

**Action Requested/Required:**

- ☐ Vote/Action Requested
☐ Discussion or Presentation Only
☒ Public Hearing
Report Date: 2/26/25
Hearing Date: 3/6/25
Voting Date: 3/20/25

Department: Community Development **Presenter(s) & Title:** Steve Green, Zoning Administrator

Agenda Item Title:

MPA2412-004 and CUP2412-003 - Request to amend certain conditions placed upon previously approved Master Plan Amendment and Conditional Use Permit - Pod I, Riverstone

Summary:

The applicant seeks to change the previously approved tenant requirement from seniors to family. They wish to maintain the previously approved number of rental units (251) and all other development criteria. The applicant is also requesting the City of Canton's Georgia Initiative for Community Housing (GICH) allocation as well as financial commitment letter in the amount of \$500,000.

Budget Implications:

Budgeted? ☐ Yes ☐ No ☒ N/A

Total Cost of Project: Check if Estimated ☐

Fund Source: General Fund ☐ Water & Sewer ☐ Sales Tax ☐ Other:

Staff Recommendations:

Staff recommendation will be presented at the Action Meeting March 20, 2025.

Reviews:

Has this been reviewed by Management and Legal Counsel, if required? ☐ Yes ☐ No

Attachments:

Application, site plan, traffic study, Letter of request.



Land Use Petition: MPA2412-004 and CUP2412-003
Date of Staff Report Preparation: 2/12/2025
Mayor and City Council Public Hearing Date: 03/06/2025
Possible action date 02/20/2025

Project Name/Applicant: Kevin Buckner

Property Owner: Matt Sasser

Property Location: Parcel 060, Tax Map Book Number 14N22A, Bluffs Parkway (no address assigned)

Tax Map and Parcel Number: 14N22A, 060

District/Land Lot: 14th District, Land Lots 205/208

Acreage: 32.91

Existing Zoning District: PD-MU

Requested Zoning: N/A

Existing Land Use: Vacant / undeveloped

Future Development Map Designation: CLMURC Community, Mixed Use Development, Riverstone

Proposed Development: 251 apartment units

District Standards:

___ Zoning District Standards (Primary Street)			
Impervious Surface (max.)	N/A	Front Yard Setback (min.)	50'
Open Space (min.)	N/A	Side Yard Setback (min.)	40'
Building Height (max.)	5 story	Rear Yard Setback (min.)	40'
Building Height (min.)		Buffer Planting (min.)	N/A
Zoning Buffer	N/A	Overlay Zone	N/A

Surrounding Land Uses and Zoning:

– PD-MU

Cherokee High School – PD-MU

North – Vacant/undeveloped – PD-MU

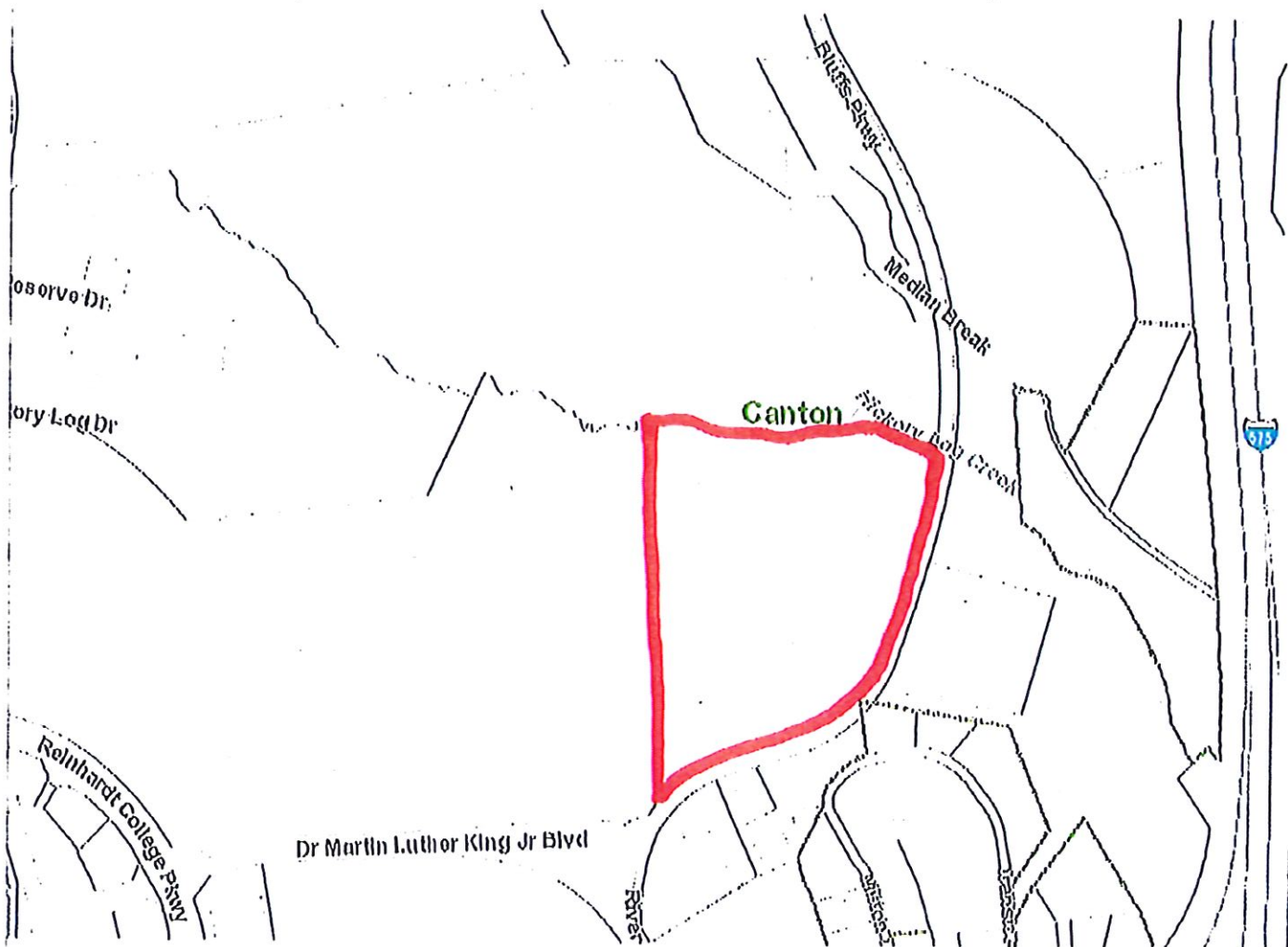
South – Retail, Veterinarian, Vacant/Undeveloped

