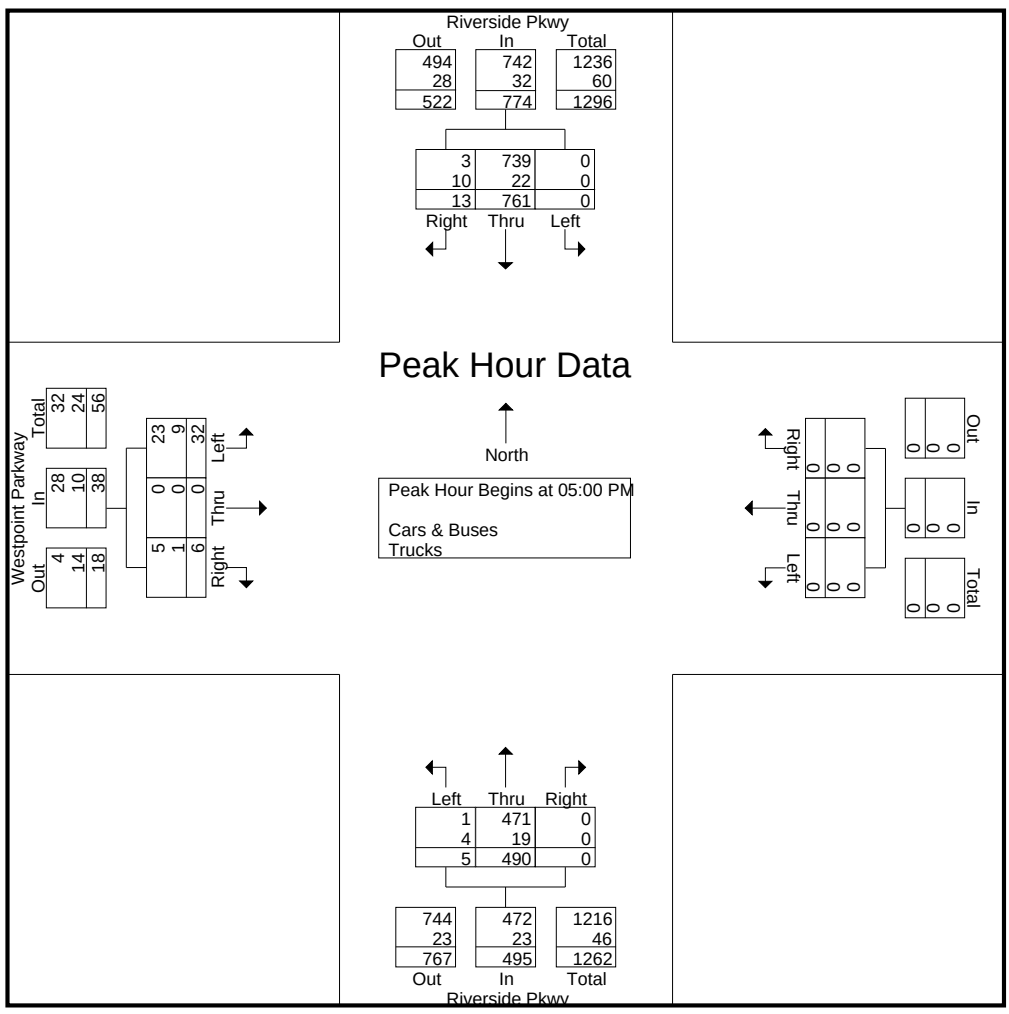
A & R Engineering, Inc.

2160 Kingston Court, Suite 'O'
Marietta, GA 30067

TMC Data
Riverside Pkwy @ Westpoint Parkway
7-9 am | 4-6 pm

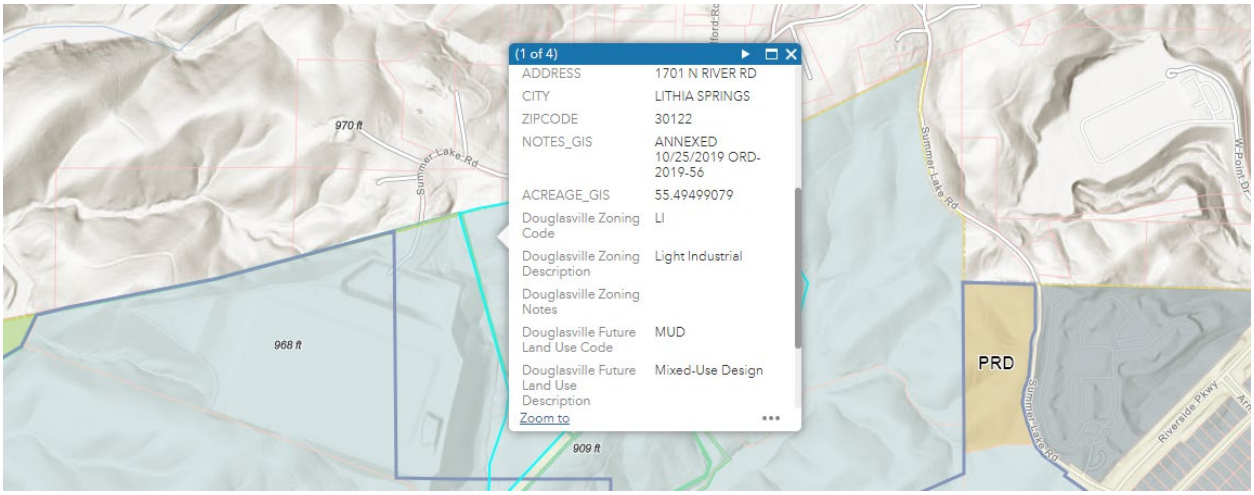
File Name : 20240045
Site Code : 20240045
Start Date : 02-06-2024
Page No : 3

	Riverside Pkwy Northbound				Riverside Pkwy Southbound				Westpoint Parkway Eastbound				Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**3**	**131**	0	**134**	0	205	3	208	9	0	**4**	**13**	0	0	0	0	355
05:15 PM	0	122	0	122	0	174	3	177	6	0	1	7	0	0	0	0	306
05:30 PM	1	130	0	131	0	**210**	**6**	**216**	**11**	0	1	12	0	0	0	0	**359**
05:45 PM	1	107	0	108	0	172	1	173	6	0	0	6	0	0	0	0	287
Total Volume	5	490	0	495	0	761	13	774	32	0	6	38	0	0	0	0	1307
% App. Total	1	99	0		0	98.3	1.7		84.2	0	15.8		0	0	0		
PHF	.417	.935	.000	.924	.000	.906	.542	.896	.727	.000	.375	.731	.000	.000	.000	.000	.910
Cars & Buses	1	471	0	472	0	739	3	742	23	0	5	28	0	0	0	0	1242
% Cars & Buses	20.0	96.1	0	95.4	0	97.1	23.1	95.9	71.9	0	83.3	73.7	0	0	0	0	95.0
Trucks	4	19	0	23	0	22	10	32	9	0	1	10	0	0	0	0	65
% Trucks	80.0	3.9	0	4.6	0	2.9	76.9	4.1	28.1	0	16.7	26.3	0	0	0	0	5.0



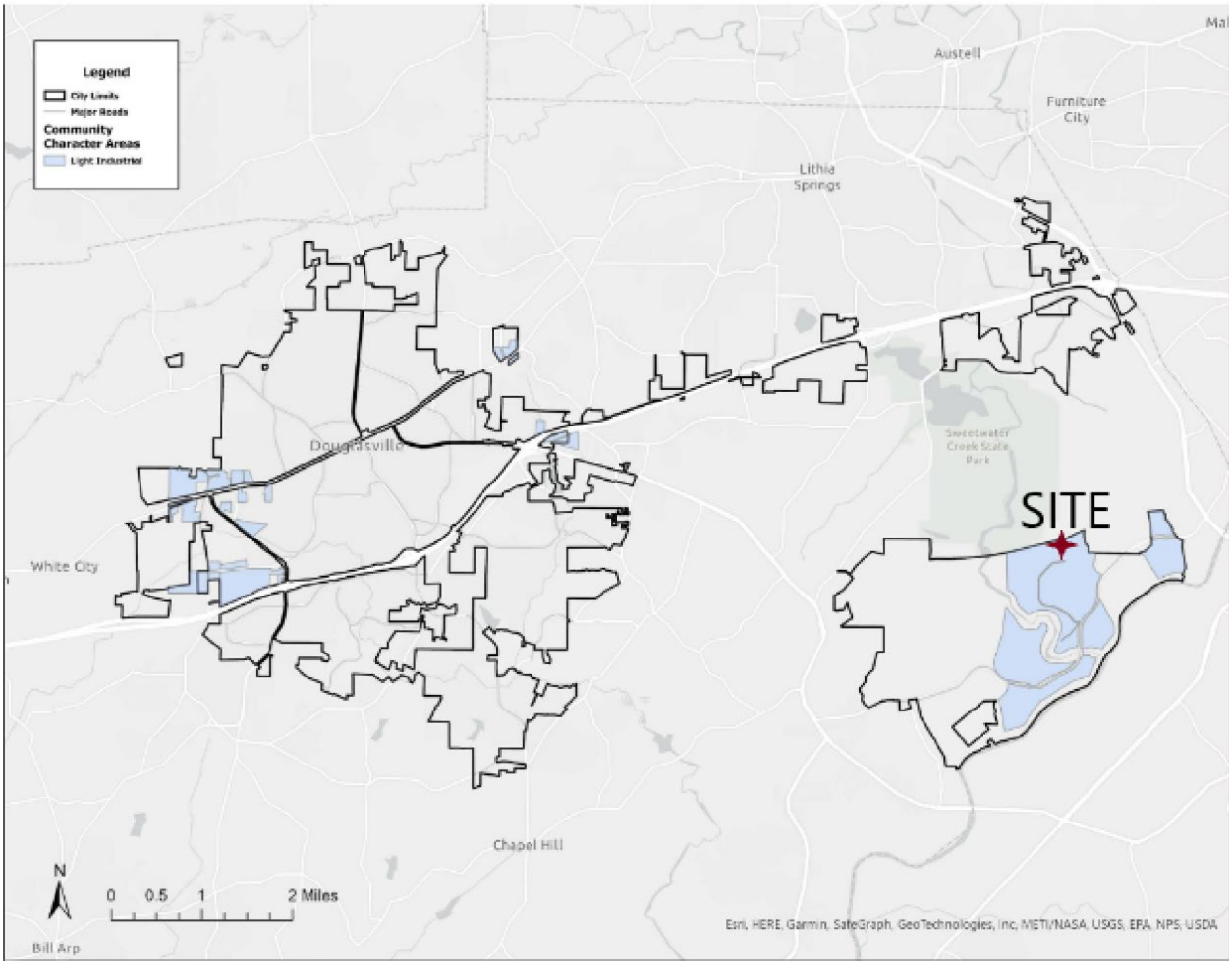
Character Areas

City of Douglasville Zoning Information



City of Douglasville's Light Industrial Character Area Map

LIGHT INDUSTRIAL CHARACTER AREAS



ARC's Growth Policy Map

GRTA Letter of Understanding

LETTER OF UNDERSTANDING

February 6, 2024

Chip Scaglione
DC BLOX
1040 Crown Pointe Parkway, Suite-560
Atlanta, Georgia 30338

RE: **DC BLOX - ATL West Data Center (DRI#: 4112)**

Dear Chip Scaglione:

The purpose of this Letter of Understanding is to document the discussions during the Methodology Meeting held virtually on January 29, 2024, regarding **DC BLOX - ATL West Data Center DRI#: 4112** Development of Regional Impact (DRI). The *GRTA DRI Review Procedures*, as well as the inputs and parameters documented in this Letter of Understanding and the revised Methodology Meeting Packet (sent on January 30,2024), shall be adhered to in preparing the GRTA required Transportation Study.

PROJECT OVERVIEW

- The proposed site is located at 1701 N River Rd., Lithia Springs, GA 30122. The development is located on North River Road in Douglasville. In general, the site is located to the south of I-20 and west of I-285. Latitude: 33° 44' 03" N, Longitude: 84° 36' 55" W.
- The proposed development includes two data center buildings (80MW with 498,315 SF and 40MW with 263,537 SF respectively) for a combined total of 761,852 SF.
- The projected build-out is one phase to be completed by 2026.
- The proposed development includes (3) site access along North River Rd. (Full Access), North River Rd. at cul-de-sac (Full Access), and Summer Lake Rd. (Emergency-Only Access).
- The DRI trigger for this development is a Land Disturbance Permit (LDP).
- The vehicular trip generation is estimated to be 754 net daily trips based on the *ITE Trip Generation Manual 11th edition.*
- The applicant is applying for approval under GRTA's expedited Traffic Impact Study review process.

STUDY NETWORK

1. Riverside Parkway @ North River Road
2. Riverside Parkway @ Summer Lake Road
3. Riverside Parkway @ Westpoint Parkway

METHODOLOGY MEETING PACKET INPUTS & PARAMETERS

- The Site Plan shall meet all the applicable requirements in Section 7.1 of the *GRTA DRI Review Procedures*.
- All Study Network intersections shall be analyzed during the AM and PM peak hours for (1) existing conditions, (2) future "no-build" conditions, and (3) future "build" conditions as specified in the *GRTA DRI Review Procedures*.
- This DRI shall be modeled and reviewed in one phase to be completed by 2026.

- The Level of Service (LOS) standard for all analysis shall be LOS D unless specified otherwise in Section 3.2.2.1. For example, a LOS E standard is allowed if the existing LOS for the intersection or approach is a LOS F.

- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account as required in Section 3.2.2.

- The trip generation calculations in the revised Methodology Meeting Packet shall be used in the Transportation Study. Mixed-use and pass-by reductions are not allowed for this site. Pass-by reductions shall not exceed 15% of a roadway's traffic volume standard established in Appendix 7.2.

- The trip assignment approach in the revised Methodology Meeting Packet shall be utilized for all Study Network intersection movements.

- The applicant shall research TIP, STIP, RTP and GDOT's construction work program, as well as any local government and transit operator plans (SPLOST, CIP, etc.), to determine the open date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. Programmed transportation projects anticipated to open on or before the Build Out year of the DRI Project shall be modeled as completed in the No-Build and Build conditions unless approved otherwise.

- A 3% annual traffic Background Growth Rate shall be used for all roadways.

- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA, unless specified otherwise. As specified in Section 2.3, turning movement counts shall be collected while local schools are in session, on a Tuesday, Wednesday or Thursday (unless approved otherwise) and not during holiday periods (weeks of July 4th, Thanksgiving and +/- 5 days of Christmas).

- If the *GRTA DRI Review Procedures* requires an Enhanced Focus Area for Heavy Vehicles or an Enhanced Focus Area for Dense Urban Environments, the Transportation Study shall incorporate the inputs and parameters agreed to at the Methodology Meeting and documented in the revised Methodology Meeting Packet. These inputs may include a Heavy Vehicle modeling percentages, a Heavy Vehicle route map, a pedestrian crosswalk delay adjustment and a bus blockage adjustment factor.

ADDITIONAL REQUIREMENTS

All applicable requirements of the *GRTA DRI Review Procedures* must be met for the Transportation Study to be considered complete. The *GRTA DRI Review Procedures* are located on GRTA's DRI website: https://www.srta.ga.gov/programs-projects/dev-of-regional-impact/ Contact GRTA staff if you have any questions on these requirements.

The Transportation Study shall also include as attachments the native LOS modeling file (i.e., Synchro modeling files) as well as the modeling reports (PDFs) for all Study Network intersections for the Existing, No-Build and Build conditions for all phases. The PDF reports shall be numbered (in page headers) and organized in order according to the Study Network numbering sequence in this Letter of Understanding. The reports shall also be organized in the following sequence: *Existing condition AM, Existing condition PM, No-build condition AM, No-Build condition PM, Build condition AM, Build condition PM*. If improvements are modeled, those PDFs shall be labeled as such and follow the appropriate condition's applicable peak period.

The Transportation Study appendices shall also include all turning movement count data, regardless of if using historic data or newly collected turning movement counts.

When documenting any Queue Length impacts required in Section 3.2.3.6, the TIS Executive Summary shall also note any individual *movements* not meeting the LOS standard where the DRI Project adds trips in the Build condition and exceeds available storage capacity for that movement.

When identifying mitigations in the existing, no-build and build conditions, the mitigations identified in preceding conditions shall not be modeled as complete when conducting the LOS analysis. The same mitigation may still be proposed as mitigation in the subsequent condition, but it shall not be included as completed in the default analysis.

For example, a turn lane may be identified as a needed improvement in the no-build condition. The turn lane should not be modeled as completed in the build condition. The turn lane should only be modeled as complete in the no-build with improvements condition and the build with improvements condition.

DRI REVIEW PACKAGE SUBMITTAL

GRTA will begin reviewing the DRI once the DRI Review Package is submitted and deemed complete. The DRI Review Package includes: the permitting Local Government inputting both Department of Community Affairs (DCA) forms into the DCA DRI website; and the **Traffic Engineer submittal of the GRTA Transportation Study (including LOS appendices, traffic count data and any other required attachments) and Site Plan to GRTA staff and ALL stakeholders included in the CC list of this Letter of Understanding**.

All DRI Review Packages shall be submitted electronically via email to all stakeholders in the CC list of the Letter of Understanding. If the DRI Review Package total file size is greater than 10 MB, the DRI Review Package shall be submitted via email with a FTP link provided for downloading the files.

Please contact me if you have any questions about the Letter of Understanding or the *GRTA DRI Review Procedures*.

Sincerely,

Brittany Williams
Program Manager

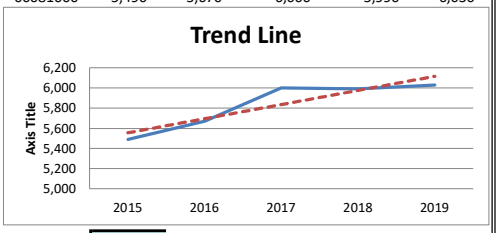
Cc:

Brittany Williams, GRTA/SRTA
Donald Shockey, ARC
Jonathan Philipsborn, ARC
Reginald James, ARC
Chip Scaglione, DC BLOX, Developer
Abdul Amer, A&R Engineering
Victor Garcia, A&R Engineering
Naser Omar, A&R Engineering
Dillon Callaham, Thomas & Hutton
Brad Sanderson, Thomas & Hutton
Chirag Date, Modern Mobility Partners
Marissa Jackson, Douglas County
Bruce Mercer, Douglas County
Marcus Thompson, Douglas County
Philip Shafer, Douglas County
Karla Poshedly, Douglas County
Amy Diaz, Cobb County
Ligia Florim, Cobb County
Donald Wells, Cobb County
Megan R. Wilson, GDOT District 7
Landon Perry, GDOT District 7

Linear Regression of Daily Traffic

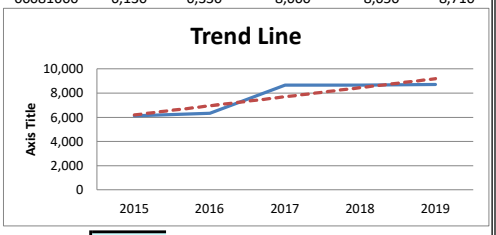
Location	Growth Rate	R Squared	Station ID	Route	2015	2016	2017	2018	2019
Riverside Pkwy (N of Riverside F	2.4%	0.83	097-0167	00081600	5,490	5,670	6,000	5,990	6,030
Riverside Pkwy (S of River Rd)	10.3%	0.78	097-0165	00081600	6,130	6,330	8,660	8,650	8,710
SR 6 (Thornton Rd) (E of Riversi	2.2%	0.74	097-0321	00000600	36,700	37,900	40,100	40,000	39,800
SR 92 (Fairburn Rd) (N of Rivers	2.6%	0.86	097-0067	00009200	26,600	27,500	29,100	29,100	29,400
Weighted Average	**3.1%**	0.80	Sum of Count Stations =		74,920	77,400	83,860	83,740	83,940

Location	Traffic Counter	RCLINK	2015	2016	2017	2018	2019
Riverside Pkwy (N of Riverside Rd)	097-0167	00081600	5,490	5,670	6,000	5,990	6,030



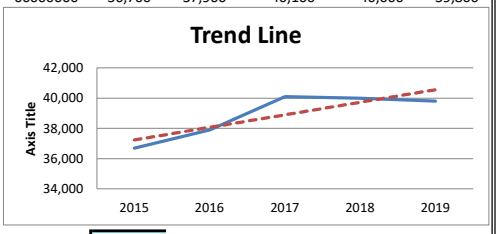
Growth Rate		2.4%	Intercept	-276,544	Slope	140.00
Trend Line		5,556	5,696	5,836	5,976	6,116

Location	Traffic Counter	RCLINK	2015	2016	2017	2018	2019
Riverside Pkwy (S of River Rd)	097-0165	00081600	6,130	6,330	8,660	8,650	8,710



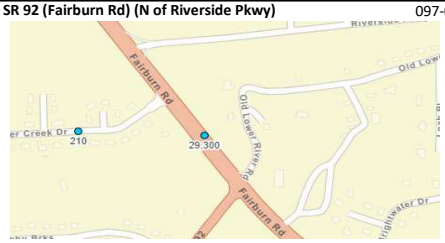
Growth Rate		10.3%	Intercept	-1,501,020	Slope	748.00
Trend Line		6,200	6,948	7,696	8,444	9,192

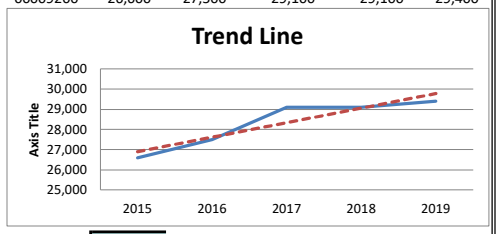
Location	Traffic Counter	RCLINK	2015	2016	2017	2018	2019
SR 6 (Thornton Rd) (E of Riverside Pkwy)	097-0321	00000600	36,700	37,900	40,100	40,000	39,800



Growth Rate		2.2%	Intercept	-1,635,210	Slope	830.00
Trend Line		37,240	38,070	38,900	39,730	40,560

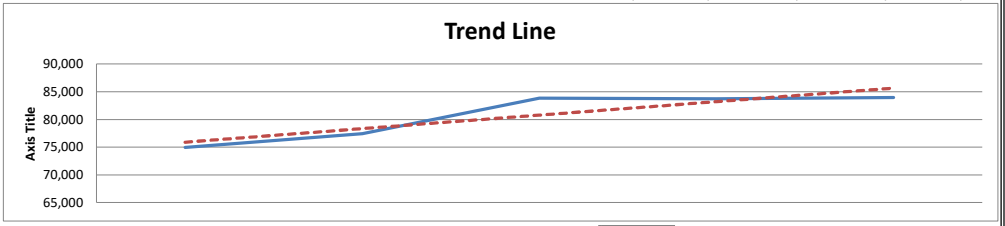
Location	Traffic Counter	RCLINK	2015	2016	2017	2018	2019
SR 92 (Fairburn Rd) (N of Riverside Pkwy)	097-0067	00009200	26,600	27,500	29,100	29,100	29,400





Growth Rate		2.6%	Intercept	-1,423,900	Slope	720.00
Trend Line		26,900	27,620	28,340	29,060	29,780

Weighted Average	2015	2016	2017	2018	2019
Sum of Count Stations	74,920	77,400	83,860	83,740	83,940



Growth Rate		3.1%	Intercept	-4,836,674	Slope	2,438.00
Trend Line		75,896	78,334	80,772	83,210	85,648

Fact Sheets for Planned and Programmed Improvements

Georgia Department of Transportation

Interoffice Memo
Office of Design Policy & Support

DATE: **11/1/2018**

FILE: P.I.# 0012877
Douglas County / GDOT District 7 - Metro Atlanta
Greenway Trail from Boundary Waters Park to Sweetwater Creek
Multi-use Trail

FROM: for Brent Story, State Design Policy Engineer

TO: SEE DISTRIBUTION

SUBJECT: **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

Distribution:
Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3
Albert Shelby, Director of Program Delivery
Darryl VanMeter, Assistant Director of P3/State Innovative Delivery Administrator
Kim Nesbitt, Program Delivery Administrator
Bobby Hilliard, Program Control Administrator
Paul Tanner, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Bill DuVall, State Bridge Engineer
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Erik Rohde, State Project Review Engineer
Monica Flournoy, State Materials Engineer
Patrick Allen, State Utilities Engineer
Benny Walden, Statewide Location Bureau Chief
Kathy Zahul, District Engineer
Paul DeNard, District Preconstruction Engineer
Shun Pringle, District Utilities Manager
Olusola Adekonojo, Project Manager
BOARD MEMBER - 13th Congressional District

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

LIMITED SCOPE PROJECT CONCEPT REPORT

Project Type:	Bike/Pedestrian	P.I. Number:	0012877
GDOT District:	7	County:	Douglas County
Federal Route Number:	N/A	State Route Number:	N/A
Project Number:	N/A		

A new alignment for an approximate 11 mile Shared-Use Path starting at Boundary Waters Park, Douglas County, GA, extending up to Sweetwater Creek State Park, Douglas County, GA. The Shared-Use Path will be 12' wide and will be constructed primarily of concrete and will utilize boardwalks and pedestrian bridges to minimize impacts to environmental resources where needed. This 11 mile segment is part of a 95 mile trail system associated with the Chattahoochee Country Greenway Masterplan developed in 2011.

** Updated report on 8-21-2018 and 10-10-2018 to address review comments

Submitted for approval:

M. S. [signature] — 6/18/18
Consultant Designer & Firm — Date

Miguel Valentin — 6/18/18
Douglas County DOT — Date 7/10/18

Kimberly W. Nesbitt
State Program Delivery Engineer — Date

[signature] PBE — 6/20/18
GDOT Project Manager — Date

*Recommendations on file

Recommendation for approval:

*Joseph Cavins/KLP — 7-24-2018
For District Engineer — Date

*Eric Duff/KLP — 7-13-2018
State Environmental Administrator — Date

*Bill DuVall/KLP — 8-8-2018
State Bridge Engineer — Date

*Erik Rohde/KLP — 7-24-2018
State Project Review Engineer

*Andrew Pearson/KLP — 7-25-2018
For State Traffic Engineer

☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

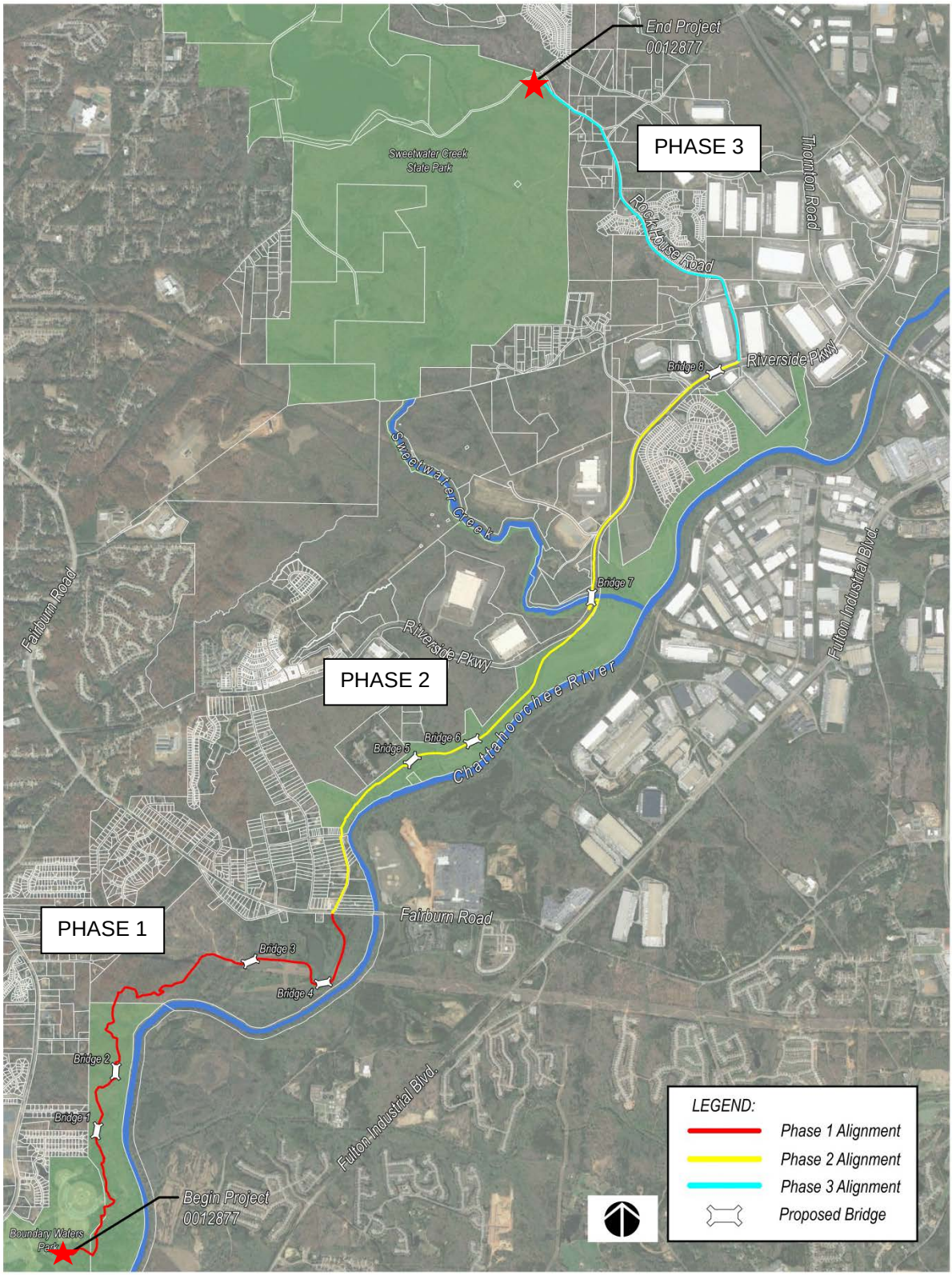
R. Paul Tanner — 7-16-18
State Transportation Planning Administrator — Date

Approval:

Concur: [signature] — 10-25-18
GDOT Director of Engineering — Date

Approve: Margaret B. Pirkle — 11/1/18
GDOT Chief Engineer — Date

PROJECT LOCATION



Chattahoochee Hill Country Trail - Phase 1, 2 and Phase 3

Scale = 1 : 1,000

PLANNING & BACKGROUND DATA

Project Justification Statement: This is a project for an approximately 11 mile trail section to establish a substantial link in the Chattahoochee Hill Country for an extention of the Regional Greenway Trail System. Completed in 2004, the Chattahoochee Hill Country Regional Greenway Trail Master Plan includes portions of four counties (Carroll, Coweta, Douglas, and Fulton) and the City of Chattahoochee Hills. A 98-mile trail is planned to interconnect all parts of the Chattahoochee Hill Country. Implementing this plan is a long-term project, with the first trail segment now open in the Boundary Waters Park in Douglas County: 3/4 of a mile of 100% accessible trail, 12-feet wide, concrete construction, that is suitable for walkers, runners, joggers, and cyclists. The trailhead is located behind the Boundary Waters Aquatic Center in the Boundary Waters Park located in Douglas County, Georgia.

Boundary Waters Park contains 9 miles of unimproved trails, 2 soccer fields, 8 baseball fields, a children's playground, stocked pond, and indoor aquatic center and is the southern termini of the project.

The northern termini is Sweetwater Creek State Park, considered one of the most popular parks in the State of Georgia with over 800,000 visitors each year. The 2,549-acre park includes the 215 acre George Sparks Reservoir, Sweetwater Creek, hiking trails, the ruins of a pre-Civil War textile mill, the New Manchester Manufacturing Company Mill and visitor’s center with a museum.

This project, P.I.# 0012877, is a proposed 11-mile link between Sweetwater Creek State Park at the northern termini and Boundary Waters Park at the southern project termini connecting to the existing .75 mile trail generally following the Chattahoochee River, Riverside Parkway and Rockhouse Road.

This hard surface shared-use path will provide pedestrian and bicyclist access from Boundary Waters Park to Sweetwater Creek State Park in Douglas County, that will follow the Chattahoochee River, Riverside Parkway, and Rock House Road.