East – Vacant/Undeveloped – PD-MU

West – Vacant/Undeveloped, future site of

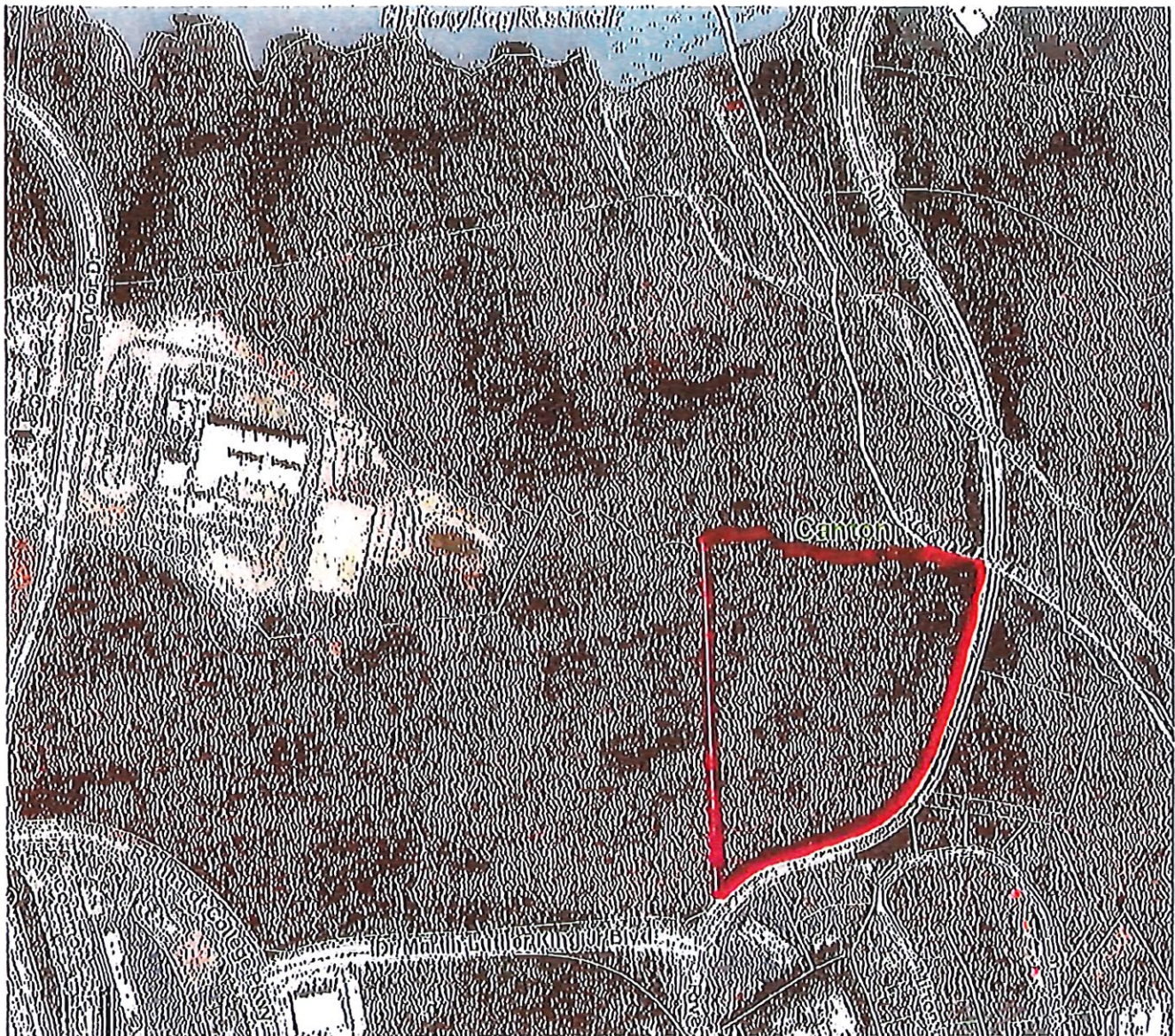
CANTON

LOCATION MAP



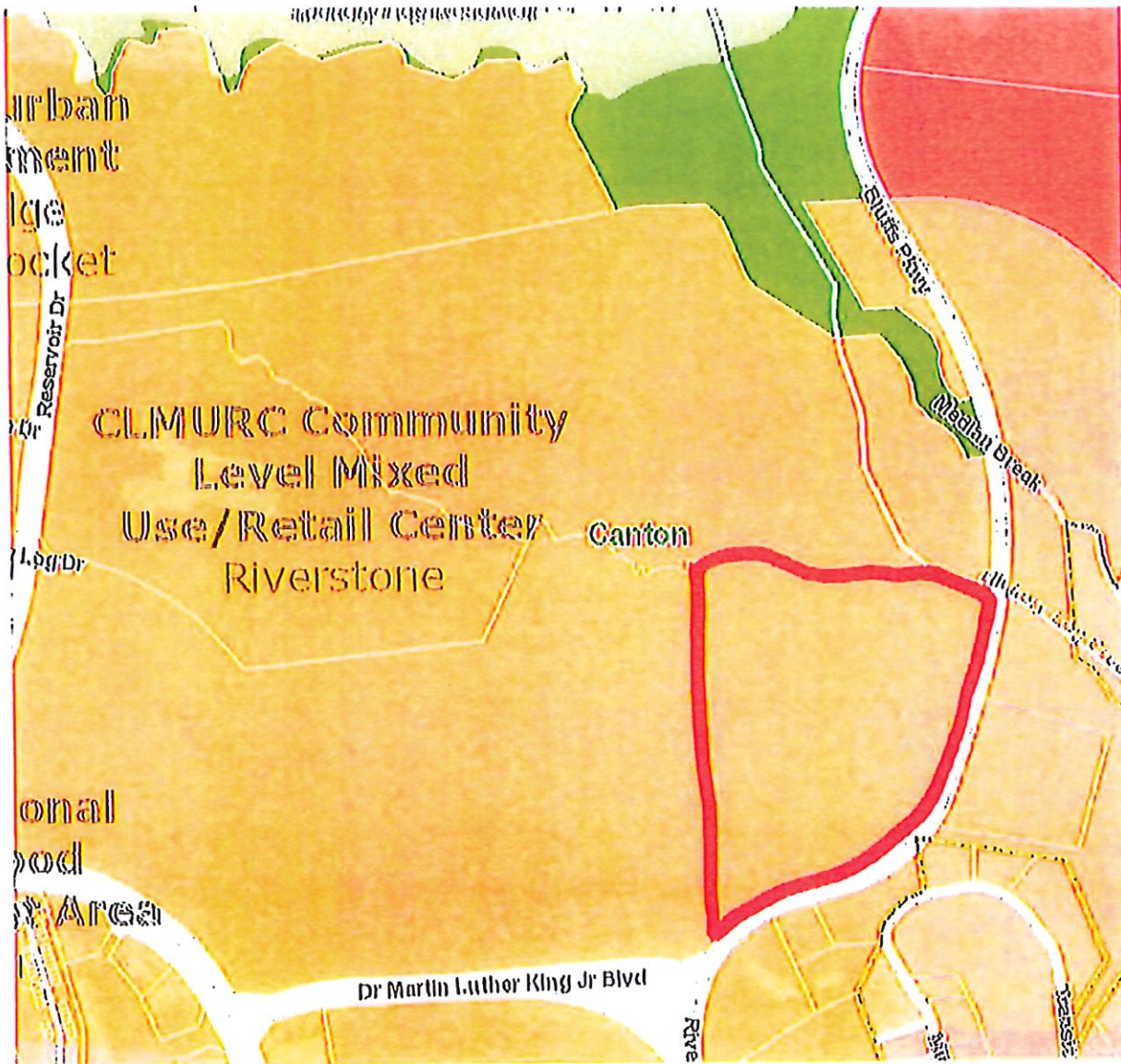
CANTON

EXISTING LAND USE MAP



CANTON

FUTURE LAND USE MAP





Site Description: The subject property is located within Pod I of the Riverstone development. The parcel is heavily wooded with a mixture of evergreens and hardwoods. There is a rise in elevation of 30 to 40 feet from Bluffs Parkway approximately 90 to 100 inside the property. The elevation drops off significantly toward the rear of the lot. There is a small area of floodplain at the northeast corner.

Site History: The subject property was approved in 2021 for a Master Plan Amendment (MPA) and a Conditional Use Permit (CUP). The MPA and CUP were approved for 251 senior apartment units.

CRITERIA TO BE APPLIED – LAND USE PETITION (REZONING)

1. Whether the zoning proposal will permit a use that is suitable in view of the use and development of adjacent and nearby properties;
2. Whether the zoning proposal will adversely affect the existing use or usability of adjacent or nearby property;
3. Whether the property to be affected by the zoning proposal has a reasonable economic use as currently zoned;
4. Whether the zoning proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools;
5. Whether the zoning proposal is in conformity with the policy and intent of the Comprehensive Plan and Future Development Map;
6. Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the zoning proposal.
7. Whether the zoning proposal will adversely affect historic buildings, sites, districts, or archaeological resources.
8. Whether the aesthetic and architectural design of the site is compatible with the intent and requirements of the Comprehensive Plan, the Character Areas, and any Overlay Districts.



CRITERIA TO BE APPLIED – CONDITIONAL USE PERMIT

- a. Whether the proposed use is consistent with the comprehensive plan and other adopted policies of the City; **The proposed use is consistent with the Comprehensive Plan and approved zoning conditions.**
- b. Whether the proposed use complies with the requirements of this zoning ordinance; **The Unified Development Code allows for development of this nature through approved Master Plans. This plan was approved by the Mayor and Council on May 3, 2007.**
- c. Whether public services, public facilities and utilities are adequate to serve the proposed use; **Public services and facilities are adequate to serve this proposed use.**
- d. Whether the proposed use will create adverse impacts upon any adjoining land use by reason of:
 - 1. Noise, smoke, odor, dust or vibration generated by the proposed use; **The development will not cause extraordinary noise, smoke, odor or vibration.**
 - 2. Hours or manner of operation of the proposed use; **The manner of operation will be typical of an apartment complex that is available for "family" rental. and**
 - 3. Traffic volumes generated by the proposed use; **Traffic volumes will be typical of a "family" rental apartment complex.**
- e. Whether the proposed use would result in an over-concentration of the subject use type within the area of the proposed use; **Currently there are 3,704 apartments in Canton. Of this number, 1,949 are located in Ward 1. There 195 multi-family units under construction and 120 of these are within Ward 1. This results in 53.06% of multi-family units being located in Ward 1.**
- f. Whether the aesthetic and architectural design of the site is compatible with the intent and requirements of the comprehensive plan, the character areas, and all



applicable zoning ordinance regulations; The architectural appearance of the structure will be approved by the Oversight Committee. If approved the applicants Master Plan will determine the development criteria. and

- g. Whether the proposed use is compatible with adjacent properties and land uses, based on consideration of the size, scale and massing of proposed buildings and the overall site design. A rental project is being developed just to north of the subject property. This project will be townhomes and is also located in Pod I.

DEPARTMENT COMMENTS

BUILDING AND SAFETY SERVICES

- BUILDING SERVICES: Building Services had no comment.

- SAFETY SERVICES: Safety Services noted that all construction must be in compliance with all applicable building and fire codes.

Conditions for Consideration

COMMUNITY DEVELOPMENT

These applications seek approval for a Master Plan Amendment and approval of a Conditional Use Permit to allow the rental of the units to include "family" as well as senior citizens. All previously approved amendments to the subject property will remain.

Currently Canton has 3,704 apartment units. Of this number 1,949 are located in Ward 1. There are 2,581 units that have been approved in the last few years but have not been built (Canton Senior apartments and Prominence Point are currently under construction. 120 and 168 units respectively).

The applicant also seeks the City of Canton's Georgia Initiative for Community Housing (GICH) allocation as well as a financial commitment letter in the amount of \$500,000.



Conditions for Consideration

Possible conditions will be provided after the public hearing meeting.

DEVELOPMENT SERVICES

Conditions for Consideration

POLICE DEPARTMENT

No comment

Conditions for Consideration

PUBLIC WORKS

Conditions for Consideration

UTILITY ENGINEER

Conditions for Consideration

CHEROKEE COUNTY SCHOOL SYSTEM

Conditions for Consideration

CHEROKEE COUNTY (AS NEEDED)

CHEROKEE COUNTY PLANNING AND ZONING DEPARTMENT



Conditions for Consideration

CHEROKEE COUNTY ENGINEER

Conditions for Consideration

CHEROKEE COUNTY FIRE MARSHAL

Conditions for Consideration

STAFF CONDITIONS FOR CONSIDERATION

1.



Community Development Department

110 Academy Street, Canton, Georgia 30114
770-704-1500

CUP2412-003

Public Hearing Application

Project # _____

1. Please check all information supplied on the following pages to ensure that all spaces are filled out completely and accurately before signing this form. State N/A, where Not Applicable
2. Please make your check payable to "City of Canton."
3. If you have questions regarding this form please contact the Department of Planning and Zoning by calling (770) 704-1530.

This form is to be executed under oath. I, Kevin Buckner, do solemnly swear and attest, subject to criminal penalties for false swearing, that the information provided in the Application for Public Hearing is true and correct and contains no misleading information. I, Kevin Buckner, have received and thoroughly read the Public Hearing Procedures.

Applicant: Kevin Buckner This 3 day of December, 20 24.
Print Name: Kevin Buckner

Applicant Information:

Name: Kevin Buckner
Address: 3825 Paces Walk SE Suite 100
City: Atlanta
State: Georgia Zip Code: 30339
Telephone: 678-324-5550
Fax Number: _____
Email Address: kbuckner@tbgresidential.com

Owner Information:

Name: Matt Sasser
Address: 1301 Hightower Trail Suite 350
City: Atlanta
State: Georgia Zip Code: 30350
Telephone: 404-446-0225
Fax Number: _____
Email Address: matt@meyersbrothers.com

This Application For (Check Only One):

- ☐ A Annexation
☐ B Rezoning
☐ C Master Plans
☐ D Master Plan Revisions
☒ E Conditional Use Permit
☐ F Land Use Modification

☐ G Zoning Condition Amendment
☐ H Density Transfer within Master Plan

- ☐ I Temporary Use Permit
☐ J Zoning Ordinance Text Amendment
☐ K Variance: Pre-Construction
☐ K Variance: Post-Construction
☐ Appeal

☐ Adjustment
☐ Special Exception

Fee Schedule:

Application Type _____
Base Fee _____ + (/Acres _____ x \$25.00 = _____) = _____
Advertising Fee _____ + (/Acres _____ x \$50.00 = _____) = _____

Staff Use Only

Amount Due: _____
Amount Due: _____
Total Fee: _____

Received By: _____

Date: _____

Amount Paid: _____



Community Development Department

110 Academy Street, Canton, Georgia 30114

770-704-1500

Authorization Of Property Owner

This form is to be executed under oath. I, MATT SASSER, do solemnly swear and attest, subject to criminal penalties for false swearing, that I am the owner of the property, which is the subject matter of the attached application, as is shown in the records of Cherokee County, Georgia. I hereby authorize the City of Canton and its representatives to inspect the property, which is the subject of this application, and post any notices required thereon.