Existing conditions: The guiding regulation used in determining the concept alignment for this project is the Metropolitan River Protection Act of Georgia, or MRPA. The Chattahoochee River is the largest river in metro Atlanta and one of the region’s most valuable resources, serving as the primary source of drinking water for millions of residents. In 1973, the Georgia General Assembly adopted the Metropolitan River Protection Act (MRPA) , which protected a 48-mile stretch of the Chattahoochee River between Buford Dam and Peachtree Creek by creating a 2,000 foot buffer along both banks of the river and its impoundments. The Act was amended in 1998 to extend the Corridor an additional 36 miles to the downstream limits of Fulton and Douglas counties.

Metropolitan River Protection Act Need and Purpose/General Guidelines:

MRPA is designed to protect the water quality and environs of the Chattahoochee River for:

- The region’s primary source of drinking water.
- A major recreation area that includes the Chattahoochee River National Recreation Area and the nation’s first National Water Trail.
- One of the southern-most trout streams in the United States (and one of the very few located in a major metropolitan area).
- Chattahoochee Corridor Plan.
- MRPA directed the Atlanta Regional Council, or ARC, to develop and adopt a plan to protect the Chattahoochee River Corridor and to review development proposals to ensure they are consistent with the plan. This requirement was met in 1973 with the adoption of the Chattahoochee Corridor Plan, and amended in 1998 by the adoption of the Chattahoochee River from Peachtree Creek to West Point lake Corridor Plan Study.

Under MRPA, land-disturbing activity in the Chattahoochee corridor must comply with the adopted plan to be legal. Local governments in the corridor are required to:

- Issue permits based on ARC findings.
- Monitor land-disturbing activity in the corridor.
- Ensure that land-disturbing activity in the corridor complies with the plan.
- Chattahoochee Corridor Plan Goals.

- Preservation and protection of water quality as a principal objective.
- Protection of recreational values. These values include scenic views, historic and other unique areas, and controlled public access and use.
- Protection of private property rights of landowners.
- Prevention of activities that contribute to floods and flood damage.
- Control of erosion and siltation.
- Control of intensity of development.
- Location and design of land uses in such a way as to minimize the adverse impact of urban development on the Chattahoochee River (the "River") and flood plains.
- Chattahoochee Corridor Plan Summary.
- The plan establishes three sets of development standards that must be met in order to reduce the impact of development on the river.

Vulnerability Standards:
- Based on the characteristics of the land, all land in the corridor fits one of six vulnerability categories.
- For each vulnerability category, there is a maximum percentage of allowable land disturbance and impervious surface.
- Land disturbance includes any activity that disturbs the land or existing vegetation.
- Impervious surface includes any paved, hardened or structural surface, regardless of material, and includes buildings, driveways, decks, patios, pools, etc.

Buffer Zone Standards:
- 50-foot undisturbed vegetative buffer along the river and its impoundments
- 35-foot undisturbed vegetative buffer along flowing streams in the corridor
- 150-foot impervious surface setback along the river and its impoundments

Floodplain Standards:
- Balancing fill with an equal volume of cut in the river's 100-year floodplain
- No blocking of flood flows
- 35-foot height limit above existing grade for all structures except bridges in the river's 500-year floodplain

MRPA Reviews:
- All land-disturbing activity in the corridor must be reviewed, approved and certified for consistency with Corridor Plan standards. ARC has adopted MRPA Rules and Regulations that explain the procedures and requirements for corridor reviews.

Project Description: Phase 1 of the project proposes a shared-use path which alignment is through property associated with Boundary Waters Park and land owned by Sweetwater Creek State Park. The southern section of the alignment will branch from an existing concrete shared-use trail in Boundary Waters Park. The alignment will follow a pre-existing earthen trail through wooded rolling terrain and at some points run alongside the Chattahoochee River. Some portions of the alignment will also follow along existing utility easements terminating phase 1 at Fairburn Road. Heading in a northernly direction, Phase 2 of the project will follow the western Right of Way of Riverside Drive past an existing Sand Mining Operation running north easterly adjacent to the Chattahoochee River and then along Riverside Parkway across Sweetwater Creek with a new pedestrian/bike bridge ending phase 2 at Rock House Road. Phase 3 of the project will start at the intersection of Rockhouse Road and Riverside Parkway and will continue up Rockhouse Road along the western side of the Road's Right of Way with the logical termini at the intersection of Old Factory Shoals Road and Factory Shoals Road within Sweetwater Creek State Park. Overall, the topography is varied with a mix of Piedmont Rolling Hills and flat flood plains. The proposed alignment tries to follow existing trails, road beds, easements with careful attention to avoid or minimize impacts to environmental resources. mostly wooded, rolling hills and follows parallel with the river where possible.

Other projects in the area:
- PI 721770 SR 166 FM Old Lower River Road/Douglas to SR 70/Fulton
- PI 0015072 CR 816/RIVERSIDE PKWY @ SWEETWATER CREEK IN DOUGLASVILLE- Bridge Rehabilitation Project

Description of the other projects in the area:

- PI 721770 begins in Douglas County at Mile Post 19.11 on SR 166 east of the intersection with Old Lower River Road and continues to the Douglas/Fulton County line at Mile Post 20.80. The project then crosses the Chattahoochee River into Fulton County at Mile Post 0.00 and ends just east of the intersection of SR 166 and Fulton Industrial Boulevard at Mile Post 1.37. The total project length is 3.06 miles. The proposed project would widen and reconstruct SR 166 from Old Lower River Road in Douglas County to SR 70 in Fulton County. Proposed Typical Section: Four 12 foot travel lanes in each direction with a 24 foot raised median and 10 foot (6.5 foot paved, 3.5 foot grassed) rural shoulders. Proposed Bridge Configuration: The existing 48 foot bridge will be widened 48 feet to accommodate four 12 foot travel lanes and a 24 foot raised median.
- PI 0015072 will be to rehabilitate the existing 280 ft. long bridge at Sweetwater Creek. The work will include a detailed inspection including the joints, bearings, beams, and substructure. Plans will be prepared for strengthening the intermediate concrete bent caps by encasing with cast-in-place reinforced concrete. Plans and special provisions will be prepared for the bent repair, joint replacement, steel beam painting, deck polymer overlay, bearing replacement, and scour repair. Construction phase services will be limited to shop drawing review and responding to contractor requests for information. Environmental work will include ecological services, USACE permit preparation, cultural resource services, air and noise assessments, and NEPA documentation.

MPO: Atlanta TMA **TIP #:** DO-298

Congressional District(s): 13

Federal Oversight: ☒Exempt ☐State Funded ☐Other

Functional Classification (Mainline): Not Applicable

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:

Warrants met: ☐None ☒Bicycle ☒Pedestrian ☐Transit

Pavement Evaluation and Recommendations

Preliminary Pavement Evaluation Summary Report Required? ☒No ☐Yes

Preliminary Pavement Type Selection Report Required? ☒No ☐Yes

Feasible Pavement Alternatives: ☐HMA ☒PCC ☐HMA & PCC

Existing Intersection Analysis

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	25	18	747	346	71
Future Vol, veh/h	37	25	18	747	346	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	16	20	11	9	9	6
Mvmt Flow	40	27	19	803	372	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1213	372	372	0	-	0
Stage 1	372	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Critical Hdwy	6.56	6.4	4.21	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	3.48	2.299	-	-	-
Pot Cap-1 Maneuver	188	636	1139	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	185	636	1139	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1139	-	310	-	-
HCM Lane V/C Ratio	0.017	-	0.215	-	-
HCM Control Delay (s)	8.2	-	19.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	32	13	771	385	30
Future Vol, veh/h	54	32	13	771	385	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	9	9	3
Mvmt Flow	59	35	14	838	418	33

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1301	435	451	0	-	0
Stage 1	435	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	178	621	1078	-	-	-
Stage 1	653	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	174	621	1078	-	-	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	637	-	-	-	-	-
Stage 2	412	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1078	-	238	-	-
HCM Lane V/C Ratio	0.013	-	0.393	-	-
HCM Control Delay (s)	8.4	0	29.6	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0	-	1.8	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	6	13	924	390	31
Future Volume (vph)	15	6	13	924	390	31
Lane Group Flow (vph)	16	6	14	973	411	33
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	53.5	53.5	53.5	53.5
Total Split (%)	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.13	0.05	0.02	0.62	0.26	0.02
Control Delay	33.4	21.0	2.1	5.4	2.2	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	21.0	2.1	5.4	2.2	1.0
Queue Length 50th (ft)	5	0	0	0	0	0
Queue Length 95th (ft)	25	11	5	358	82	5
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	411	396	825	1568	1568	1361
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	0.04	0.02	0.02	0.62	0.26	0.02

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 61.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	6	13	924	390	31
Future Volume (veh/h)	15	6	13	924	390	31
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1011	1159	1781	1767	1767	1796
Adj Flow Rate, veh/h	16	0	14	973	411	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	60	50	8	9	9	7
Cap, veh/h	19		769	1300	1300	
Arrive On Green	0.02	0.00	0.74	0.74	0.74	0.00
Sat Flow, veh/h	963	982	928	1767	1767	1522
Grp Volume(v), veh/h	16	0	14	973	411	0
Grp Sat Flow(s),veh/h/ln	963	982	928	1767	1767	1522
Q Serve(g_s), s	0.7	0.0	0.2	14.6	3.6	0.0
Cycle Q Clear(g_c), s	0.7	0.0	3.8	14.6	3.6	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	19		769	1300	1300	
V/C Ratio(X)	0.83		0.02	0.75	0.32	
Avail Cap(c_a), veh/h	448		1074	1881	1881	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.0	0.0	2.7	3.5	2.0	0.0
Incr Delay (d2), s/veh	55.5	0.0	0.0	1.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.7	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	77.6	0.0	2.7	5.4	2.3	0.0
LnGrp LOS	E		A	A	A	
Approach Vol, veh/h	16			987	411	
Approach Delay, s/veh	77.6			5.4	2.3	
Approach LOS	E			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	38.7				38.7	6.4
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	48.0				48.0	21.0
Max Q Clear Time (g_c+I1), s	5.6				16.6	2.7
Green Ext Time (p_c), s	5.3				16.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	16.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	200	67	21	270	686	52
Future Vol, veh/h	200	67	21	270	686	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	9	24	9	9	10
Mvmt Flow	213	71	22	287	730	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1061	730	730	0	-	0
Stage 1	730	-	-	-	-	-
Stage 2	331	-	-	-	-	-
Critical Hdwy	6.43	6.29	4.34	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.381	2.416	-	-	-
Pot Cap-1 Maneuver	247	411	782	-	-	-
Stage 1	475	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	240	411	782	-	-	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	462	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	78.4	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	782	-	299	-	-
HCM Lane V/C Ratio	0.029	-	0.95	-	-
HCM Control Delay (s)	9.7	-	78.4	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	9.4	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	16	22	444	722	54
Future Vol, veh/h	28	16	22	444	722	54
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	9	9	2
Mvmt Flow	30	17	24	477	776	58

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1330	805	834	0	-	0
Stage 1	805	-	-	-	-	-
Stage 2	525	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	171	382	799	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	382	799	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	27.5	0.5	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	799	-	207	-	-
HCM Lane V/C Ratio	0.03	-	0.229	-	-
HCM Control Delay (s)	9.6	0	27.5	-	-
HCM Lane LOS	A	A	D	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	6	5	490	761	13
Future Volume (vph)	32	6	5	490	761	13
Lane Group Flow (vph)	35	7	5	538	836	14
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	43.5	43.5	43.5	43.5
Total Split (%)	37.9%	37.9%	62.1%	62.1%	62.1%	62.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.17	0.03	0.02	0.35	0.55	0.02
Control Delay	24.7	14.8	3.2	3.4	5.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	14.8	3.2	3.4	5.4	1.8
Queue Length 50th (ft)	8	0	0	0	0	0
Queue Length 95th (ft)	32	9	3	129	282	4
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	618	608	267	1495	1495	784
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	0.06	0.01	0.02	0.36	0.56	0.02

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 50.4
Natural Cycle: 70
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	32	6	5	490	761	13
Future Volume (veh/h)	32	6	5	490	761	13
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1485	1648	714	1767	1767	759
Adj Flow Rate, veh/h	35	0	5	538	836	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	28	17	80	9	9	77
Cap, veh/h	58		284	1173	1173	
Arrive On Green	0.04	0.00	0.66	0.66	0.66	0.00
Sat Flow, veh/h	1414	1397	251	1767	1767	643
Grp Volume(v), veh/h	35	0	5	538	836	0
Grp Sat Flow(s),veh/h/ln	1414	1397	251	1767	1767	643
Q Serve(g_s), s	0.9	0.0	0.5	5.5	11.2	0.0
Cycle Q Clear(g_c), s	0.9	0.0	11.7	5.5	11.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	58		284	1173	1173	
V/C Ratio(X)	0.61		0.02	0.46	0.71	
Avail Cap(c_a), veh/h	796		373	1800	1800	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	0.0	7.7	3.0	4.0	0.0
Incr Delay (d2), s/veh	9.9	0.0	0.1	0.6	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	0.2	0.6	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.5	0.0	7.8	3.6	5.7	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	35			543	836	
Approach Delay, s/veh	27.5			3.7	5.7	
Approach LOS	C			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	30.3				30.3	7.0
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	38.0				38.0	21.0
Max Q Clear Time (g_c+I1), s	13.2				13.7	2.9
Green Ext Time (p_c), s	11.5				6.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

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

Future “No-Build” Intersection Analysis

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	87	59	59	792	367	133
Future Vol, veh/h	87	59	59	792	367	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	16	20	11	9	9	6
Mvmt Flow	94	63	63	852	395	143

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1373	395	395	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	978	-	-	-	-	-
Critical Hdwy	6.56	6.4	4.21	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	3.48	2.299	-	-	-
Pot Cap-1 Maneuver	150	617	1116	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	344	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	142	617	1116	-	-	-
Mov Cap-2 Maneuver	142	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.3	0.6	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1116	-	238	-	-
HCM Lane V/C Ratio	0.057	-	0.66	-	-
HCM Control Delay (s)	8.4	-	45.3	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.2	-	4.1	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	34	14	865	466	32
Future Vol, veh/h	57	34	14	865	466	32
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	8	9	9	3
Mvmt Flow	62	37	15	940	507	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1495	525	542	0	-	0
Stage 1	525	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	135	552	997	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	368	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	552	997	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	368	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	45.7	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	997	-	183	-	-
HCM Lane V/C Ratio	0.015	-	0.541	-	-
HCM Control Delay (s)	8.7	0	45.7	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	2.8	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	6	14	1027	471	33
Future Volume (vph)	16	6	14	1027	471	33
Lane Group Flow (vph)	17	6	15	1081	496	35
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	63.5	63.5	63.5	63.5
Total Split (%)	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.15	0.05	0.02	0.68	0.31	0.03
Control Delay	39.4	23.7	1.9	6.3	2.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.4	23.7	1.9	6.3	2.2	0.8
Queue Length 50th (ft)	6	0	0	0	0	0
Queue Length 95th (ft)	29	12	5	482	104	5
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	344	333	766	1576	1576	1367
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	0.05	0.02	0.02	0.69	0.31	0.03

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 72.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	6	14	1027	471	33
Future Volume (veh/h)	16	6	14	1027	471	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1011	1159	1781	1767	1767	1796
Adj Flow Rate, veh/h	17	0	15	1081	496	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	60	50	8	9	9	7
Cap, veh/h	20		725	1375	1375	
Arrive On Green	0.02	0.00	0.78	0.78	0.78	0.00
Sat Flow, veh/h	963	982	859	1767	1767	1522
Grp Volume(v), veh/h	17	0	15	1081	496	0
Grp Sat Flow(s),veh/h/ln	963	982	859	1767	1767	1522
Q Serve(g_s), s	1.0	0.0	0.3	19.1	4.7	0.0
Cycle Q Clear(g_c), s	1.0	0.0	5.0	19.1	4.7	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	20		725	1375	1375	
V/C Ratio(X)	0.85		0.02	0.79	0.36	
Avail Cap(c_a), veh/h	369		966	1870	1870	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.7	0.0	2.6	3.5	1.9	0.0
Incr Delay (d2), s/veh	58.6	0.0	0.0	2.6	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.0	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	85.3	0.0	2.7	6.0	2.2	0.0
LnGrp LOS	F		A	A	A	
Approach Vol, veh/h	17			1096	496	
Approach Delay, s/veh	85.3			6.0	2.2	
Approach LOS	F			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	48.2				48.2	6.6
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	58.0				58.0	21.0
Max Q Clear Time (g_c+I1), s	6.7				21.1	3.0
Green Ext Time (p_c), s	6.9				21.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	92.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	273	112	40	286	727	82
Future Vol, veh/h	273	112	40	286	727	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	9	24	9	9	10
Mvmt Flow	290	119	43	304	773	87