This 6 day of DECEMBER, 2024.

Owner Signature: [Signature]

Print Name: MATT SASSER

I, the above signed legal owner of the subject property, do hereby authorize the following application to be submitted to the City of Canton:

- | | |
|--|--|
| ☐ A Annexation | ☐ G Zoning Condition Amendment |
| ☐ B Rezoning | ☐ H Density Transfer within Master Plan |
| ☐ C Master Plans | ☐ I Temporary Use Permit |
| ☐ D Master Plan Revisions | ☐ J Zoning Ordinance Text Amendment |
| ☒ E Conditional Use Permit | ☐ K Variance |
| ☐ F Land Use Modification | |

Sworn To and Subscribed Before Me This 6 Day Of December, 2024.

Notary Signature: [Signature]

(Seal)

KIMBERLY BROWN
NOTARY PUBLIC
FULTON COUNTY
GEORGIA

My Commission Expires November 27, 2026



Community Development Department
110 Academy Street, Canton, Georgia 30114
770-704-1500

Authorization Of Applicant

This form is to be executed under oath. I, MATT SASSER, do solemnly swear and attest, subject to criminal penalties for false swearing, that I am the owner of the property, which is the subject matter of the attached application, as is shown in the records of Cherokee County, Georgia. I hereby authorize the City of Canton and its representatives to inspect the property, which is the subject of this application, and post any notices required thereon.

This 6 day of DECEMBER, 2024.

Owner Signature: [Signature]

Print Name: MATT SASSER

I, the above signed legal owner of the subject property, do hereby authorize the person named below to act as applicant in the pursuit of a request for:

- | | |
|--|--|
| ☐ A Annexation | ☐ G Zoning Condition Amendment |
| ☐ B Rezoning | ☐ H Density Transfer within Master Plan |
| ☐ C Master Plans | ☐ I Temporary Use Permit |
| ☐ D Master Plan Revisions | ☐ J Zoning Ordinance Text Amendment |
| ☒ E Conditional Use Permit | ☐ K Variance |
| ☐ F Land Use Modification | |

Name of Authorized Applicant: Kevin Buckner

Signature: [Signature]

Mailing Address: 3825 Paces Walk SE Suite 100

City: Atlanta

State: Georgia Zip Code: 30339

Telephone: 678-324-5550

Fax Number: _____

E-mail: kbuckner@tbgresidential.com

Applicant Status:

- ☐ Owner
☒ Option to Purchase
☐ Leasee
☐ Area Resident
☐ Other (Explain): _____

KIMBERLY BROWN
NOTARY PUBLIC
FULTON COUNTY
GEORGIA

This Authorization of Applicant Form has been completed and the property owner's signature is Sworn To and Subscribed Before Me This 6 Day Of December, 2024.

Notary Signature: [Signature] (Seal)

www.canton.ga.gov

KIMBERLY BROWN
NOTARY PUBLIC
FULTON COUNTY
GEORGIA

My Commission Expires November 27, 2026

My Commission Expires November 27, 2026



Community Development Department

110 Academy Street, Canton, Georgia 30114
770-704-1500

Disclosure Form

O.C.G.A. § 36-67A-2 / O.C.G.A. § 36-67A-3 requires disclosure of campaign contributions to government officials by an applicant or opponent of a public hearing petition. Applicants must file this form with the Department of Community Development.

1. Name of Applicant/Opponent: Kevin Buckner *Please Use Title Or Public Office or Names*

Section 1

If the answer to any of the following questions is "Yes," complete Section 2.

- A) Are you, or anyone else with a property interest in the subject property, a member of the City of Canton Planning Commission or the City of Canton Mayor and Council?
☐ YES ☒ NO
- B) Does an official of such public bodies have any financial interest in any business entity which has a property interest in the subject property?
☐ YES ☒ NO
- C) Does a member of the family of such officials have an interest in the subject property as described in (A) and (B)?
☐ YES ☒ NO
- D) Within Two (2) years of immediately preceding this application have you made campaign contributions(s) or given gifts to such public officials aggregating \$250 or more?
☐ YES ☒ NO

Section 2

1. Name and the official position of the Canton Official to whom the campaign contribution was made *(Please use a separate form for each official to whom a contribution has been made in the past (2) years):*

None

2. List the dollar amount/value and description of each campaign contribution made over the past two (2) years by the Applicant/Opponent to the named Canton Official:

Description

\$	
\$	
\$	

Note: Complete a separate form for each authorized applicant.



Address: 6 Reinhardt College Pkwy

Land Lot(s): 205 & 206 District: 14 Section: 2 Map #: Parcel #: 14N22A 060

Existing Zoning Of Property: PD-MU ☒ City
☐ County Total Acreage Of Property: 32.9 Acres
Proposed Zoning Of Property: PD-MU Existing Use(s) Of Property: Vacant

Directions to property from Main Street in downtown Canton:
Take Waleska St and Reinhardt College Pkwy to Dr. Martin Luther King Jr Blvd/Riverstone Blvd.
Follow Dr. Martin Luther King Jr Blvd/Riverstone Blvd to Bluffs Pkwy

Adjacent Property/Owner Information: Please provide the following information for all adjacent properties, including property connected by public rights-of-way. Attach additional sheets as necessary.

	<u>OWNER NAME/ADDRESS</u>	<u>CURRENT ZONING</u>	<u>CURRENT LAND USE</u>
NORTH	Cottages at Riverstone GA LLC	PD-MU	Vacant - Undeveloped
SOUTH	Vista at Riverstone LLC	PD-MU	Commercial - Retail and Office
EAST	Horizon Clinical LLC	PD-MU	Vacant- Undeveloped
WEST	Cherokee County School System	PD-MU	Vacant - Under construction
OTHER			

UTILITY INFORMATION

How is sewage from this development to be managed? City of Canton

Proposed managing jurisdiction: City of Canton

How will water be provided to the site? City of Canton

Proposed managing jurisdiction: City of Canton Size Limit: TBD



Community Development Department

110 Academy Street, Canton, Georgia 30114
770-704-1500

PUBLIC SCHOOL POLICY STATEMENT

The Mayor and Council of the City of Canton hereby recognize that growth and development can, at times, have an effect on school capacity within the county and therefore recognize the need to share information on developments that have regional impact. In an effort to cooperate with the Cherokee County School Board and share information on residential rezoning requests, master plan applications, and land use modifications to the comprehensive land use plan, the Mayor and Council hereby encourage open dialogue and meeting between the applicant and the appropriate school board representative. Therefore, developers whose projects consist of 25 or more residential units shall contact the Cherokee County School Board and communicate with a school board representative to discuss their intent. The applicant should be prepared to address such communication if requested by the Mayor and Council at the meeting in which final action is to be taken. (Section 8-8-B-37) (Amended: 12/07/00)

County Schools serving this development:

HIGH Cherokee High School

MIDDLE Teasley Middle School

ELEMENTARY Hasty Elementary School

TRAFFIC INFORMATION

Road/Street providing access: Bluffs Parkway

Width at property: (Road) 70 ft (Right-of-way) Bluffs Parkway

Distance to nearest major thoroughfare: 0.5 Miles Thoroughfare Name: Riverstone Blvd

Description of Road accessing property (Classification): Urban Road

In support of this request, I submit the following items, which are attached and made a part of this application:

☒ Boundary Survey

☒ Legal Description

☒ Letter of Intent

☒ Traffic Analysis Report

☒ Master Plan / Site Plan

☒ Location Map

☐ Hydrology Study

(Guidelines available from Planning & Zoning Dept.)

☐ Board of Appeals Review Criteria Response

☒ Elevation Plans

☐ Petition Requesting Annexation

☐ Other (please explain) _____

Review Criteria

(Applications Type A – J : ONLY)

How will this proposal be compatible with surrounding properties? The proposed development is an approved use in Pod I of the Riverstone Master Plan. The surrounding properties are largely Vacant/undeveloped and will provide housing for families with students at Cherokee High School.

How will this proposal affect the use and value of surrounding properties? The proposed development will not affect the surrounding properties as the surrounding area is largely vacant.

Can the property be developed for a reasonable economic use as currently zoned? Please explain why or why not.
Yes, multifamily is an approved use.

What would be the increase to population and traffic if the proposal were approved? The proposed development will provide 251 units of multifamily housing. Please see the attached traffic analysis that shows no mitigation is required.

What would be the impact to schools and utilities if the proposal were approved? The families living at the proposed development likely will already live in Cherokee County and attend Cherokee County schools. Therefore, no impact is anticipated. We have a letter from the City Engineer confirming availability of utilities.

How is the proposal consistent with the Comprehensive Land Use Plan, particularly the Future Land Use Map?
The proposed use (multifamily) is an approved use of Pod I in the River Stone Master Plan.

Are there existing or changing conditions which affect the development of the property and support the proposed request? The site is very difficult to develop with 100 ft plus of fall from the south end to the north end. The proposed development is still feasible with all of the site work that will need to be done. Other approved uses would not feasibly be able to develop on this site.

Provide a Letter of Intent, which provides the necessary information to support your application.

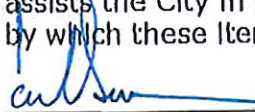


Dear Applicant,

By signing this letter you have acknowledged that you have read and understand the City of Cantons "Housing Needs Assessment & Market Study. A copy of this study may be found on the City's website, www.cantonga.gov.

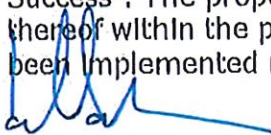
In addition by signing this letter you have acknowledged that you have read and understand the City of Canton's "Roadmap for Success". This plan was adopted by the Mayor and City Council on December 17, 2020. A copy of this document may also be found on the City's website, www.cantonga.gov. *

I, Kevin Buckner, as applicant and/or owner of the subject property(ies) do hereby attest that I have read and understand the City of Canton "Housing Needs Assessment & Market Study". The proposed project meets the tenets of success and assists the City in reaching goals through the proposed development. The specific means by which these items have been implemented may be found in the Letter of Intent.

 Date: _____
Signature

Kevin Buckner
Printed Name

I, Kevin Buckner, as applicant and/or owner of the subject property(ies) do hereby attest that I have read and understand the City of Canton's "Roadmap for Success". The proposed project has implemented the "Roadmap for Success" or portions thereof within the proposed development. The specific means by which these items have been implemented may be found in the Letter of Intent.

 Date: _____
Signature

Kevin Buckner
Printed Name

*Please be prepared to discuss the items with the City staff.

Summit at Hickory Creek

Canton, GA

Letter of Intent

Canton Multifamily Development – Bluffs Parkway

Developer Background

TBG Residential is currently under contract with Bright-Sasser Canton, LLC to purchase a 32.9-acre land site located in between the new Cherokee High School and Bluffs Parkway. TBG Residential is an affordable housing developer, owner, and manager. TBG owns and operates more than 1,600 apartment units across Georgia, Alabama, and Tennessee.