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1163	773	773	0	-	0
Stage 1	773	-	-	-	-	-
Stage 2	390	-	-	-	-	-
Critical Hdwy	6.43	6.29	4.34	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.381	2.416	-	-	-
Pot Cap-1 Maneuver	~ 214	388	752	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 202	388	752	-	-	-
Mov Cap-2 Maneuver	~ 202	-	-	-	-	-
Stage 1	428	-	-	-	-	-
Stage 2	682	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 364.4	1.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	752	-	242	-	-
HCM Lane V/C Ratio	0.057	-	1.692	-	-
HCM Control Delay (s)	10.1	-	-$ 364.4	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	26.7	-	-

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	17	23	532	792	57
Future Vol, veh/h	30	17	23	532	792	57
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	9	9	2
Mvmt Flow	32	18	25	572	852	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1505	883	913	0	-	0
Stage 1	883	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	133	345	746	-	-	-
Stage 1	404	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	126	345	746	-	-	-
Mov Cap-2 Maneuver	126	-	-	-	-	-
Stage 1	384	-	-	-	-	-
Stage 2	535	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.4	0.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	746	-	164	-	-
HCM Lane V/C Ratio	0.033	-	0.308	-	-
HCM Control Delay (s)	10	0	36.4	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	6	5	580	834	14
Future Volume (vph)	34	6	5	580	834	14
Lane Group Flow (vph)	37	7	5	637	916	15
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	53.5	53.5	53.5	53.5
Total Split (%)	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.21	0.04	0.02	0.43	0.63	0.02
Control Delay	31.7	17.3	3.2	4.4	7.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	17.3	3.2	4.4	7.0	1.6
Queue Length 50th (ft)	16	0	1	87	168	0
Queue Length 95th (ft)	39	11	3	166	343	4
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	527	520	226	1465	1465	769
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.01	0.02	0.43	0.63	0.02

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 61
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	6	5	580	834	14
Future Volume (veh/h)	34	6	5	580	834	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1485	1648	714	1767	1767	759
Adj Flow Rate, veh/h	37	0	5	637	916	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	28	17	80	9	9	77
Cap, veh/h	59		256	1250	1250	
Arrive On Green	0.04	0.00	0.71	0.71	0.71	0.00
Sat Flow, veh/h	1414	1397	233	1767	1767	643
Grp Volume(v), veh/h	37	0	5	637	916	0
Grp Sat Flow(s),veh/h/ln	1414	1397	233	1767	1767	643
Q Serve(g_s), s	1.1	0.0	0.6	7.2	13.8	0.0
Cycle Q Clear(g_c), s	1.1	0.0	14.4	7.2	13.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	59		256	1250	1250	
V/C Ratio(X)	0.63		0.02	0.51	0.73	
Avail Cap(c_a), veh/h	678		346	1937	1937	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.7	0.0	8.3	2.9	3.9	0.0
Incr Delay (d2), s/veh	10.7	0.0	0.1	0.7	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.3	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.4	0.0	8.3	3.6	5.7	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	37			642	916	
Approach Delay, s/veh	31.4			3.7	5.7	
Approach LOS	C			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	36.5				36.5	7.3
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	48.0				48.0	21.0
Max Q Clear Time (g_c+I1), s	15.8				16.4	3.1
Green Ext Time (p_c), s	15.2				9.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

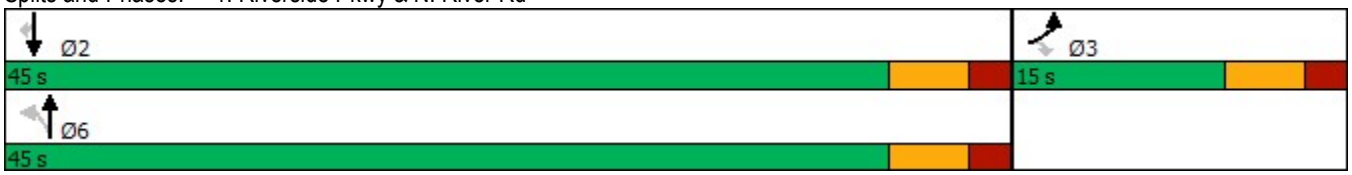
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Future “No-Build” Intersection Analysis with Improvements

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	59	59	792	367	133
Future Volume (vph)	87	59	59	792	367	133
Lane Group Flow (vph)	94	63	63	852	395	143
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	28.5	28.5	28.5	28.5
Total Split (s)	15.0	15.0	45.0	45.0	45.0	45.0
Total Split (%)	25.0%	25.0%	75.0%	75.0%	75.0%	75.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.39	0.24	0.10	0.68	0.31	0.13
Control Delay	27.6	9.8	4.2	9.9	5.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.6	9.8	4.2	9.9	5.0	1.1
Queue Length 50th (ft)	28	0	6	158	48	0
Queue Length 95th (ft)	69	28	18	303	89	14
Internal Link Dist (ft)	583			1053	851	
Turn Bay Length (ft)		150	255			270
Base Capacity (vph)	292	304	686	1321	1321	1190
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	0.32	0.21	0.09	0.64	0.30	0.12

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 52.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Riverside Pkwy & N. River Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	59	59	792	367	133
Future Volume (veh/h)	87	59	59	792	367	133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1663	1604	1737	1767	1767	1811
Adj Flow Rate, veh/h	94	0	63	852	395	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	20	11	9	9	6
Cap, veh/h	126		686	1163	1163	
Arrive On Green	0.08	0.00	0.66	0.66	0.66	0.00
Sat Flow, veh/h	1584	1359	919	1767	1767	1535
Grp Volume(v), veh/h	94	0	63	852	395	0
Grp Sat Flow(s),veh/h/ln	1584	1359	919	1767	1767	1535
Q Serve(g_s), s	2.4	0.0	1.4	13.3	4.1	0.0
Cycle Q Clear(g_c), s	2.4	0.0	5.5	13.3	4.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	126		686	1163	1163	
V/C Ratio(X)	0.75		0.09	0.73	0.34	
Avail Cap(c_a), veh/h	358		946	1663	1663	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.9	0.0	4.4	4.7	3.2	0.0
Incr Delay (d2), s/veh	8.6	0.0	0.1	2.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.1	1.3	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.5	0.0	4.5	6.7	3.5	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	94			915	395	
Approach Delay, s/veh	27.5			6.6	3.5	
Approach LOS	C			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	33.1				33.1	8.8
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	39.5				39.5	9.5
Max Q Clear Time (g_c+I1), s	6.1				15.3	4.4
Green Ext Time (p_c), s	4.8				12.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	7.1
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	34	14	865	466	32
Future Vol, veh/h	57	34	14	865	466	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	9	9	3
Mvmt Flow	62	37	15	940	507	35

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1495	525	542	0	-	0
Stage 1	525	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-	-
Pot Cap-1 Maneuver	137	556	997	-	-	-
Stage 1	598	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	133	556	997	-	-	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	44.4	0.1	0
HCM LOS	E		

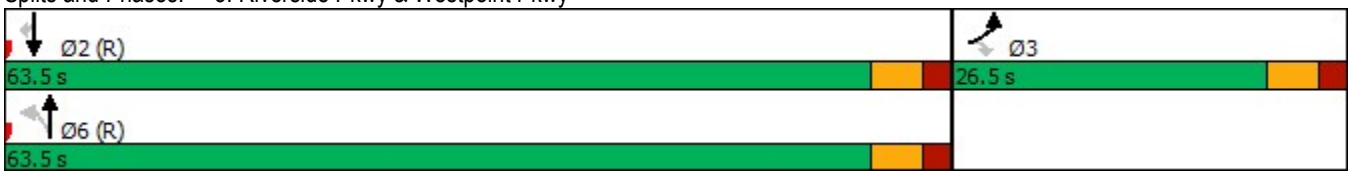
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	997	-	186	-	-
HCM Lane V/C Ratio	0.015	-	0.532	-	-
HCM Control Delay (s)	8.7	0	44.4	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	2.7	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	6	14	1027	471	33
Future Volume (vph)	16	6	14	1027	471	33
Lane Group Flow (vph)	17	6	15	1081	496	35
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	63.5	63.5	63.5	63.5
Total Split (%)	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.19	0.07	0.02	0.68	0.31	0.03
Control Delay	43.1	24.0	1.9	6.3	2.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	24.0	1.9	6.3	2.2	0.8
Queue Length 50th (ft)	9	0	0	0	0	0
Queue Length 95th (ft)	29	12	5	482	104	5
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	263	255	774	1591	1591	1380
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	0.06	0.02	0.02	0.68	0.31	0.03

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	6	14	1027	471	33
Future Volume (veh/h)	16	6	14	1027	471	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1011	1159	1781	1767	1767	1796
Adj Flow Rate, veh/h	17	0	15	1081	496	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	60	50	8	9	9	7
Cap, veh/h	19		770	1517	1517	
Arrive On Green	0.02	0.00	0.86	0.86	0.86	0.00
Sat Flow, veh/h	963	982	859	1767	1767	1522
Grp Volume(v), veh/h	17	0	15	1081	496	0
Grp Sat Flow(s),veh/h/ln	963	982	859	1767	1767	1522
Q Serve(g_s), s	1.6	0.0	0.3	20.1	5.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	5.3	20.1	5.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	19		770	1517	1517	
V/C Ratio(X)	0.92		0.02	0.71	0.33	
Avail Cap(c_a), veh/h	225		770	1517	1517	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.1	0.0	1.8	2.3	1.3	0.0
Incr Delay (d2), s/veh	76.5	0.0	0.0	2.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.2	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	120.6	0.0	1.8	5.2	1.8	0.0
LnGrp LOS	F		A	A	A	
Approach Vol, veh/h	17			1096	496	
Approach Delay, s/veh	120.6			5.2	1.8	
Approach LOS	F			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	82.8				82.8	7.2
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	58.0				58.0	21.0
Max Q Clear Time (g_c+I1), s	7.0				22.1	3.6
Green Ext Time (p_c), s	6.9				21.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.3
HCM 6th LOS	A

Notes

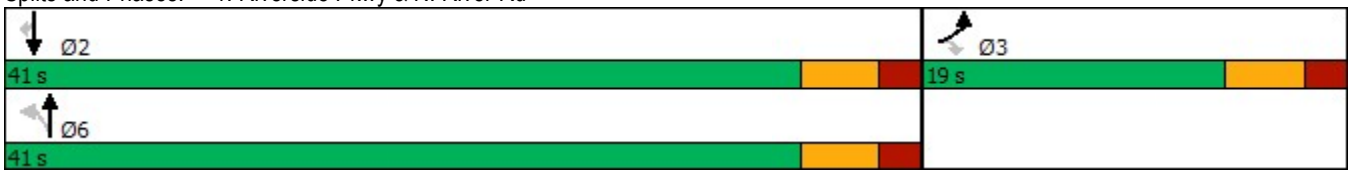
Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	273	112	40	286	727	82
Future Volume (vph)	273	112	40	286	727	82
Lane Group Flow (vph)	290	119	43	304	773	87
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	28.5	28.5	28.5	28.5
Total Split (s)	19.0	19.0	41.0	41.0	41.0	41.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.72	0.28	0.23	0.31	0.80	0.10
Control Delay	33.3	6.6	9.4	7.2	16.8	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	6.6	9.4	7.2	16.8	1.8
Queue Length 50th (ft)	95	0	6	47	179	0
Queue Length 95th (ft)	#202	34	22	84	312	14
Internal Link Dist (ft)	583			1053	851	
Turn Bay Length (ft)		150	255			270
Base Capacity (vph)	459	476	234	1201	1201	1039
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	0.63	0.25	0.18	0.25	0.64	0.08

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 53.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Pkwy & N. River Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	273	112	40	286	727	82
Future Volume (veh/h)	273	112	40	286	727	82
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1767	1544	1767	1767	1752
Adj Flow Rate, veh/h	290	0	43	304	773	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	9	24	9	9	10
Cap, veh/h	357		282	995	995	
Arrive On Green	0.20	0.00	0.56	0.56	0.56	0.00
Sat Flow, veh/h	1767	1497	576	1767	1767	1485
Grp Volume(v), veh/h	290	0	43	304	773	0
Grp Sat Flow(s),veh/h/ln	1767	1497	576	1767	1767	1485
Q Serve(g_s), s	7.3	0.0	2.9	4.3	15.9	0.0
Cycle Q Clear(g_c), s	7.3	0.0	18.9	4.3	15.9	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	357		282	995	995	
V/C Ratio(X)	0.81		0.15	0.31	0.78	
Avail Cap(c_a), veh/h	509		394	1338	1338	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.9	0.0	15.3	5.4	7.9	0.0
Incr Delay (d2), s/veh	6.6	0.0	0.5	0.4	3.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.3	0.9	3.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.4	0.0	15.8	5.8	11.3	0.0
LnGrp LOS	C		B	A	B	
Approach Vol, veh/h	290			347	773	
Approach Delay, s/veh	24.4			7.0	11.3	
Approach LOS	C			A	B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	31.9				31.9	15.0
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	35.5				35.5	13.5
Max Q Clear Time (g_c+I1), s	17.9				20.9	9.3
Green Ext Time (p_c), s	8.5				3.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	12.9
HCM 6th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	17	23	532	792	57
Future Vol, veh/h	30	17	23	532	792	57
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	9	9	0
Mvmt Flow	32	18	25	572	852	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1505	883	913	0	-	0
Stage 1	883	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	135	348	755	-	-	-
Stage 1	408	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	128	348	755	-	-	-
Mov Cap-2 Maneuver	128	-	-	-	-	-
Stage 1	388	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	35.9	0.4	0
HCM LOS	E		

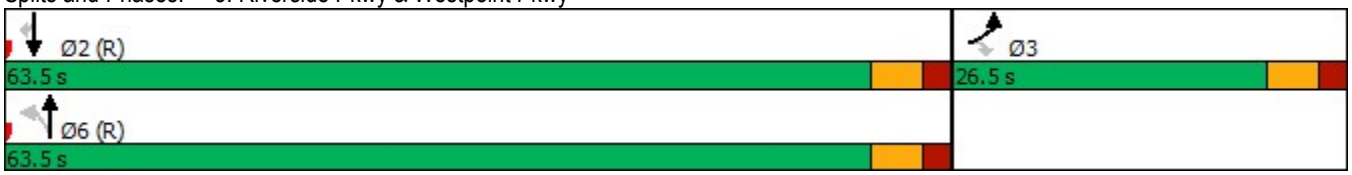
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	755	-	166	-	-
HCM Lane V/C Ratio	0.033	-	0.304	-	-
HCM Control Delay (s)	9.9	0	35.9	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	6	5	580	834	14
Future Volume (vph)	34	6	5	580	834	14
Lane Group Flow (vph)	37	7	5	637	916	15
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	63.5	63.5	63.5	63.5
Total Split (%)	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.30	0.06	0.02	0.42	0.61	0.02
Control Delay	43.9	21.8	2.8	3.7	5.8	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	21.8	2.8	3.7	5.8	1.3
Queue Length 50th (ft)	20	0	1	89	171	0
Queue Length 95th (ft)	49	13	3	166	334	4
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	329	327	251	1508	1508	791
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	0.02	0.02	0.42	0.61	0.02