TBG Residential is based in Atlanta, Georgia and has completed 21 LIHTC developments. TBG has over 20 years of specialized LIHTC knowledge and over 40 years of real estate development and management experience. TBG is the developer, general contractor, manager and long term owner of each development.

Development Overview

TBG Residential is proposing to build a 5-story family apartment building with an internal clubhouse and high-quality amenities on a 32.9-acre plot of land in-between Bluffs Parkway and Teasley Middle School.

The development will be situated on the southern shelf of the 32.9-acre site, and it will have breathtaking views overlooking the Hickory Log Creek Reservoir. The site comes with topographical challenges given the site has 100 ft plus of fall from the south end to the north end of the site. The site also has two streams running through it, and a few large rock outcroppings above the surface that will make construction very challenging. Although this is a challenging site to develop, it will allow for a design that will mold with the existing terrain and provide spectacular views and walking trails for all future residents and guests.

The development will provide an amenity rich living experience with a club house, cafe, dog park, fitness center, pool, grilling pavilions, and walking trails. All units will have open floor plans, new kitchen appliances, designer lighting fixtures, walk-in closets, solid-surface countertops, LVP flooring, smart cabinets, and balconies. The exterior of the building will be a mix of brick and hardie plank siding.

The master plan amendment request is to change the tenancy from senior to family. Other than the proposed change, TBG complies with all previously approved guidelines in Dominium's approved #MPA2105-004. These guidelines are included in the existing POD I requirements section at the end of this Letter of Intent. We have also included the previously approved MPA and CUP for reference.

TBG Residential values architectural quality and adheres to strict internal design standards. TBG agrees to comply with Riverstone's design requirements. The development's exterior facades will incorporate wall plane recessions and include architectural features such as vestibules and awnings along no less than fifty percent of their length. TBG will provide a Landscape Plan describing the plants and soils to be used in landscaping along building exteriors, road frontages, and parking areas. Below is a potential rendering that implements similar design elements.



Traffic Analysis

The development will be located on the north corner of Bluffs Pkwy at Martin Luther King Jr Blvd and Riverstone Blvd. The development is located west of I-575 to the north of Riverstone Pkwy. The site plan will propose two new driveways for the apartment complex to be located off Bluffs Pkwy. The northernmost driveway will serve as the main entrance.

According to the traffic impact analysis, there are no required roadway improvements or mitigation required as result of the minor impacts to traffic associated with this development project. The development is anticipated to generate 1,151 new daily trips. The highest peak hour volume is expected during the AM peak hour with 99 peak hour vehicle trips. The site is expected to generate 98 peak hour vehicle trips during the PM peak hour. Turn lane warrants were also analyzed for the proposed site access locations on Bluffs Parkway. Both the southbound right-turn from major road and northbound left-turn from the major road were analyzed, and it was determined that turn lanes were not warranted for either entrance.

Project Alignment with the City of Canton's Housing Study

This development will be consistent with the City of Canton's desire to provide affordable housing. The City of Canton's 2044 comprehensive plan seeks to "maintain the existing affordable housing stock and foster new lower and moderately priced housing opportunities."

The City of Canton Housing Needs Assessments & Market Study from 2020 and update in 2022 identify a lack of suitable housing that is affordable for younger residents and core members of the workforce. Approximately half of renters in Canton (52.4%) are paying more than 30% of their income in housing costs. This figure is much higher amongst renters with lower incomes, with approximately 94% of renters with household incomes below \$20,000, 98% of renters between \$20,000-\$34,999, and 56% of renters between \$35,000-\$49,999 spending more than 30% of their incomes on housing costs. The development will provide housing to people making 80% or less of Area Median Income. The development will provide much needed housing to essential workers in Canton such as teachers, police officers, and office workers.

The Property

This site is 32.9 acres of Pod I in the Riverstone development. Located to the west of I-575 and bordered on the south by GA Hwy 5 (Riverstone Pkwy). When started in 1996, Riverstone was heavily wooded with hardwoods and some pines. The property has numerous rolling hills and Hickory Log Creek cuts through the northeast corner before emptying into the Etowah River on the south side of Hwy 5.

Riverstone's primary access is from I-575. However, Hwy 5 serves as the main entry to Riverstone and its primary east/west artery. In addition, Bluffs Pkwy was constructed to connect Riverstone to the Bluffs Office Park to the north, the proposed Reservoir Dr. connects Riverstone to the 2,200-unit residential development, Great Sky. Reinhardt College Pkwy was also constructed to serve as a connector road from Hwy 140 to Hwy 5.

History

Riverstone was acquired by Bright-Sasser Canton, LLC in 1996. From 1996-1998 Bright-Sasser relocated and expanded Hwy 5 (Riverstone Pkwy), built the southernmost portions of Riverstone Blvd and Reinhardt College Pkwy as well as developed POD A, which contained primarily retail and entertainment uses along with the US Post Office.

From 1998-2000, the balance of Reinhardt College Pkwy and Riverstone Blvd were completed. In addition, during this period, the Heritage Apartments on the western side of POD D were constructed.

From 2000-2002 POD B was developed which contained primarily retail, service and entertainment uses.

From 2002-2004, POD C was developed, as office condominiums. The southern portion of POD E was developed as an office medical building and the southeastern portion of POD D was developed as single-family residences geared toward senior citizens. The southeastern corner of POD G was also developed as office space and the northeastern portion of POD D was started as town homes.

From 2004-2007, a parcel on the eastern side of POD G was developed as a bank. The southernmost portion of POD E is currently being completed as an assisted living facility and the northern portions of PODs E & F are currently under construction as retail, service, and

entertainment developments. In addition, Bright-Sasser dedicated the Right of Way and paid for a portion of Bluffs Pkwy, which was constructed from Riverstone Blvd to Fait Conn Road and runs through the proposed Bluffs Office Park.

From 2007 - present, in 2007 Reservoir Drive was constructed connecting Riverstone with Canton First Baptist Church and Great Sky. It was designed and constructed as a joint development agreement between Bright-Sasser, the City of Canton, Canton First Baptist Church and Great Sky. In 2010 Bright-Sasser sold approximately 39 acres to the Cherokee County Board of Education for the construction of Teasley Middle School which opened in 2013 and currently has an enrollment of approximately 1,450 students. In 2020, Bright-Sasser sold approximately 88 acres to the Cherokee County Board of Education for the construction of the new Cherokee High School expected to begin enrollment in the Fall of 2026.

Dominium received a Master Plan Amendment and Conditional Use Permit for the subject site to allow 251 units of senior multifamily in 2022.

Adjacent Property Owners

Owner	Current Zoning	Current Land Use
South:		
Bright-Sasser Canton LLC	PD-MU	Vacant
North:		
Bright-Sasser Canton LLC	PD-MU	Vacant - Undeveloped
West:		
Cherokee County School System	PD-MU	Public - Institution
East:		
Vista at Riverstone LLC	PD-MU	Commercial – Retail and Office
Bengal land Group LLC	PD-MU	Commercial – Retail and Office

Road Improvements

As previously mentioned, Bright-Sasser has donated right of way and participated in the construction of Riverstone Blvd, Riverstone Pkwy, Reinhardt College Pkwy, Reservoir Drive and Bluffs Pkwy.

The future growth of Riverstone and the surrounding area were taken into consideration when designing the above-mentioned roads. Riverstone Pkwy is a 6-lane divided median road. Riverstone Blvd, Bluffs Pkwy, Reinhardt College Pkwy and Reservoir Drive are all 4 lanes with a divided median. This road system at Riverstone is in accordance with the City of Canton's Thoroughfare Plan and has become an important means of interconnectivity throughout the City of Canton.

Pedestrian Transit

In addition to bus stops being installed per the City of Canton's requirements, sidewalks shall be provided on the sides of interior residential streets. Sidewalks and/or pedestrian walkways will be constructed throughout the apartment development.

Master Plan Amendment Request

TBG is proposing to abide by all previously approved guidelines submitted by Dominion in #MPA2105-004. TBG's Master Plan Amendment request is to change the tenancy from senior to family.

General Landscaping Requirements

Landscaping will comply with the City of Canton's landscaping requirements.

Sign Requirements

Signage will comply with the City of Cantons code.

Current Master Plan Summary

Dominium previously approved Master Plan Amendment per #MPA2015-004:

- Moved Multi-family from an approved use under office to an approved use under Residential
- The POD only allows 6 units per acre, increased to 8 units an acre
- Allowed for the Multi-Family height restriction under Residential to be 5 stories with a 70 feet maximum height.
- Lowered the minimum unit size to 700 sf. The apartments units will range in size from 700sf-1300 sf
- Front setback 50 feet, Side setback 40 feet, Rear setback 40 feet

Existing POD I Requirements:

Proposed/Future Development

POD I	Land Use	Acreage	Density
Site	Residential	32.9 AC	263 Units (8 Units/ Acre)

POD I

Land Use Classifications:

Residential 83.70 AC
Commercial 110.12 AC
Office 53.03 AC

Total Acreage:

246.85 AC

Densities:

Residential 6 units/AC
Commercial 10,000 SF/AC
Office 15,000 SF/AC

Purposes: It is the intent for this 32.9-acre site in Pod I to be multi-family.

Permitted Land Uses:

Single Family Residential:

Single Family Attached or Detached Dwelling; Accessory Uses.

Commercial:

Retail establishments, restaurants with or without drive-thru, financial institutions, service station, convenience stores, professional or business offices, artisan studio, associations (clubs, lodges, or special events facilities), daycare facility (child and/or adult), real estate office/sales/marketing office and dry cleaners.

Office:

Amphitheater; Artisan Studio; Associations (clubs, lodges, or special events facilities) Auditorium; Bakery; Barber Shop; Bank (and other financial institutions); Beauty Shop; Broadcasting Studio (radio or TV); Car Wash (all bay doors shall be located to the rear of the building); Church, Synagogue; Clinic (public/private); Commercial Recreation Facilities (enclosed); Convenience Stores; Day Care Center (child and/or adult); Dry Cleaning; Dwelling (single Family Detached, Single Family Attached and or Multi-Family); Electric, Power Yards, Substation; Fire Station; Florist (retail); Funeral Home; Heliport (public/private); Hospital; Hotel; Independent and Dependent Car Facilities; Kennel/Training Facility (enclosed); Laboratory (research); Laundry; Library; Medical Facility/Office; Motel; Museum; Manufacturing (light, limited); Office; Parking Lot and/or Deck; Park and Playground; Police, Sheriff, Highway Patrol; Print Shop; Professional or Business Office; Radio and/or TV Transmitter, Studio, Tower; Real Estate Office/Sales/Marketing Office; Restaurant (with or without drive-thru); Retail Establishment (including such physically within other permitted uses); Retirement Community; School (academic); School (beauty, business); Theater, Cinema; Tire Sales (new) and Tire Repair (all bay doors shall be located to the rear of the building); Tower; Utility Substation; Vocational/Trade School.