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	6	5	580	834	14
Future Volume (veh/h)	34	6	5	580	834	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1485	1648	714	1767	1767	759
Adj Flow Rate, veh/h	37	0	5	637	916	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	28	17	80	9	9	77
Cap, veh/h	47		238	1491	1491	
Arrive On Green	0.03	0.00	0.84	0.84	0.84	0.00
Sat Flow, veh/h	1414	1397	233	1767	1767	643
Grp Volume(v), veh/h	37	0	5	637	916	0
Grp Sat Flow(s),veh/h/ln	1414	1397	233	1767	1767	643
Q Serve(g_s), s	2.3	0.0	0.6	7.9	15.1	0.0
Cycle Q Clear(g_c), s	2.3	0.0	15.7	7.9	15.1	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	47		238	1491	1491	
V/C Ratio(X)	0.78		0.02	0.43	0.61	
Avail Cap(c_a), veh/h	330		238	1491	1491	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.2	0.0	4.8	1.7	2.3	0.0
Incr Delay (d2), s/veh	23.5	0.0	0.2	0.9	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	0.7	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.7	0.0	5.0	2.6	4.2	0.0
LnGrp LOS	E		A	A	A	
Approach Vol, veh/h	37			642	916	
Approach Delay, s/veh	66.7			2.6	4.2	
Approach LOS	E			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	81.5				81.5	8.5
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	58.0				58.0	21.0
Max Q Clear Time (g_c+I1), s	17.1				17.7	4.3
Green Ext Time (p_c), s	17.0				9.8	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.0
HCM 6th LOS	A

Notes

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

Future “Build” Intersections Analysis

Intersection	
Int Delay, s/veh	12.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	112	76	79	792	367	164
Future Vol, veh/h	112	76	79	792	367	164
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	16	20	11	9	9	6
Mvmt Flow	120	82	85	852	395	176

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1417	395	395	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Critical Hdwy	6.56	6.4	4.21	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	3.48	2.299	-	-	-
Pot Cap-1 Maneuver	141	617	1116	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	130	617	1116	-	-	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	327	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	104.7	0.8	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1116	-	207	-	-
HCM Lane V/C Ratio	0.076	-	0.977	-	-
HCM Control Delay (s)	8.5	-	104.7	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	8.4	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	34	14	890	497	32
Future Vol, veh/h	57	34	14	890	497	32
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	8	9	9	3
Mvmt Flow	61	37	15	957	534	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1538	551	568	0	-	0
Stage 1	551	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	127	534	975	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	123	534	975	-	-	-
Mov Cap-2 Maneuver	123	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	361	-	-	-	-	-

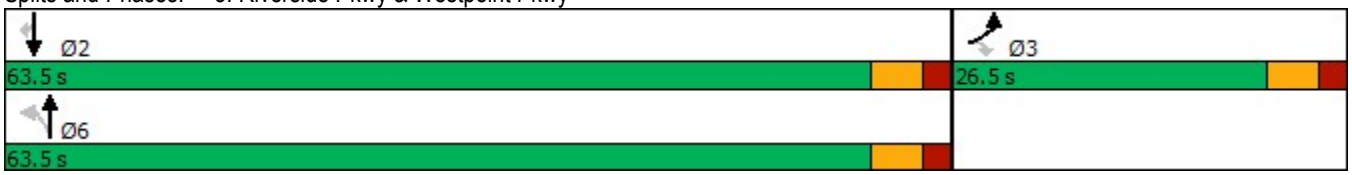
Approach	EB	NB	SB
HCM Control Delay, s	49.9	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	975	-	173	-	-
HCM Lane V/C Ratio	0.015	-	0.566	-	-
HCM Control Delay (s)	8.8	0	49.9	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	6	14	1052	502	33
Future Volume (vph)	16	6	14	1052	502	33
Lane Group Flow (vph)	17	6	15	1107	528	35
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	63.5	63.5	63.5	63.5
Total Split (%)	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.17	0.06	0.02	0.70	0.33	0.03
Control Delay	40.2	23.8	1.9	6.8	2.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	23.8	1.9	6.8	2.3	0.8
Queue Length 50th (ft)	7	0	0	0	0	0
Queue Length 95th (ft)	29	12	5	523	114	5
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	319	309	739	1571	1571	1364
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	0.05	0.02	0.02	0.70	0.34	0.03

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 76.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	6	14	1052	502	33
Future Volume (veh/h)	16	6	14	1052	502	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1011	1159	1781	1767	1767	1796
Adj Flow Rate, veh/h	17	0	15	1107	528	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	60	50	8	9	9	7
Cap, veh/h	20		705	1386	1386	
Arrive On Green	0.02	0.00	0.78	0.78	0.78	0.00
Sat Flow, veh/h	963	982	834	1767	1767	1522
Grp Volume(v), veh/h	17	0	15	1107	528	0
Grp Sat Flow(s),veh/h/ln	963	982	834	1767	1767	1522
Q Serve(g_s), s	1.0	0.0	0.3	20.4	5.2	0.0
Cycle Q Clear(g_c), s	1.0	0.0	5.5	20.4	5.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	20		705	1386	1386	
V/C Ratio(X)	0.85		0.02	0.80	0.38	
Avail Cap(c_a), veh/h	358		907	1815	1815	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	0.0	2.7	3.5	1.9	0.0
Incr Delay (d2), s/veh	59.3	0.0	0.0	2.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	86.9	0.0	2.7	6.4	2.2	0.0
LnGrp LOS	F		A	A	A	
Approach Vol, veh/h	17			1122	528	
Approach Delay, s/veh	86.9			6.4	2.2	
Approach LOS	F			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	49.8				49.8	6.7
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	58.0				58.0	21.0
Max Q Clear Time (g_c+I1), s	7.2				22.4	3.0
Green Ext Time (p_c), s	7.5				21.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	36	40	34	0
Future Vol, veh/h	0	29	36	40	34	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	32	39	43	37	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	158	37	37	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	833	1035	1574	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	812	1035	1574	-	-	-
Mov Cap-2 Maneuver	812	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	3.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1574	-	1035	-	-
HCM Lane V/C Ratio	0.025	-	0.03	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	137.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	306	134	49	286	727	96
Future Vol, veh/h	306	134	49	286	727	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	0	-	255	-	-	270
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	3	9	24	9	9	10
Mvmt Flow	326	143	52	304	773	102

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1181	773	773	0	-	0
Stage 1	773	-	-	-	-	-
Stage 2	408	-	-	-	-	-
Critical Hdwy	6.43	6.29	4.34	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.381	2.416	-	-	-
Pot Cap-1 Maneuver	~ 209	388	752	-	-	-
Stage 1	454	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 195	388	752	-	-	-
Mov Cap-2 Maneuver	~ 195	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	$ 499.5	1.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	752	-	234	-	-
HCM Lane V/C Ratio	0.069	-	2	-	-
HCM Control Delay (s)	10.1	-	$ 499.5	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.2	-	34.4	-	-

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	17	23	565	806	57
Future Vol, veh/h	30	17	23	565	806	57
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	9	9	2
Mvmt Flow	32	18	24	601	857	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1537	888	918	0	-	0
Stage 1	888	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	128	343	743	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	343	743	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.7	0.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	743	-	159	-	-
HCM Lane V/C Ratio	0.033	-	0.314	-	-
HCM Control Delay (s)	10	0	37.7	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	6	5	613	848	14
Future Volume (vph)	34	6	5	613	848	14
Lane Group Flow (vph)	37	7	5	674	932	15
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	53.5	53.5	53.5	53.5
Total Split (%)	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.21	0.04	0.02	0.46	0.63	0.02
Control Delay	32.1	17.3	3.2	4.6	7.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	17.3	3.2	4.6	7.2	1.6
Queue Length 50th (ft)	17	0	1	96	174	0
Queue Length 95th (ft)	39	11	3	183	358	4
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	516	509	222	1468	1468	770
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.01	0.02	0.46	0.63	0.02

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 62.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	6	5	613	848	14
Future Volume (veh/h)	34	6	5	613	848	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1485	1648	714	1767	1767	759
Adj Flow Rate, veh/h	37	0	5	674	932	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	28	17	80	9	9	77
Cap, veh/h	58		251	1258	1258	
Arrive On Green	0.04	0.00	0.71	0.71	0.71	0.00
Sat Flow, veh/h	1414	1397	229	1767	1767	643
Grp Volume(v), veh/h	37	0	5	674	932	0
Grp Sat Flow(s),veh/h/ln	1414	1397	229	1767	1767	643
Q Serve(g_s), s	1.1	0.0	0.6	7.9	14.3	0.0
Cycle Q Clear(g_c), s	1.1	0.0	14.9	7.9	14.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	58		251	1258	1258	
V/C Ratio(X)	0.63		0.02	0.54	0.74	
Avail Cap(c_a), veh/h	666		334	1901	1901	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.1	0.0	8.5	3.0	3.9	0.0
Incr Delay (d2), s/veh	10.9	0.0	0.1	0.8	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.3	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.9	0.0	8.5	3.7	5.8	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	37			679	932	
Approach Delay, s/veh	31.9			3.8	5.8	
Approach LOS	C			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	37.3				37.3	7.3
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	48.0				48.0	21.0
Max Q Clear Time (g_c+I1), s	16.3				16.9	3.1
Green Ext Time (p_c), s	15.4				9.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	16	19	42	0
Future Vol, veh/h	0	39	16	19	42	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	42	17	21	46	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	101	46	46	0	-	0
Stage 1	46	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	898	1023	1562	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	888	1023	1562	-	-	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1562	-	1023	-	-
HCM Lane V/C Ratio	0.011	-	0.041	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

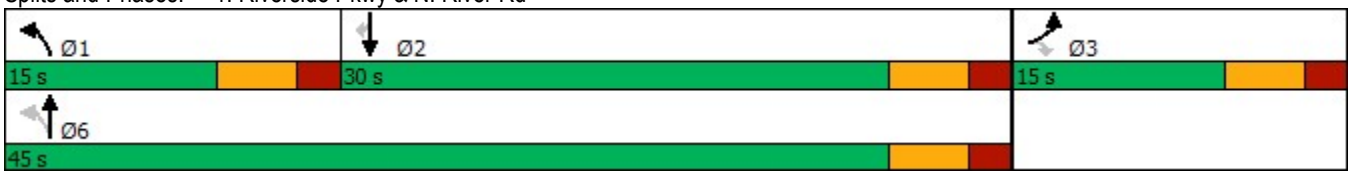
Future “Build” Intersections Analysis with Improvements

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	76	79	792	367	164
Future Volume (vph)	112	76	79	792	367	164
Lane Group Flow (vph)	120	82	85	852	395	176
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	1	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	28.5	28.5	28.5
Total Split (s)	15.0	15.0	15.0	45.0	30.0	30.0
Total Split (%)	25.0%	25.0%	25.0%	75.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
v/c Ratio	0.47	0.28	0.14	0.69	0.39	0.18
Control Delay	28.9	9.4	4.4	10.4	12.1	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	9.4	4.4	10.4	12.1	2.7
Queue Length 50th (ft)	36	0	9	168	95	0
Queue Length 95th (ft)	85	32	21	303	170	29
Internal Link Dist (ft)	583			1053	851	
Turn Bay Length (ft)		150	255			270
Base Capacity (vph)	300	326	652	1359	1018	963
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	0.40	0.25	0.13	0.63	0.39	0.18

Intersection Summary

Cycle Length: 60
Actuated Cycle Length: 51.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated

Splits and Phases: 1: Riverside Pkwy & N. River Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	76	79	792	367	164
Future Volume (veh/h)	112	76	79	792	367	164
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1663	1604	1737	1767	1767	1811
Adj Flow Rate, veh/h	120	0	85	852	395	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	16	20	11	9	9	6
Cap, veh/h	148		552	1143	782	
Arrive On Green	0.09	0.00	0.07	0.65	0.44	0.00
Sat Flow, veh/h	1584	1359	1654	1767	1767	1535
Grp Volume(v), veh/h	120	0	85	852	395	0
Grp Sat Flow(s),veh/h/ln	1584	1359	1654	1767	1767	1535
Q Serve(g_s), s	3.2	0.0	1.0	14.0	6.8	0.0
Cycle Q Clear(g_c), s	3.2	0.0	1.0	14.0	6.8	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	148		552	1143	782	
V/C Ratio(X)	0.81		0.15	0.75	0.51	
Avail Cap(c_a), veh/h	355		799	1645	1020	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	18.8	0.0	5.2	5.1	8.5	0.0
Incr Delay (d2), s/veh	9.9	0.0	0.1	2.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.2	1.7	1.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.8	0.0	5.4	7.3	9.6	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	120			937	395	
Approach Delay, s/veh	28.8			7.1	9.6	
Approach LOS	C			A	A	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	8.7	24.3				32.9	9.5
Change Period (Y+Rc), s	5.5	5.5				5.5	5.5
Max Green Setting (Gmax), s	9.5	24.5				39.5	9.5
Max Q Clear Time (g_c+I1), s	3.0	8.8				16.0	5.2
Green Ext Time (p_c), s	0.1	3.5				11.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	9.6
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	57	34	14	890	497	32
Future Vol, veh/h	57	34	14	890	497	32
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	93	93	93	93	93	93
Heavy Vehicles, %	2	2	8	9	9	3
Mvmt Flow	61	37	15	957	534	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1538	551	568	0	-	0
Stage 1	551	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	127	534	975	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	123	534	975	-	-	-
Mov Cap-2 Maneuver	123	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	361	-	-	-	-	-

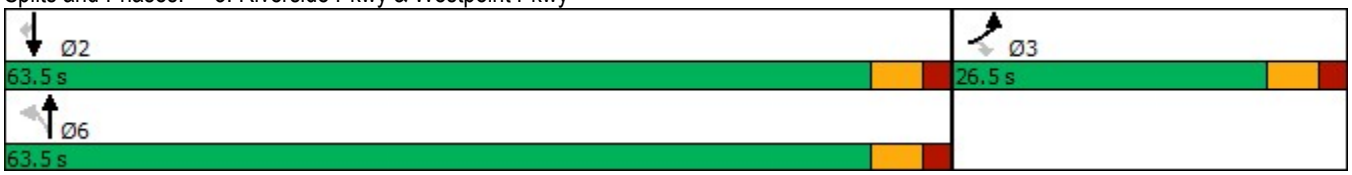
Approach	EB	NB	SB
HCM Control Delay, s	49.9	0.1	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	975	-	173	-	-
HCM Lane V/C Ratio	0.015	-	0.566	-	-
HCM Control Delay (s)	8.8	0	49.9	-	-
HCM Lane LOS	A	A	E	-	-
HCM 95th %tile Q(veh)	0	-	3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	6	14	1052	502	33
Future Volume (vph)	16	6	14	1052	502	33
Lane Group Flow (vph)	17	6	15	1107	528	35
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	63.5	63.5	63.5	63.5
Total Split (%)	29.4%	29.4%	70.6%	70.6%	70.6%	70.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.17	0.06	0.02	0.70	0.33	0.03
Control Delay	40.2	23.8	1.9	6.8	2.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.2	23.8	1.9	6.8	2.3	0.8
Queue Length 50th (ft)	7	0	0	0	0	0
Queue Length 95th (ft)	29	12	5	523	114	5
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	319	309	739	1571	1571	1364
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	0.05	0.02	0.02	0.70	0.34	0.03

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 76.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	6	14	1052	502	33
Future Volume (veh/h)	16	6	14	1052	502	33
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1011	1159	1781	1767	1767	1796
Adj Flow Rate, veh/h	17	0	15	1107	528	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	60	50	8	9	9	7
Cap, veh/h	20		705	1386	1386	
Arrive On Green	0.02	0.00	0.78	0.78	0.78	0.00
Sat Flow, veh/h	963	982	834	1767	1767	1522
Grp Volume(v), veh/h	17	0	15	1107	528	0
Grp Sat Flow(s),veh/h/ln	963	982	834	1767	1767	1522
Q Serve(g_s), s	1.0	0.0	0.3	20.4	5.2	0.0
Cycle Q Clear(g_c), s	1.0	0.0	5.5	20.4	5.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	20		705	1386	1386	
V/C Ratio(X)	0.85		0.02	0.80	0.38	
Avail Cap(c_a), veh/h	358		907	1815	1815	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	0.0	2.7	3.5	1.9	0.0
Incr Delay (d2), s/veh	59.3	0.0	0.0	2.9	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.1	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	86.9	0.0	2.7	6.4	2.2	0.0
LnGrp LOS	F		A	A	A	
Approach Vol, veh/h	17			1122	528	
Approach Delay, s/veh	86.9			6.4	2.2	
Approach LOS	F			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	49.8				49.8	6.7
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	58.0				58.0	21.0
Max Q Clear Time (g_c+I1), s	7.2				22.4	3.0
Green Ext Time (p_c), s	7.5				21.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	29	36	40	34	0
Future Vol, veh/h	0	29	36	40	34	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	32	39	43	37	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	158	37	37	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	121	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	833	1035	1574	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	812	1035	1574	-	-	-
Mov Cap-2 Maneuver	812	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	3.5	0
HCM LOS	A		