Prohibited Uses:

No use shall be permitted within this Tract that is inconsistent with the operation of a first-class office, institutional, retail, or residential use. Without limiting the generality of the foregoing, the following uses shall not be permitted:

Any mobile home park trailer court, labor camp, junkyard, or stockyard; provided however, this prohibition shall not be applicable to the temporary use of construction trailers during periods of construction, reconstruction, or maintenance.

Any establishment selling or exhibiting "obscene material;" provided however that this restriction shall not prohibit the operation of a Blockbuster Video, Hollywood Video, or similar operation, or a Barnes & Noble, Waldenbooks, Books A Million, Best Buy, Circuit City or similar operation or the operation of a grocery store or supermarket.

Any establishment selling or exhibiting drug related paraphernalia, or which exhibits either live or by other means to any degree, nude or partially clothed dancers or wait staff.

Any facility or operation, including but not limited to: off-track or sports betting parlor; table games such as blackjack or poker; slot machines, video poker/blackjack/keno machines or similar devices; or bingo hall. Notwithstanding the foregoing, this prohibition shall not be Applicable to government sponsored gambling activities or charitable gambling activities, so long as such activities are incidental to the business operation being conducted by the Occupant.

Any of the following uses: Airport (public/private); Mobile Home Sale/Storage; Outdoor Kennel.

Area Regulations:

Residential:

Reservoir Dr. setback:	40 feet
Interior front setbacks:	25 feet
Side setbacks:	5 feet
Rear setbacks:	20 feet
Minimum home square footage:	2,400 sf
Minimum lot size:	7,000 sf

Commercial:

Minimum Lot Dimensions:	3/4 acre
Minimum Building setbacks:	
Bluffs Pkwy setback:	65 feet
Riverstone Blvd setback:	65 feet
Reservoir Dr:	40 feet
Reinhardt Pkwy:	65 feet
Interior front:	15 feet
Side:	5 feet
Rear:	10 feet
Maximum Building Height:	
stories:	3
Parapet:	60 feet
Architectural Element:	80 feet
Minimum Parking:	5.0 Spaces per thousand square feet

Office:

Minimum Lot Area	1/2 acre
Minimum Building Setbacks	
Bluffs Pkwy setback:	30 feet
Interior front:	15 feet from Public R/W
Side:	10 feet
Corner Side:	15 feet
Rear:	15 feet
Building Separation:	20 feet
Maximum Building Height:	
Stories:	10
Feet:	150

Minimum Parking:

4.0 spaces per thousand square feet

Accessory Uses in POD I would be typical residential uses such as:

- Detached garages
- Gazebos
- Storage buildings
- Swimming pools
- Pool cabanas
- Fountains
- Fences
- Playsets
- Porches (including screened)
- Church
- Country Club
- Utility Substation
- Golf Course
- Park

Sarah Buckner
Senior Development Manager
TBG Residential
3825 Paces Walk SE, STE 100
Atlanta, GA 30309
sbuckner@tbgresidential.com
404-805-9690
December 3, 2024

Mayor Grant and Members of the Canton City Council
110 Academy Street
Canton, GA 30114

**Re: Clarification of TBG Residential's Intent in Master Plan and Conditional Use Permit
Amendment Request**

Dear Mayor Grant and Members of the Canton City Council,

I hope this letter finds you well. I am writing on behalf of TBG Residential regarding the recent submission of our letter of intent in relation to the Master Plan and Conditional Use Permit (CUP) Amendment request for the apartment complex project at Bluffs Parkway. We would like to provide further clarification on the content of our request to ensure there is no misunderstanding regarding our intentions for this development.

First and foremost, we want to affirm that TBG Residential's request is solely to change the tenancy of the proposed apartment complex, allowing for families as well as seniors. We do not intend for the property to remain age-restricted, as previously considered under the original proposal.

Additionally, TBG Residential fully commits to adhering to all zoning conditions previously adopted by the Council when Dominion submitted the original Master Plan and CUP request. These conditions remain unchanged and will be strictly followed to ensure that the project complies with all established requirements for zoning and land use previously adopted on January 20, 2022.

Regarding the specifics of our request, the CUP and MPA allows for the development to be a 5-story, 251-unit apartment complex. However, we would like to emphasize that TBG Residential's actual intent is to build the project in two phases of 96 units each, as reflected in the attached site plan.

In summary, TBG Residential's request is to modify the tenant demographic to allow families and seniors, with a continued commitment to the original zoning conditions. We seek to ensure minimal disruption to the landowner's zoning rights and hope that this clarification provides transparency regarding our intentions moving forward.

TBG has updated the traffic study to reflect the change from a senior-focused to a family-oriented tenancy for the apartment complex, as well as the maximum allowable density of 251 units. This update was made to assess the potential impact of the development on the surrounding roadway system under the new tenancy mix. The updated study indicates that, even at the maximum density for families, there are no required roadway improvements or mitigation measures needed, as the

impacts to traffic are minimal. While the planned development will consist of 192 units (two phases of 96 units each), the study was expanded to evaluate the impact of the maximum density scenario, providing a comprehensive understanding of its potential effects. The findings confirm that traffic impacts remain minimal, with no significant impact anticipated.

Although the development is designed to accommodate families, the unit mix has been intentionally configured with only two three-bedroom units, primarily consisting of one- and two-bedroom units. This approach aligns with the City's objectives of attracting and supporting senior residents, as it effectively reduces the availability of larger three-bedroom units. By limiting the number of three-bedroom units, the development helps meet the City's desired tenant demographic, fostering a community that better serves its senior population while still providing opportunities for family living.

We are available to answer any questions or discuss any concerns that may arise, and we appreciate your attention to this matter. Thank you for your time and consideration.

Sincerely,

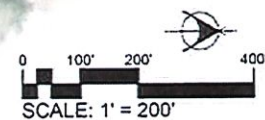

Sarah Buckner

Senior Development Manager
TBG Residential

Attachment: Site Plan



1 SHEET 05 - CONCEPTUAL SITE PLAN - PHASE PLAN
1"=200'-0"

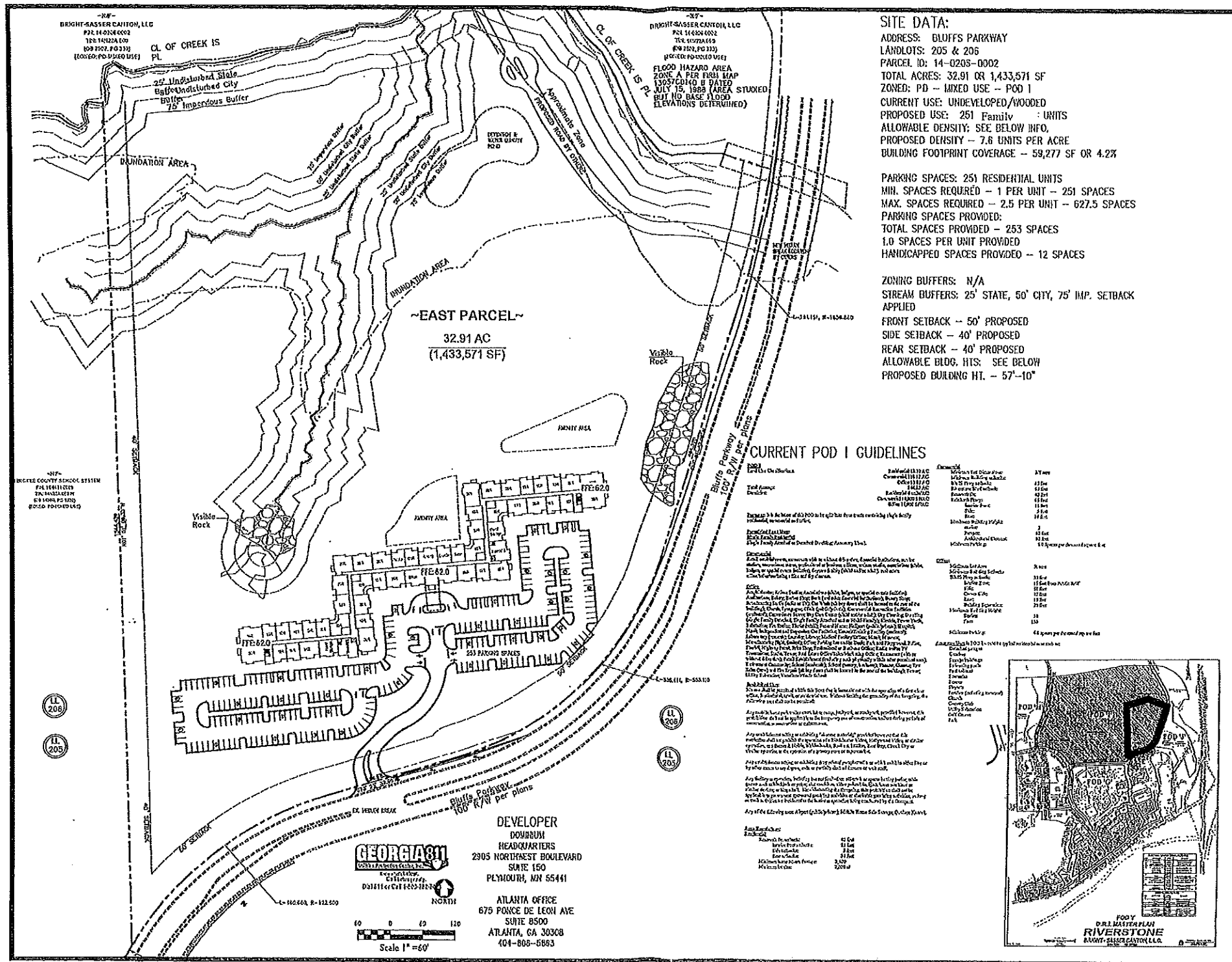


MARTIN RILEY ASSOCIATES - ARCHITECTS, P.C.
100 CRESCENT CENTRE PARKWAY, SUITE 210 TUCKER, GA 30084
SUPPORT AT HICKORY CREEK
CANTON, GA



CSDPS

DATE	05/14/2004
BY	J. RILEY
CHECKED BY	J. RILEY
DATE	05/14/2004
BY	J. RILEY
CHECKED BY	J. RILEY



SITE DATA:
ADDRESS: BLUFFS PARKWAY
LANDLOTS: 205 & 206
PARCEL ID: 14-0208-0002
TOTAL ACRES: 32.91 OR 1,433,571 SF
ZONED: PD - MIXED USE - POD 1
CURRENT USE: UNDEVELOPED/WOODED
PROPOSED USE: 251 Family : UNITS
ALLOWABLE DENSITY: SEE BELOW INFO.
PROPOSED DENSITY - 7.6 UNITS PER ACRE
BUILDING FOOTPRINT COVERAGE - 59,277 SF OR 4.2%