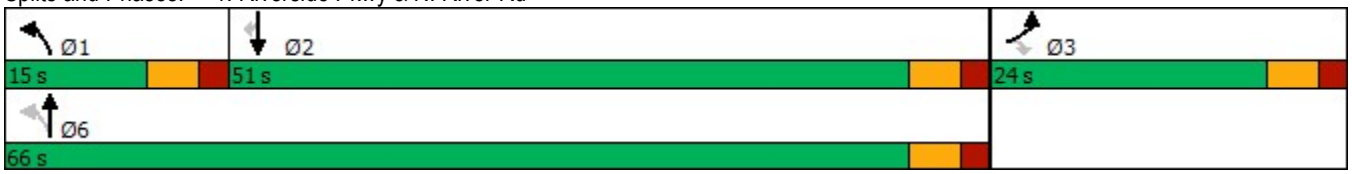
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1574	-	1035	-	-
HCM Lane V/C Ratio	0.025	-	0.03	-	-
HCM Control Delay (s)	7.3	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	306	134	49	286	727	96
Future Volume (vph)	306	134	49	286	727	96
Lane Group Flow (vph)	326	143	52	304	773	102
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	3		1	6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	1	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	15.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	28.5	28.5	28.5
Total Split (s)	24.0	24.0	15.0	66.0	51.0	51.0
Total Split (%)	26.7%	26.7%	16.7%	73.3%	56.7%	56.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
v/c Ratio	0.78	0.31	0.22	0.29	0.85	0.13
Control Delay	45.7	7.7	7.5	7.3	27.7	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	7.7	7.5	7.3	27.7	2.9
Queue Length 50th (ft)	174	0	9	60	343	0
Queue Length 95th (ft)	#329	47	20	96	#599	23
Internal Link Dist (ft)	583			1053	851	
Turn Bay Length (ft)		150	255			270
Base Capacity (vph)	450	487	290	1398	1102	965
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	0.72	0.29	0.18	0.22	0.70	0.11

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 75.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Riverside Pkwy & N. River Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	306	134	49	286	727	96
Future Volume (veh/h)	306	134	49	286	727	96
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1767	1544	1767	1767	1752
Adj Flow Rate, veh/h	326	0	52	304	773	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	9	24	9	9	10
Cap, veh/h	373		246	1125	912	
Arrive On Green	0.21	0.00	0.04	0.64	0.52	0.00
Sat Flow, veh/h	1767	1497	1471	1767	1767	1485
Grp Volume(v), veh/h	326	0	52	304	773	0
Grp Sat Flow(s),veh/h/ln	1767	1497	1471	1767	1767	1485
Q Serve(g_s), s	12.9	0.0	1.1	5.5	27.2	0.0
Cycle Q Clear(g_c), s	12.9	0.0	1.1	5.5	27.2	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	373		246	1125	912	
V/C Ratio(X)	0.87		0.21	0.27	0.85	
Avail Cap(c_a), veh/h	452		373	1479	1112	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	0.0	12.8	5.8	15.1	0.0
Incr Delay (d2), s/veh	15.0	0.0	0.4	0.3	6.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	0.3	1.5	10.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.6	0.0	13.3	6.0	21.8	0.0
LnGrp LOS	D		B	A	C	
Approach Vol, veh/h	326			356	773	
Approach Delay, s/veh	42.6			7.1	21.8	
Approach LOS	D			A	C	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	8.7	42.8				51.5	20.7
Change Period (Y+Rc), s	5.5	5.5				5.5	5.5
Max Green Setting (Gmax), s	9.5	45.5				60.5	18.5
Max Q Clear Time (g_c+I1), s	3.1	29.2				7.5	14.9
Green Ext Time (p_c), s	0.0	8.1				3.8	0.4

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	17	23	565	806	57
Future Vol, veh/h	30	17	23	565	806	57
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	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	9	9	2
Mvmt Flow	32	18	24	601	857	61

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1537	888	918	0	-	0
Stage 1	888	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	128	343	743	-	-	-
Stage 1	402	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	122	343	743	-	-	-
Mov Cap-2 Maneuver	122	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.7	0.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	743	-	159	-	-
HCM Lane V/C Ratio	0.033	-	0.314	-	-
HCM Control Delay (s)	10	0	37.7	-	-
HCM Lane LOS	B	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	6	5	613	848	14
Future Volume (vph)	34	6	5	613	848	14
Lane Group Flow (vph)	37	7	5	674	932	15
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	3			6	2	
Permitted Phases		3	6			2
Detector Phase	3	3	6	6	2	2
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	15.0	15.0
Minimum Split (s)	26.5	26.5	28.5	28.5	28.5	28.5
Total Split (s)	26.5	26.5	53.5	53.5	53.5	53.5
Total Split (%)	33.1%	33.1%	66.9%	66.9%	66.9%	66.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Min	Min	Min	Min
v/c Ratio	0.21	0.04	0.02	0.46	0.63	0.02
Control Delay	32.1	17.3	3.2	4.6	7.2	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	17.3	3.2	4.6	7.2	1.6
Queue Length 50th (ft)	17	0	1	96	174	0
Queue Length 95th (ft)	39	11	3	183	358	4
Internal Link Dist (ft)	535			899	1249	
Turn Bay Length (ft)		140	315			280
Base Capacity (vph)	516	509	222	1468	1468	770
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.01	0.02	0.46	0.63	0.02

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 62.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated

Splits and Phases: 3: Riverside Pkwy & Westpoint Pkwy

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	6	5	613	848	14
Future Volume (veh/h)	34	6	5	613	848	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1485	1648	714	1767	1767	759
Adj Flow Rate, veh/h	37	0	5	674	932	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	28	17	80	9	9	77
Cap, veh/h	58		251	1258	1258	
Arrive On Green	0.04	0.00	0.71	0.71	0.71	0.00
Sat Flow, veh/h	1414	1397	229	1767	1767	643
Grp Volume(v), veh/h	37	0	5	674	932	0
Grp Sat Flow(s),veh/h/ln	1414	1397	229	1767	1767	643
Q Serve(g_s), s	1.1	0.0	0.6	7.9	14.3	0.0
Cycle Q Clear(g_c), s	1.1	0.0	14.9	7.9	14.3	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	58		251	1258	1258	
V/C Ratio(X)	0.63		0.02	0.54	0.74	
Avail Cap(c_a), veh/h	666		334	1901	1901	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.1	0.0	8.5	3.0	3.9	0.0
Incr Delay (d2), s/veh	10.9	0.0	0.1	0.8	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.3	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.9	0.0	8.5	3.7	5.8	0.0
LnGrp LOS	C		A	A	A	
Approach Vol, veh/h	37			679	932	
Approach Delay, s/veh	31.9			3.8	5.8	
Approach LOS	C			A	A	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	37.3				37.3	7.3
Change Period (Y+Rc), s	5.5				5.5	5.5
Max Green Setting (Gmax), s	48.0				48.0	21.0
Max Q Clear Time (g_c+I1), s	16.3				16.9	3.1
Green Ext Time (p_c), s	15.4				9.7	0.1

Intersection Summary	
HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	16	19	42	0
Future Vol, veh/h	0	39	16	19	42	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	42	17	21	46	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	101	46	46	0	-	0
Stage 1	46	-	-	-	-	-
Stage 2	55	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	898	1023	1562	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	888	1023	1562	-	-	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	968	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	3.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1562	-	1023	-	-
HCM Lane V/C Ratio	0.011	-	0.041	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Signal Warrant Analysis/
Left Turn Phase Analysis

A&R ENGINEERING, INC.

SIGNAL WARRANT ANALYSIS SUMMARY REPORT - Riverside Pkwy @ N. River Rd

Project Number :	23-198	Report Date :	February 26, 2024
		Counts Date :	February 6, 2024
Major Street :	Riverside Pkwy		
Minor Street :	N. River Rd		
Speed on Major Street :	45		
Lanes @ Intersection :	Major Street - 1		
	Minor Street - 1		
Analyst :	SDP		

WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

WARRANT 1	**NOT SATISFIED**				
	STANDARD 1	**NOT SATISFIED**	CONDITION A	1	HOURS
			CONDITION B	2	HOURS
	STANDARD 2	**NOT SATISFIED**	CONDITION A	1	HOURS
			CONDITION B	2	HOURS

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

WARRANT 2	**NOT SATISFIED**	2	HOURS

WARRANT 3, PEAK HOUR

WARRANT 3	**SATISFIED**			
	STANDARD A	**SATISFIED**	39	VEHICLE HOURS
	STANDARD B	**SATISFIED**	1	HOURS

WARRANT 4, PEDESTRIAN VOLUME

WARRANT 4	**NOT EVALUATED**			
	STANDARD A	**NOT SATISFIED**	0	HOURS
	STANDARD B	**NOT SATISFIED**	0	HOURS

WARRANT 5, SCHOOL CROSSING

WARRANT 5 **NOT EVALUATED**

WARRANT 6, COORDINATED SIGNAL SYSTEM

WARRANT 6 **NOT EVALUATED**

WARRANT 7, CRASH EXPERIENCE

WARRANT 7 **NOT EVALUATED**

WARRANT 8, ROADWAY NETWORK

WARRANT 8 **NOT EVALUATED**

WARRANT 9, INTERSECTION NEAR A GRADE CROSSING

WARRANT 9 **NOT EVALUATED**

A&R ENGINEERING, INC.

SIGNAL WARRANT ANALYSIS SUMMARY REPORT - Riverside Pkwy @ N. River Rd

Project Number : 23-198
Report Date : February 26, 2024
Counts Date : February 6, 2024
Major Street : Riverside Pkwy
Lanes @ Intersection : Major Street - 1
Minor Street : N. River Rd
Minor Street - 1
Speed on Major Street : 45
Analyst : SDP

24-HOUR TRAFFIC VOLUME

TABLE 1

Time	Major Street Northbound				Major Street Southbound			
24 Hours	Total Approach Volume	Right Turn	% Right Turn	With 0 % RT Turn Reduction	Total Approach Volume	Right Turn	% Right Turn	With 0% RT Turn Reduction
12:00 AM	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
7:00 AM	811	0	0	811	442	75	17	442
8:00 AM	480	0	0	480	316	75	24	316
9:00 AM	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0
4:00 PM	305	0	0	305	685	39	6	685
5:00 PM	308	0	0	308	782	55	7	782
6:00 PM	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0

Total		1904		2225

A&R ENGINEERING, INC.

24-HOUR TRAFFIC VOLUME

TABLE 2

Time	Minor Street				Minor Street			
	Eastbound				Westbound			
24 Hours	Total Approach Volume	Right Turn	% Right Turn	With 100% RT Turn Reduction	Total Approach Volume	Right Turn	% Right Turn	With 100% RT Turn Reduction
12:00 AM	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
7:00 AM	66	27	41	39	0	0	0	0
8:00 AM	74	23	31	51	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0
4:00 PM	139	45	32	94	0	0	0	0
5:00 PM	283	71	25	212	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0

Total		396		0

A&R ENGINEERING, INC.

WARRANT ANALYSIS RESULTS - Riverside Pkwy @ N. River Rd

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

WARRANT 1 NOT SATISFIED

STANDARD 1	NOT SATISFIED	CONDITION A	1	HOURS
		CONDITION B	2	HOURS
STANDARD 2	NOT SATISFIED	CONDITION A	1	HOURS
		CONDITION B	2	HOURS

24-HOUR TRAFFIC VOLUME EVALUATION

TABLE 3

HOUR OF DAY	MAJOR ST TOTAL OF BOTH APPROACHES	MINOR ST HIGH VOLUME APPROACH	WARRANT 1			
			STANDARD 1		STANDARD 2	
			CONDITION A	CONDITION B	CONDITION A	CONDITION B
12:00 AM	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0
7:00 AM	1253	39	MAJOR	MAJOR	MAJOR	MAJOR
8:00 AM	796	51	MAJOR	MAJOR	MAJOR	MAJOR
9:00 AM	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0
4:00 PM	990	94	MAJOR	BOTH	MAJOR	BOTH
5:00 PM	1090	212	BOTH	BOTH	BOTH	BOTH
6:00 PM	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0
TOTAL	4129	396				

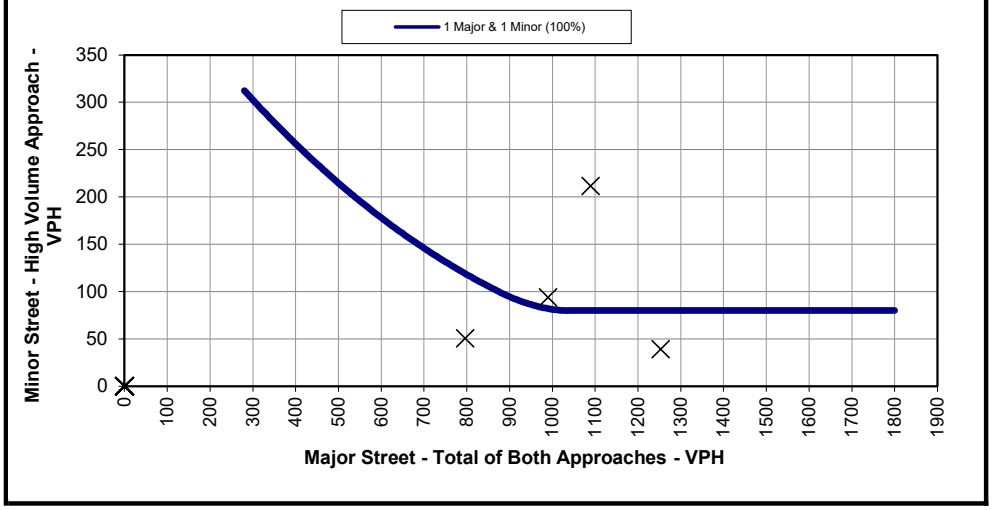
CRITERIA**		STANDARD 1 - 100%		STANDARD 2 - 80%	
		CONDITION A	CONDITION B	CONDITION A	CONDITION B
	MAJOR ST	500	750	400	600
	MINOR ST	150	75	120	60
NO. OF HOURS MET		1	2	1	2

A&R ENGINEERING, INC.

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

WARRANT 2* NOT SATISFIED 2 HOURS

Figure 4C-1: Warrant 2, Four-Hour Vehicle Volume



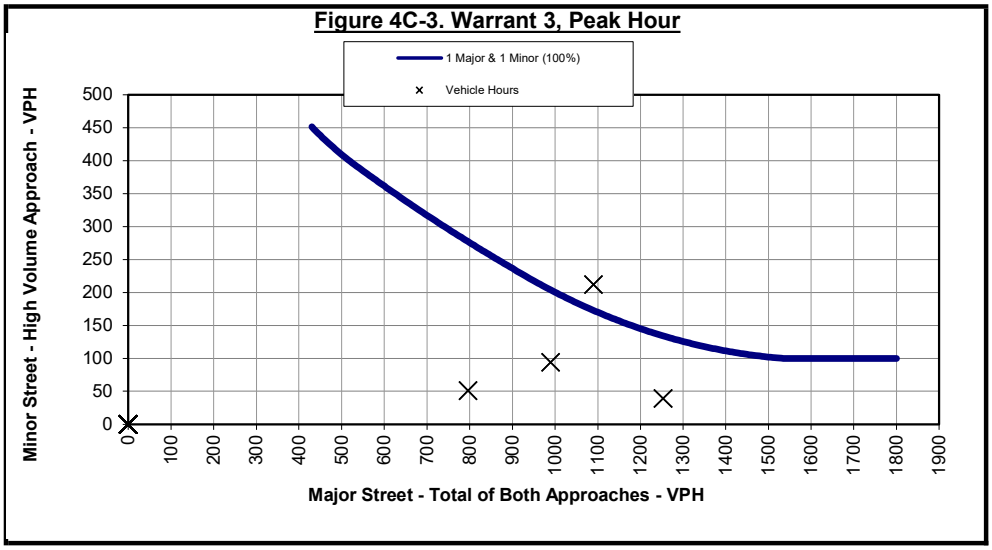
WARRANT 3, PEAK HOUR

STANDARD A SATISFIED 39 VEHICLE HOURS

385	Peak Hour Minor-Street Volume
364	Average Minor-Street Delay (seconds)
1	Number of Approach Lanes (Minor Street)

STANDARD B* SATISFIED 1 HOURS

Figure 4C-3. Warrant 3, Peak Hour



*Note: Curves for minimum volumes are based on the curves from FIGURES 4C-1 & 4C-2, Page 4C-7 for WARRANT 2, and FIGURES 4C-3 & 4C-4, Page 4C-9 in section C of the MUTCD 2009 edition for WARRANT 3.