PARKING SPACES: 251 RESIDENTIAL UNITS
MIN. SPACES REQUIRED - 1 PER UNIT - 251 SPACES
MAX. SPACES REQUIRED - 2.5 PER UNIT - 627.5 SPACES
PARKING SPACES PROVIDED:
TOTAL SPACES PROVIDED - 253 SPACES
1.0 SPACES PER UNIT PROVIDED
HANDICAPPED SPACES PROVIDED - 12 SPACES

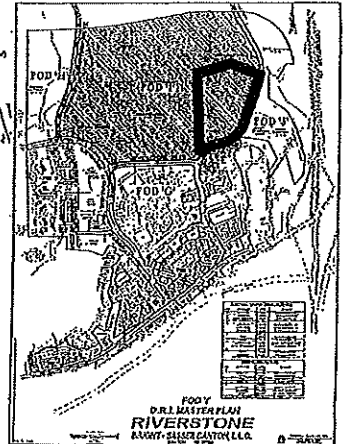
ZONING BUFFERS: N/A
STREAM BUFFERS: 25' STATE, 50' CITY, 75' IMP. SETBACK APPLIED
FRONT SETBACK - 50' PROPOSED
SIDE SETBACK - 40' PROPOSED
REAR SETBACK - 40' PROPOSED
ALLOWABLE BLDG. HTS: SEE BELOW
PROPOSED BUILDING HT. - 57'-10"

CURRENT POD 1 GUIDELINES

POD 1: Single-Family Detached
Minimum Lot Size: 1/4 Acre
Minimum Front Setback: 50' (Proposed)
Minimum Side Setback: 40' (Proposed)
Minimum Rear Setback: 40' (Proposed)
Maximum Building Height: 57'-10' (Proposed)
Minimum Lot Coverage: 10%
Minimum Open Space: 90%
Minimum Tree Retention: 10%
Minimum Tree Planting: 10%
Minimum Tree Size: 4" DBH
Minimum Tree Spacing: 20' x 20'
Minimum Tree Survival: 90%
Minimum Tree Replacement: 1:1
Minimum Tree Planting: 10%
Minimum Tree Size: 4" DBH
Minimum Tree Spacing: 20' x 20'
Minimum Tree Survival: 90%
Minimum Tree Replacement: 1:1

POD 2: Single-Family Attached
Minimum Lot Size: 1/4 Acre
Minimum Front Setback: 50' (Proposed)
Minimum Side Setback: 40' (Proposed)
Minimum Rear Setback: 40' (Proposed)
Maximum Building Height: 57'-10' (Proposed)
Minimum Lot Coverage: 10%
Minimum Open Space: 90%
Minimum Tree Retention: 10%
Minimum Tree Planting: 10%
Minimum Tree Size: 4" DBH
Minimum Tree Spacing: 20' x 20'
Minimum Tree Survival: 90%
Minimum Tree Replacement: 1:1

POD 3: Single-Family Attached
Minimum Lot Size: 1/4 Acre
Minimum Front Setback: 50' (Proposed)
Minimum Side Setback: 40' (Proposed)
Minimum Rear Setback: 40' (Proposed)
Maximum Building Height: 57'-10' (Proposed)
Minimum Lot Coverage: 10%
Minimum Open Space: 90%
Minimum Tree Retention: 10%
Minimum Tree Planting: 10%
Minimum Tree Size: 4" DBH
Minimum Tree Spacing: 20' x 20'
Minimum Tree Survival: 90%
Minimum Tree Replacement: 1:1



DEVELOPER
DOUGLASS
HEADQUARTERS
2305 NORTHEAST BOULEVARD
SUITE 150
PLYMOUTH, NH 05441

ATLANTA OFFICE
675 Ponce de Leon Ave
SUITE B500
ATLANTA, GA 30308
404-808-0883

GEORGIA 811
Call before you dig
1-800-4-A-FLAME
800-426-2529

Scale 1" = 60'

MASTER PLAN
AMENDMENT &
CONDITIONAL USE
PLAN

BLUFFS AT HICKORY
CREEK
SENIOR LIVING
CANTON, GEORGIA

NO.	DATE	REVISION
1	01/15/2023	DESIGNED
2	01/15/2023	REVISED
3	01/15/2023	REVISED
4	01/15/2023	REVISED
5	01/15/2023	REVISED
6	01/15/2023	REVISED
7	01/15/2023	REVISED
8	01/15/2023	REVISED
9	01/15/2023	REVISED
10	01/15/2023	REVISED

MPA-1.0

TRAFFIC IMPACT ANALYSIS FOR

Multifamily Residential Development on Bluffs Parkway

Canton, GA

DECEMBER 2, 2024

PREPARED FOR:

Anna Marie Fulbright, CFA

TBG Residential

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Atlanta, GA 30339

PREPARED BY:

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EXECUTIVE SUMMARY

A proposed development consisting of up to 251-unit multifamily residential development in the City of Canton has been analyzed to identify the traffic impacts associated with the proposed development on the surrounding roadway network. Due to the nature of the proposed development, construction will be completed in a single phase. The buildout is expected to be completed by the year 2029. As a result of the analysis, there are no required roadway improvements or mitigation required as result of the minor impacts to traffic associated with this development project. The specific conclusions of the analysis and recommendations associated with this project are listed below:

Reinhardt College Pkwy at MLK Jr Blvd

- This signalized intersection continues to operate at an acceptable level of service during the future build conditions.
- No mitigation is required at this intersection as part of this development.

MLK Jr Blvd at Bluffs Pkwy/ Riverstone Blvd

- This signalized intersection continues to operate at an acceptable level of service during the future build conditions.
- No mitigation is required at this intersection as part of this development.

Driveway 1 at Bluffs Pkwy

- This intersection will operate at an acceptable level of service during the future build conditions.
- A right turn lane is not warranted at this location.
- No mitigation is required at this intersection as part of this development.

Driveway 2 at Bluffs Pkwy

- This intersection will operate at an acceptable level of service during the future build conditions.
- A left turn lane is warranted in the build conditions. The existing U-turn lane at the existing median opening should be utilized for this development's access.
- A right turn lane is not warranted at this location but is provided in the plans.
- No additional mitigation is required at this intersection as part of this development.

1. Introduction

This report contains the results from a traffic impact analysis performed for a proposed new multifamily residential development in the City of Canton, Georgia. Due to the nature of the proposed development, construction will be completed in a single phase. The buildout is expected to be completed by the year 2029. The site plan is for a 251-unit multifamily residential development. The development will be located on the north corner of Bluffs Pkwy at Martin Luther King Jr Blvd and Riverstone Blvd. The development is located west of I-575 to the north of Riverstone Pkwy. The site plan will propose two new driveways for the apartment complex to be located off Bluffs Pkwy. The northernmost full access driveway will serve as the main entrance.

The purpose of this traffic study is to identify the traffic impacts associated with the proposed development on the surrounding roadway network. In addition to the proposed residential development, background traffic growth is being analyzed in the form of a background growth rate and inclusion of projects in the area. Figure 1 shows the proposed site location in the vicinity of the City of Canton, GA. The site location is shown on an aerial image in Figure 2. A copy of the proposed site plan is provided in Appendix A.

This report has been prepared for submittal to the City of Canton to evaluate the traffic conditions at the site. This report summarizes the data collected, proposed access points, projected traffic at the study intersections, analysis of traffic impacts including level of service (LOS), and conclusions from the analysis.

This site was originally analyzed in September 2021 as a different type of land use. This report intends to reanalyze this site with the current proposed land use and updated traffic data.

Figure 1: Vicinity Map

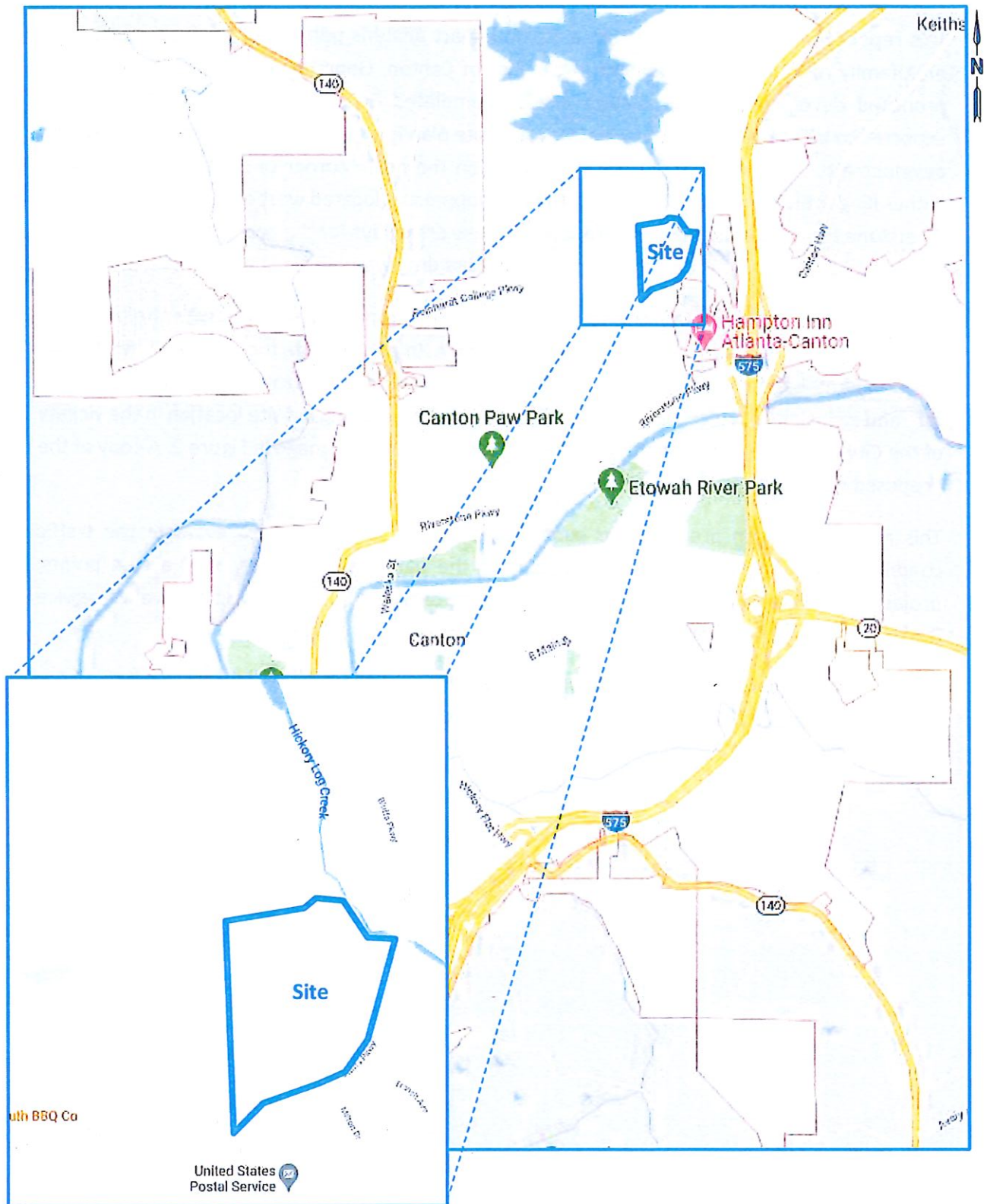
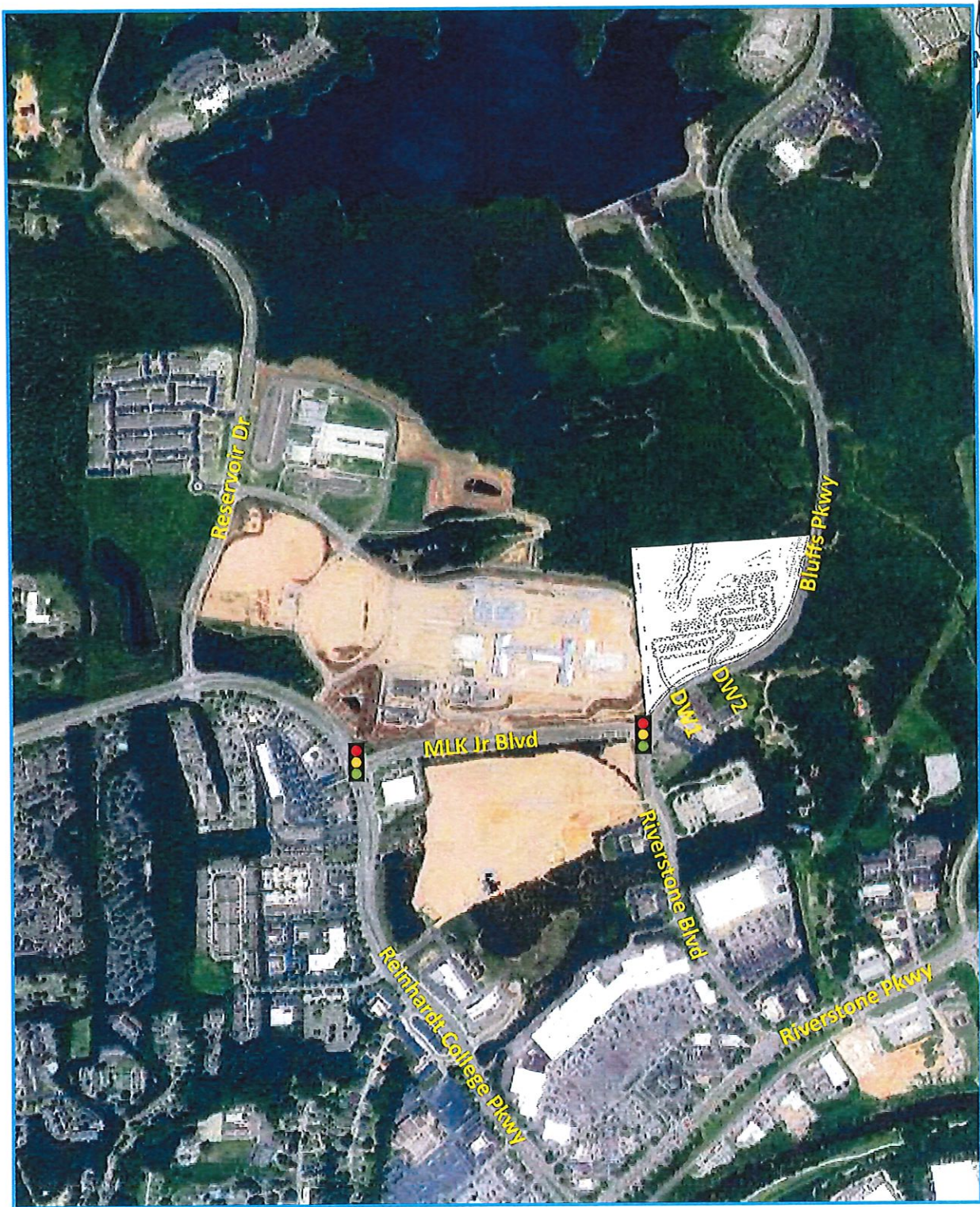


Figure 2: Site Location Aerial



2. Existing and Proposed Development Description

This residential development is planned to occupy the northern corner of Bluffs Pkwy at Martin Luther King Jr Blvd and Riverstone Blvd. The proposed site is currently undeveloped. The development, at full build-out, will consist of a 251-unit multifamily residential development, that proposes one full-access entrance and one right-in, right-out access entrance. The development will be built in one phase and is expected to be completed by the year 2029. A copy of the proposed concept site plan is provided in Appendix A.

The proposed development will consist primarily of surface parking. The southernmost driveway location (Driveway 1) is proposed as a right-in, right-out (RIRO) driveway. The second driveway location (Driveway 2) is proposed at approximately the existing median opening on Bluffs Pkwy and will be full access.

3. Existing Conditions

3.1. Transportation Facilities

This traffic impact study examines the existing (2024), background (2029), and full-build (2029) operations of the intersections listed in Table 1. There are eight main roadways being analyzed in this report with roadway characteristics summarized in Table 2. The existing lane configuration is shown in Figure 3.

Table 1: Study Intersections

#	Intersections	Traffic Control
1	Reinhardt College Pkwy at MLK Jr Blvd	Traffic Signal
2	MLK Jr Blvd at Bluffs Pkwy / Riverstone Blvd	Traffic Signal
3	Proposed Driveway 1 at Bluffs Pkwy	Side-street Stop Control
4	Proposed Driveway 2 at Bluffs Pkwy	Side-street Stop Control

Bluffs Pkwy is a four-lane median divided road section that runs north and south between the intersection at MLK Jr Blvd and Fate Connector Road. The roadway is functionally classified as a Major Collector with a posted speed limit of 45 mph.

Riverstone Blvd is a seven-lane with a two-way left turn lane that runs north and south between the intersection at MLK Jr Blvd/Bluffs Pkwy and Riverstone Pkwy. The roadway is functionally classified as a Minor Arterial with a posted speed limit of 40 mph.

MLK Jr Blvd is a six-lane median divided road section that runs east and west between the intersection at Bluffs Pkwy/Riverstone Blvd and Reinhardt College Pkwy. The roadway is functionally classified as a Minor Arterial with a posted speed limit of 40 mph.

Reinhardt College Pkwy is a six-lane median divided road section that runs northwest to southeast between the intersection at Riverstone Blvd and SR 140/Waleska Rd. The roadway is functionally classified as a Minor Arterial with a posted speed limit of 45 mph.

Table 2: Roadway Characteristics

Roadway	# of Lanes	Posted Speed Limit (MPH)	Functional Classification
Bluffs Pkwy	4	45	Major Collector
MLK Jr Blvd	6	40	Minor Arterial
Riverstone Blvd	7	40	Minor Arterial
Reinhardt College Pkwy	6	45	Minor Arterial

3.2. Traffic Count Data

Traffic count data for this project was collected and updated on Tuesday November 19, 2024. Peak hour turning movement counts were collected at the intersections of Bluffs Pkwy at MLK Jr Blvd and Reinhardt College Pkwy at MLK Jr Blvd. 24-HR Bi-directional counts were also collected for the locations of Bluffs Pkwy, MLK Jr Blvd and Riverstone Blvd on Tuesday November 19, 2024. Traffic data was also referenced from GDOT's *Traffic Analysis & Data Application (TADA)* site. Listed below in Table 3 are the ADT volumes collected on November 19, 2024. GDOT count stations in the Canton area were referenced to determine an applicable summer adjustment factor for the collected volumes. The existing volumes are shown in Figure 4. The full traffic counts are attached in Appendix B.

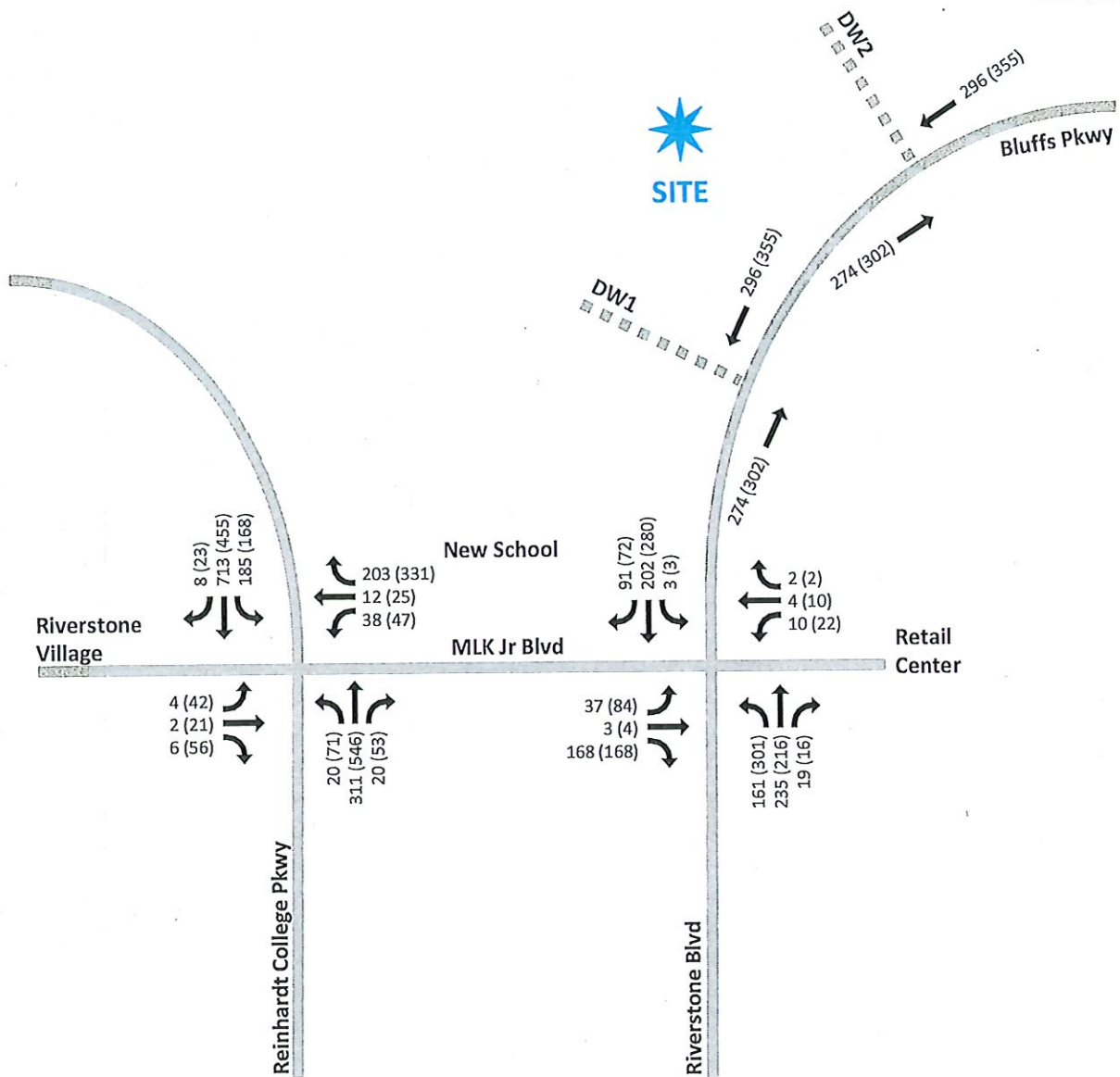
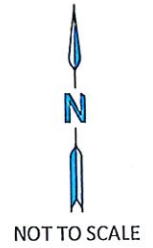
Table 3: ADT Traffic Volumes

Roadway	ADT 2021	ADT 2021 Adjusted	ADT 2024
Bluffs Pkwy	5,170	6,204	6,804
Reinhardt College Pkwy	13,900	16,680	17,150
MLK Jr Blvd	5,475	6,570	6,682

In the 2021 analysis, traffic volumes were adjusted 20% to offset the impacts of the COVID-19 pandemic at the time of this initial study.