A&R ENGINEERING, INC.

SIGNAL WARRANT ANALYSIS SUMMARY REPORT (Build Conditions) - Riverside Pkwy @ N. River Rd

Project Number :	23-198	Report Date :	February 26, 2024
		Counts Date :	February 6, 2024
Major Street :	Riverside Pkwy		
Minor Street :	N. River Rd		
Speed on Major Street :	45		
Lanes @ Intersection :	Major Street - 1		
	Minor Street - 1		
Analyst :	SDP		

WARRANT 1, EIGHT-HOUR VEHICULAR VOLUME

WARRANT 1 **NOT SATISFIED**

STANDARD 1	**NOT SATISFIED**	CONDITION A	2	HOURS
		CONDITION B	4	HOURS
STANDARD 2	**NOT SATISFIED**	CONDITION A	2	HOURS
		CONDITION B	4	HOURS

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

WARRANT 2	**NOT SATISFIED**	3	HOURS

WARRANT 3, PEAK HOUR

WARRANT 3	**SATISFIED**		
STANDARD A	**SATISFIED**	61	VEHICLE HOURS
STANDARD B	**SATISFIED**	1	HOURS

WARRANT 4, PEDESTRIAN VOLUME

WARRANT 4	**NOT EVALUATED**		
STANDARD A	**NOT SATISFIED**	0	HOURS
STANDARD B	**NOT SATISFIED**	0	HOURS

WARRANT 5, SCHOOL CROSSING

WARRANT 5 **NOT EVALUATED**

WARRANT 6, COORDINATED SIGNAL SYSTEM

WARRANT 6 **NOT EVALUATED**

WARRANT 7, CRASH EXPERIENCE

WARRANT 7 **NOT EVALUATED**

WARRANT 8, ROADWAY NETWORK

WARRANT 8 **NOT EVALUATED**

WARRANT 9, INTERSECTION NEAR A GRADE CROSSING

WARRANT 9 **NOT EVALUATED**

A&R ENGINEERING, INC.

SIGNAL WARRANT ANALYSIS SUMMARY REPORT - Riverside Pkwy @ N. River Rd

Project Number : 23-198
Report Date : February 26, 2024
Counts Date : February 6, 2024
Major Street : Riverside Pkwy
Lanes @ Intersection : Major Street - 1
Minor Street : N. River Rd
Minor Street - 1
Speed on Major Street : 45
Analyst : SDP

24-HOUR TRAFFIC VOLUME

TABLE 1

Time	Major Street Northbound				Major Street Southbound			
24 Hours	Total Approach Volume	Right Turn	% Right Turn	With 0 % RT Turn Reduction	Total Approach Volume	Right Turn	% Right Turn	With 0% RT Turn Reduction
12:00 AM	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
7:00 AM	871	0	0	871	531	164	31	531
8:00 AM	516	0	0	516	369	128	35	369
9:00 AM	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0
4:00 PM	329	0	0	329	720	74	10	720
5:00 PM	335	0	0	335	823	96	12	823
6:00 PM	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0

Total		2051		2443

A&R ENGINEERING, INC.

24-HOUR TRAFFIC VOLUME

TABLE 2

Time	Minor Street				Minor Street			
	Eastbound				Westbound			
24 Hours	Total Approach Volume	Right Turn	% Right Turn	With 100% RT Turn Reduction	Total Approach Volume	Right Turn	% Right Turn	With 100% RT Turn Reduction
12:00 AM	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0
7:00 AM	188	76	40	112	0	0	0	0
8:00 AM	129	45	35	84	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0	0	0
4:00 PM	248	89	36	159	0	0	0	0
5:00 PM	440	134	30	306	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0

Total		661		0

A&R ENGINEERING, INC.

WARRANT ANALYSIS RESULTS - Riverside Pkwy @ N. River Rd

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

WARRANT 1 NOT SATISFIED

STANDARD 1	NOT SATISFIED	CONDITION A	2	HOURS
		CONDITION B	4	HOURS
STANDARD 2	NOT SATISFIED	CONDITION A	2	HOURS
		CONDITION B	4	HOURS

24-HOUR TRAFFIC VOLUME EVALUATION

TABLE 3

HOUR OF DAY	MAJOR ST TOTAL OF BOTH APPROACHES	MINOR ST HIGH VOLUME APPROACH	WARRANT 1			
			STANDARD 1		STANDARD 2	
			CONDITION A	CONDITION B	CONDITION A	CONDITION B
12:00 AM	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0
7:00 AM	1402	112	MAJOR	BOTH	MAJOR	BOTH
8:00 AM	885	84	MAJOR	BOTH	MAJOR	BOTH
9:00 AM	0	0	0	0	0	0
10:00 AM	0	0	0	0	0	0
11:00 AM	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0
2:00 PM	0	0	0	0	0	0
3:00 PM	0	0	0	0	0	0
4:00 PM	1049	159	BOTH	BOTH	BOTH	BOTH
5:00 PM	1158	306	BOTH	BOTH	BOTH	BOTH
6:00 PM	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0
TOTAL	4494	661				

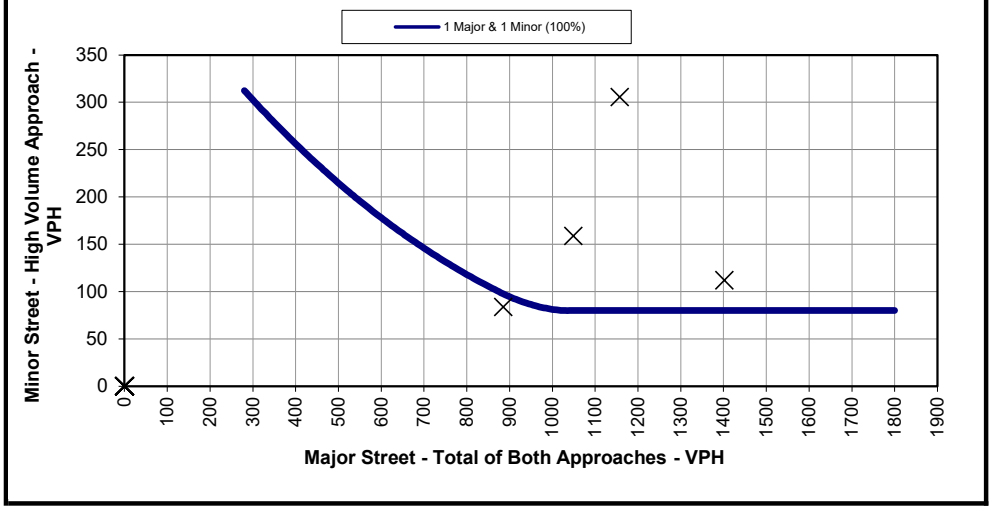
CRITERIA**		STANDARD 1 - 100%		STANDARD 2 - 80%	
		CONDITION A	CONDITION B	CONDITION A	CONDITION B
	MAJOR ST	500	750	400	600
	MINOR ST	150	75	120	60
NO. OF HOURS MET		2	4	2	4

A&R ENGINEERING, INC.

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME

WARRANT 2* NOT SATISFIED 3 HOURS

Figure 4C-1: Warrant 2, Four-Hour Vehicle Volume



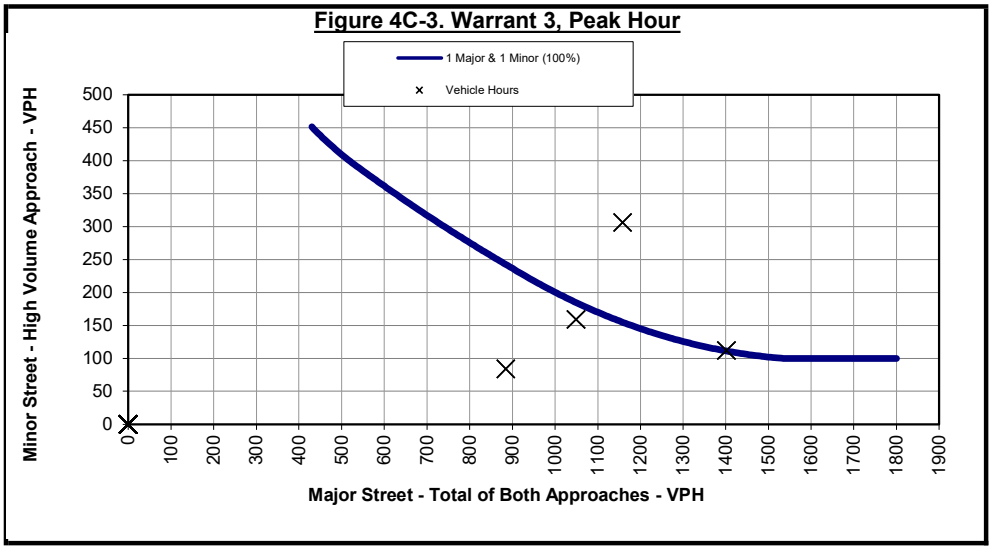
WARRANT 3, PEAK HOUR

STANDARD A SATISFIED 61 VEHICLE HOURS

440	Peak Hour Minor-Street Volume
500	Average Minor-Street Delay (seconds)
1	Number of Approach Lanes (Minor Street)

STANDARD B* SATISFIED 1 HOURS

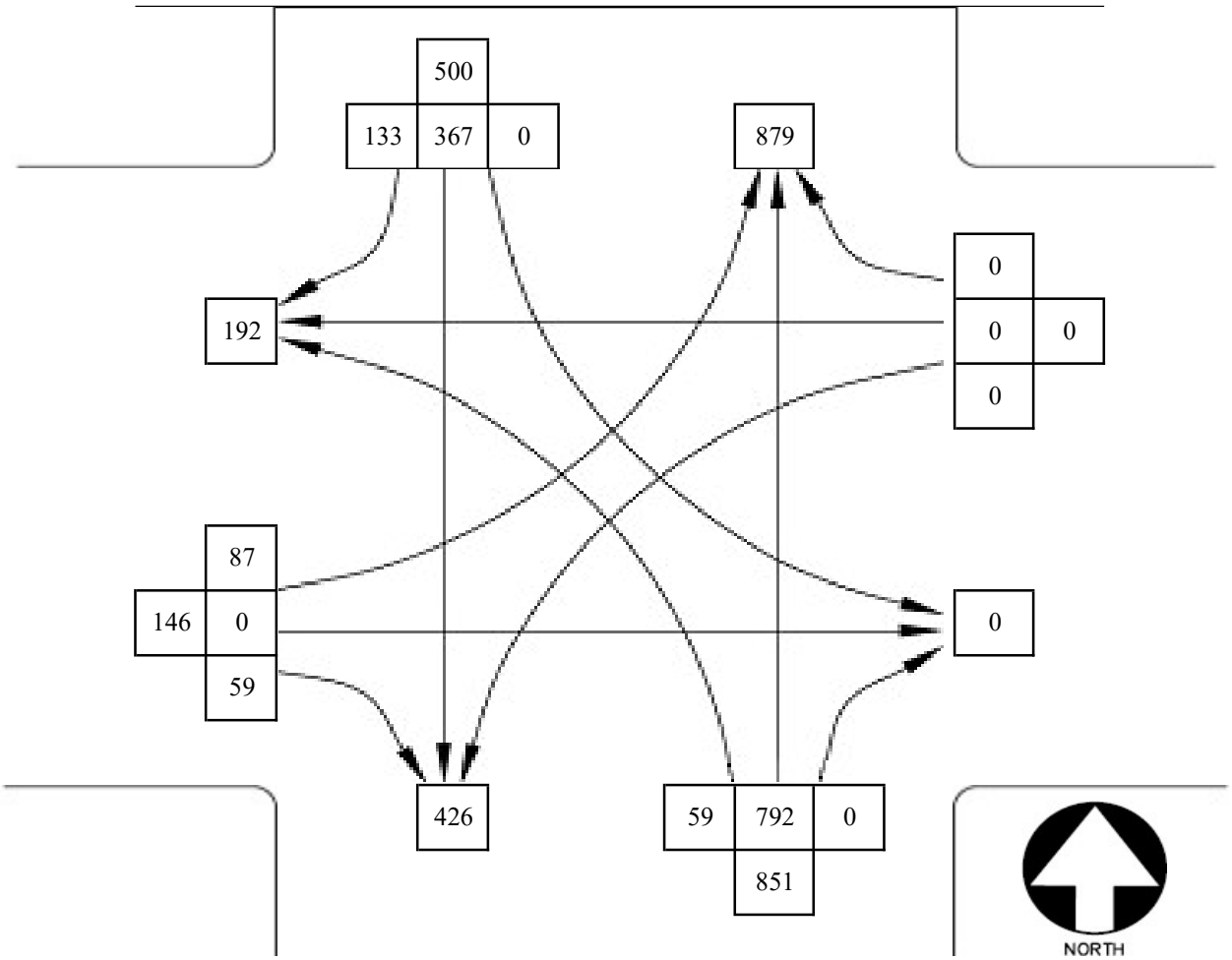
Figure 4C-3. Warrant 3, Peak Hour



*Note: Curves for minimum volumes are based on the curves from FIGURES 4C-1 & 4C-2, Page 4C-7 for WARRANT 2, and FIGURES 4C-3 & 4C-4, Page 4C-9 in section C of the MUTCD 2009 edition for WARRANT 3.

Future 2026 Traffic Count Summary Sheet

No Build Conditions Peak Hour Count (AM)



Riverside Parkway @ North River Road

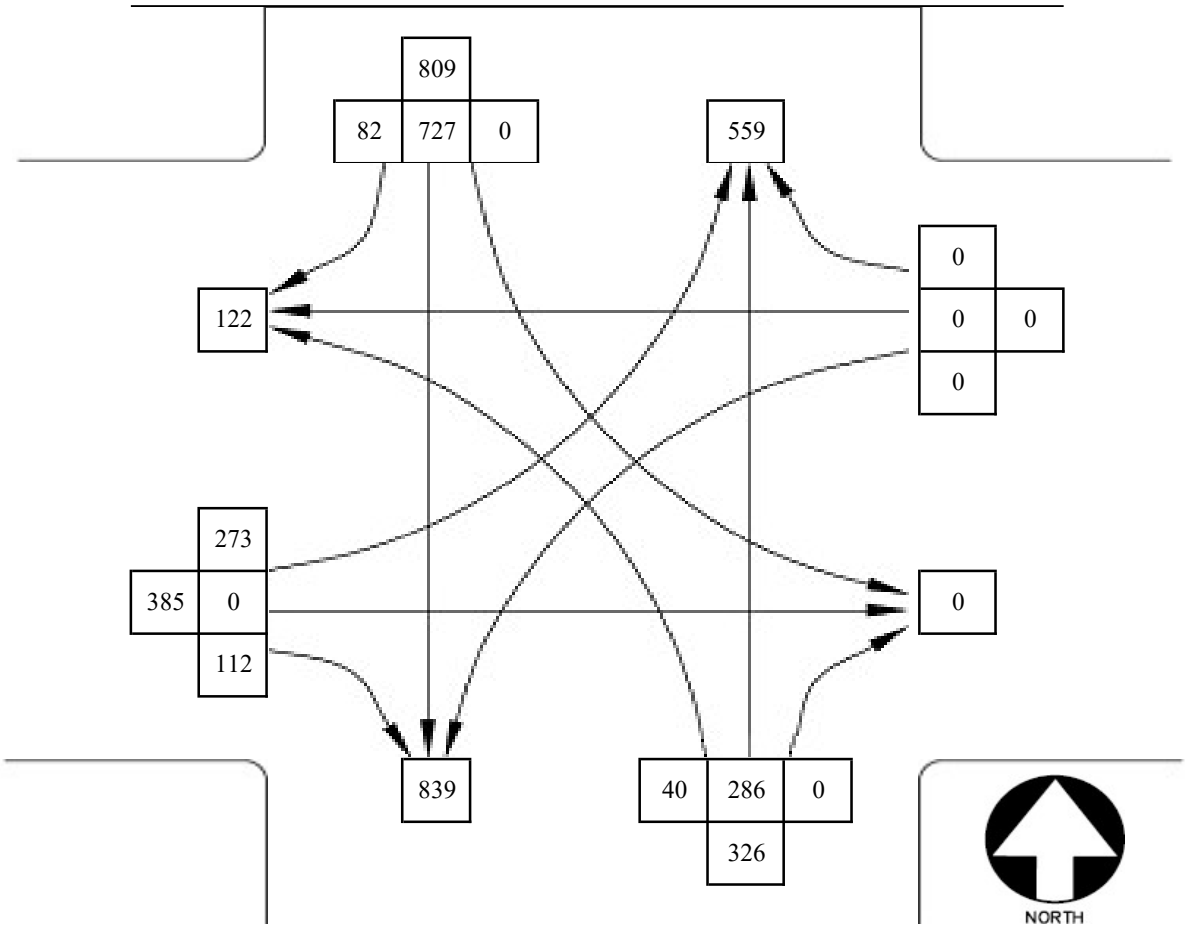
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} \div N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	367	59	1	21,653	NO	NO	NO
SBL & NBT	792	0	1	0	NO	NO	NO
EBL & WBT	0	87	1	0	NO	Lagging Phase	YES, Lagging
WBL & EBT	0	0	1	0	NO	NO	NO

LEFT TURN CRITERIA - AM PEAK HOUR

A&R Engineering Inc.

Future 2026 Traffic Count Summary Sheet

No Build Conditions Peak Hour Count (PM)



Riverside Parkway @ North River Road

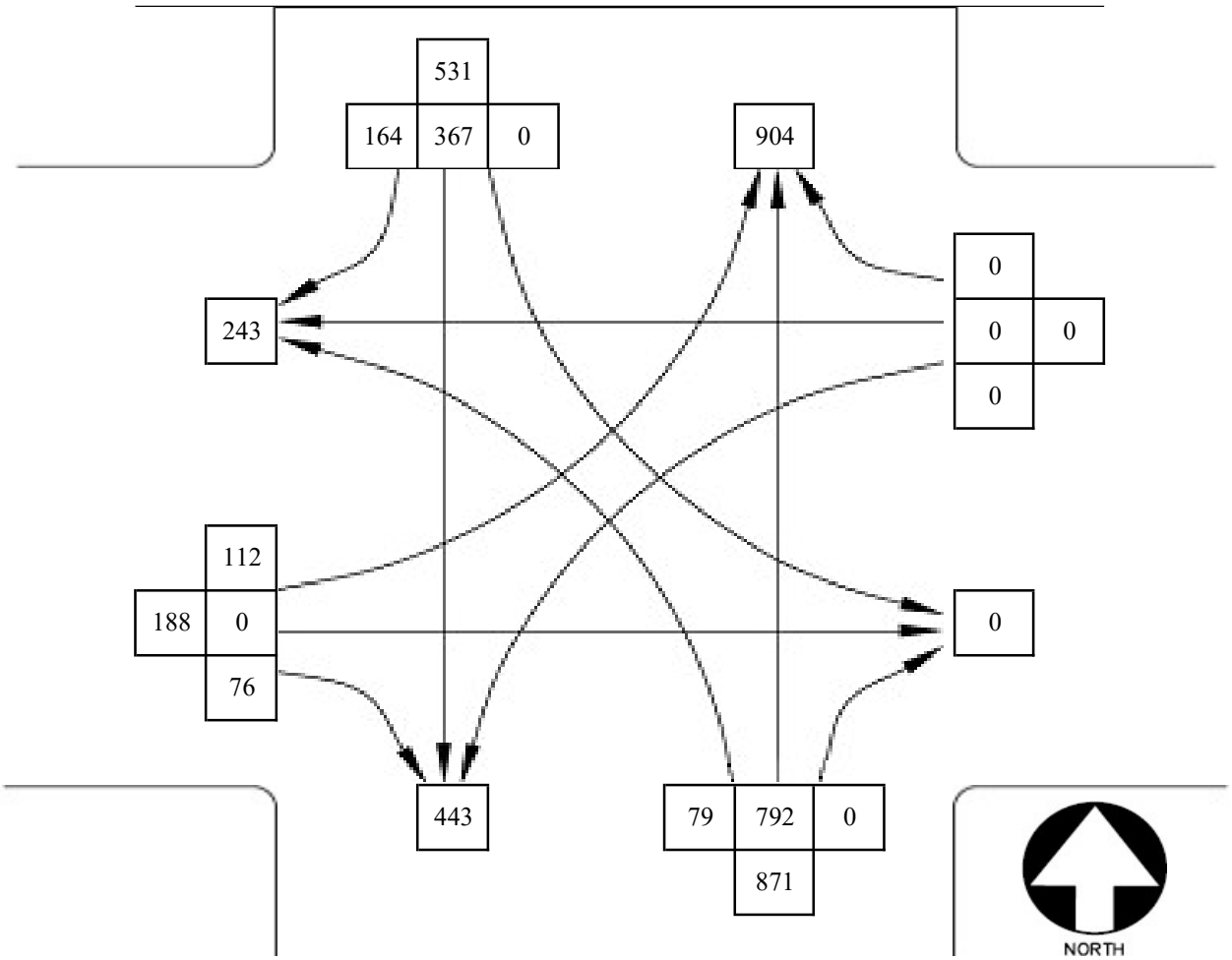
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} \div N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	727	40	1	29,080	NO	NO	NO
SBL & NBT	286	0	1	0	NO	NO	NO
EBL & WBT	0	273	1	0	NO	YES	YES, Leading
WBL & EBT	0	0	1	0	NO	NO	NO

LEFT TURN CRITERIA - PM PEAK HOUR

A&R Engineering Inc.

Future 2026 Traffic Count Summary Sheet

Build Conditions Peak Hour Count (AM)



Riverside Parkway @ North River Road

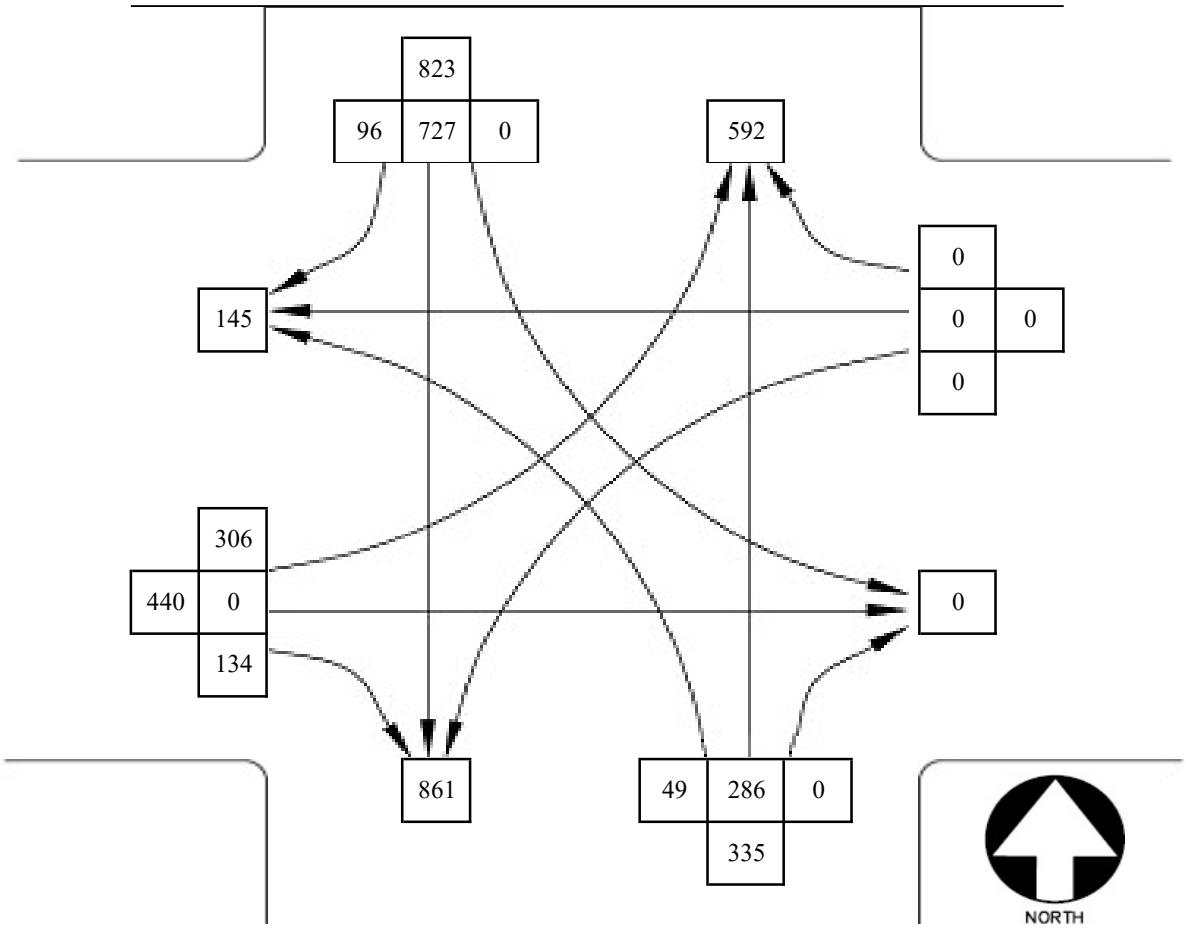
Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} \div N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	367	79	1	28,993	NO	Lagging Phase	YES, Lagging
SBL & NBT	792	0	1	0	NO	NO	NO
EBL & WBT	0	112	1	0	NO	Lagging Phase	YES, Lagging
WBL & EBT	0	0	1	0	NO	NO	NO

LEFT TURN CRITERIA - AM PEAK HOUR

A&R Engineering Inc.

Future 2026 Traffic Count Summary Sheet

Build Conditions Peak Hour Count (PM)



Riverside Parkway @ North River Road

Conflicting Movements	Through Volume (V_o)	Left Turn Volume (V_{lt})	Opposing Lanes (N_o)	Cross-Product ($V_o \times V_{lt} \div N_o$)	Cross-Product Warrant?	Peak Volume Warrant?	Turn Phase Recommended?
NBL & SBT	727	49	1	35,623	Lagging Phase	NO	YES, Lagging
SBL & NBT	286	0	1	0	NO	NO	NO
EBL & WBT	0	306	1	0	NO	YES	YES, Leading
WBL & EBT	0	0	1	0	NO	NO	NO

LEFT TURN CRITERIA - PM PEAK HOUR

A&R Engineering Inc.

Traffic Volume Worksheets

23-198 DC BLOX - ATL WEST Data Center on N. River Road (DRI 4112) - Douglasville, GA

Traffic Volumes

A&R Engineering
February 2024

1. Riverside Pkwy @ N. River

A.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				North River Road Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	18	747	0	765	0	346	71	417	37	0	25	62	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	27	0	0	27	0	0	40	40	33	0	22	55	0	0	0	0
Riverside West 200 Development Trips:	5	0	0	5	0	0	7	7	5	0	4	9	0	0	0	0
Riverside West 3 Development Trips:	8	0	0	8	0	0	11	11	10	0	6	16	0	0	0	0
No-Build 2026 Volumes:	59	792	0	851	0	367	133	500	87	0	59	146	0	0	0	0
Proposed Development Trips:	20	0	0	20	0	0	31	31	25	0	17	42	0	0	0	0
Future 2026 Traffic Volumes:	79	792	0	871	0	367	164	531	112	0	76	188	0	0	0	0

P.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				North River Road Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	21	270	0	291	0	686	52	738	200	0	67	267	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	12	0	0	12	0	0	19	19	43	0	28	71	0	0	0	0
Riverside West 200 Development Trips:	2	0	0	2	0	0	3	3	7	0	5	12	0	0	0	0
Riverside West 3 Development Trips:	4	0	0	4	0	0	5	5	11	0	8	19	0	0	0	0
No-Build 2026 Volumes:	40	286	0	326	0	727	82	809	273	0	112	385	0	0	0	0
Proposed Development Trips:	9	0	0	9	0	0	14	14	33	0	22	55	0	0	0	0
Future 2026 Traffic Volumes:	49	286	0	335	0	727	96	823	306	0	134	440	0	0	0	0

23-198 DC BLOX - ATL WEST Data Center on N. River Road (DRI 4112) - Douglasville, GA

Traffic Volumes

A&R Engineering
February 2024

2. Riverside Pkwy @ Summer Lake

A.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				Summer Lake Road Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	13	771	0	784	0	385	30	415	54	0	32	86	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	33	0	33	0	40	0	40	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	5	0	5	0	7	0	7	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	10	0	10	0	11	0	11	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	14	865	0	879	0	466	32	498	57	0	34	91	0	0	0	0
Proposed Development Trips:	0	25	0	25	0	31	0	31	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	14	890	0	904	0	497	32	529	57	0	34	91	0	0	0	0

P.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				Summer Lake Road Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	22	444	0	466	0	722	54	776	28	0	16	44	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	43	0	43	0	19	0	19	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	7	0	7	0	3	0	3	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	11	0	11	0	5	0	5	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	23	532	0	555	0	792	57	849	30	0	17	47	0	0	0	0
Proposed Development Trips:	0	33	0	33	0	14	0	14	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	23	565	0	588	0	806	57	863	30	0	17	47	0	0	0	0

23-198 DC BLOX - ATL WEST Data Center on N. River Road (DRI 4112) - Douglasville, GA

Traffic Volumes

A&R Engineering
February 2024

3. Riverside Pkwy @ Westpoint

A.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				Westpoint Parkway Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	13	924	0	937	0	390	31	421	15	0	6	21	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	33	0	33	0	40	0	40	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	5	0	5	0	7	0	7	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	10	0	10	0	11	0	11	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	14	1027	0	1041	0	471	33	504	16	0	6	22	0	0	0	0
Proposed Development Trips:	0	25	0	25	0	31	0	31	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	14	1052	0	1066	0	502	33	535	16	0	6	22	0	0	0	0

P.M. Peak Hour

	Riverside Parkway Northbound				Riverside Parkway Southbound				Westpoint Parkway Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	5	490	0	495	0	761	13	774	32	0	6	38	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	43	0	43	0	19	0	19	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	7	0	7	0	3	0	3	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	11	0	11	0	5	0	5	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	5	580	0	585	0	834	14	848	34	0	6	40	0	0	0	0
Proposed Development Trips:	0	33	0	33	0	14	0	14	0	0	0	0	0	0	0	0
Future 2026 Traffic Volumes:	5	613	0	618	0	848	14	862	34	0	6	40	0	0	0	0

23-198 DC BLOX - ATL WEST Data Center on N. River Road (DRI 4112) - Douglasville, GA

Traffic Volumes

A&R Engineering
February 2024

4. N. River Rd @ W. Site Drwy

A.M. Peak Hour

	North River Road Northbound				North River Road Southbound				Site Driveway 1 (Western) Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	6	0	6	0	5	0	5	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	19	0	19	0	16	0	16	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	25	0	25	0	21	0	21	0	0	0	0	0	0	0	0
Proposed Development Trips:	36	15	0	51	0	13	0	13	0	0	29	29	0	0	0	0
Future 2026 Traffic Volumes:	36	40	0	76	0	34	0	34	0	0	29	29	0	0	0	0

P.M. Peak Hour

	North River Road Northbound				North River Road Southbound				Site Driveway 1 (Western) Eastbound				- Westbound			
Condition	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Existing 2024 Traffic Counts:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Growth Factor (%):	3	3	3		3	3	3		3	3	3		3	3	3	
Adjacent Development Trips:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Riverside West 200 Development Trips:	0	3	0	3	0	6	0	6	0	0	0	0	0	0	0	0
Riverside West 3 Development Trips:	0	9	0	9	0	19	0	19	0	0	0	0	0	0	0	0
No-Build 2026 Volumes:	0	12	0	12	0	25	0	25	0	0	0	0	0	0	0	0
Proposed Development Trips:	16	7	0	23	0	17	0	17	0	0	39	39	0	0	0	0
Future 2026 Traffic Volumes:	16	19	0	35	0	42	0	42	0	0	39	39	0	0	0	0