Figure 4: Existing (2024) Traffic Volumes

##(##) → AM (PM) Peak Hour Traffic Volume



3.3. Existing Conditions Capacity Analysis

The adjusted existing traffic volumes were entered into a *Synchro 11* model to perform capacity analysis of existing conditions for the weekday AM and PM peak periods. The results of the capacity analysis are shown by lane group movement in. Average vehicular delays and level-of service, as defined by the Highway Capacity Manual (HCM) 6th Edition are presented, and 95th percentile queues from *SimTraffic 11* are shown. Due to non-standard NEMA phasing at the signalized intersection of MLK Jr Blvd at Bluffs Pkwy/Riverstone Blvd, HCM 2000 was used for capacity analysis. Signal timings at these locations were provided by GDOT and are included in Appendix C. Full *Synchro* output reports are also included Appendix C. Results of the capacity analysis are described below.

Table 4: Existing Conditions Capacity Analysis

Intersection	Control	Lane Group Movement	AM Peak Hour			PM Peak Hour		
			Delay (s)	LOS	95 th % Queue (ft)	Delay (s)	LOS	95 th % Queue (ft)
Reinhardt College Pkwy at MLK Jr Blvd	Signal Control	EBL	21.4	C	11	21.4	C	50
		EBT/R	21.3	C	16	21.9	C	61
		WBL	25.5	C	41	23.4	C	39
		WBT	22.1	C	27	20.4	C	34
		WBR	0.0	-	-	0.0	-	115
		NBL	8.9	A	17	8.9	A	40
		NBT	10.7	B	53	13.1	B	131
		NBR	0.0	-	-	0.0	-	-
		SBL	22.7	C	81	24.0	C	87
		SBT	9.5	A	77	11.5	B	89
		SBR	0.0	-	-	0.0	-	-
		Intersection	12.3	B	-	14.9	B	-
MLK Jr Blvd at Bluffs Pkwy / Riverstone Blvd	Signal Control	EBL	16.4	B	37	17.5	B	53
		EBT	15.6	B	19	16.2	B	12
		EBR	15.7	B	-	16.4	B	-
		WBL	23.1	C	11	28.3	C	31
		WBT/R	22.8	C	12	27.4	C	24
		NBL	22.1	C	60	25.7	C	150
		NBT	7.1	A	42	8.5	A	32
		NBR	6.6	A	17	7.9	A	12
		SBL	15.5	B	-	19.1	B	8
		SBT/R	17.1	B	76	21.7	C	125
		Intersection	15.0	B	-	19.2	B	-

Existing Conditions:

Reinhardt College Pkwy at MLK Jr Blvd

In the existing conditions this signalized intersection operates at LOS B during both the AM and PM peak periods. The eastbound approaches from the shopping plaza operate at LOS C in both the AM and PM peak periods. The southbound left and westbound through movement also operate at LOS C in both the AM and PM peak periods.

Bluffs Pkwy at MLK Jr Blvd / Riverstone Blvd

In the existing conditions, this signalized intersection operates at LOS B during both the AM and PM peak periods. The westbound approaches from the shopping plaza and the northbound left movement operate at LOS C in both the AM and PM peak periods. The southbound through-right movement also operates at LOS C in the PM peak periods. All other movements operate at LOS A or B.

4. Background Growth

4.1. Growth Rate

Background traffic growth is an analysis method used to estimate the growth of traffic that will contribute to the traffic of the roadway network in and around the study area. The background traffic does not include the proposed project that is being studied. The proposed development is expected to have a full build out completed by 2029, and a growth rate was estimated for the years between the existing volume counts and the future development build out.

In order to determine a growth rate, data provided by the Atlanta Regional Commission (ARC) for population growth between the years 2014-2017 were referenced. It was determined that Cherokee County has shown an average growth rate of approximately 2.42% in recent years. This growth rate was approved for use by the City of Canton engineer in correspondence regarding projects in this area.

This 2.42% growth rate has been utilized in this update of the report. This rate still seems appropriate based on the ADT volumes comparison from the 2021 adjusted and 2024 volumes.

Since the original iteration of this report a new Cherokee County high school is being planned to open by the year 2026. The school is located on MLK Jr. Blvd between Bluffs Pkwy and Reinhardt College Pkwy. The trips for this school have been estimated using ITE trip generation for 2,800 students. These trips are included in the background for the AM peak period and are shown in Figure 5. Trips for the school during the PM period are not included because the release time for the school is expected to be earlier than the typical PM peak period for traffic in the area.

4.2. Background Conditions Capacity Analysis

Background conditions include a 2.42% growth rate per year applied to existing (adjusted) traffic volumes grown to the project full-build year (2029). Background (2029) traffic volumes are shown graphically in Figure 6.

The background traffic volumes were entered into a *Synchro 11* model which uses the same lane geometry as existing conditions. The results of the capacity analysis are shown by lane group movement in Table 5. Average vehicular delays and level-of service, as defined by the Highway Capacity Manual (HCM) 6th Edition are presented, and 95th percentile queues from *SimTraffic 11* are shown. Due to some non-standard NEMA phasing and shared lane movements at the signalized intersection, HCM 2000 was used for capacity analysis of the signalized intersections. The same signal timings used in the existing conditions analysis are utilized in the background analysis. Full Synchro output reports are included in Appendix C.

Figure 5: Estimated School Trips (AM Only)

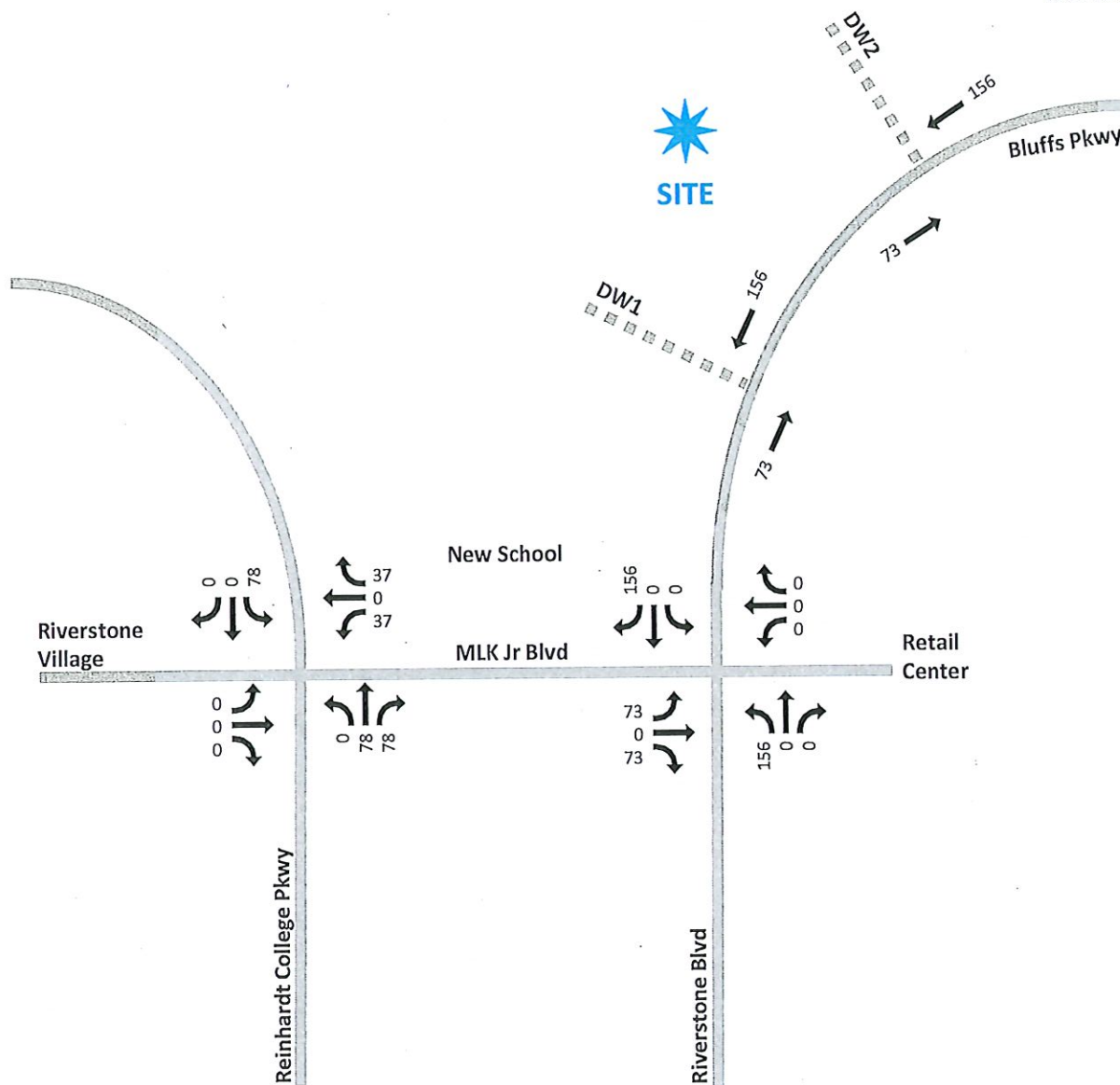
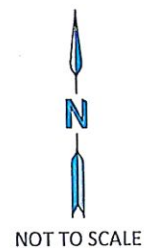
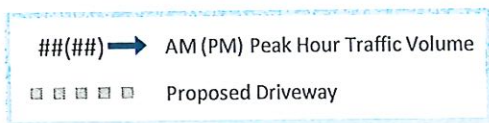


Figure 6: Background (2029) Traffic Volumes

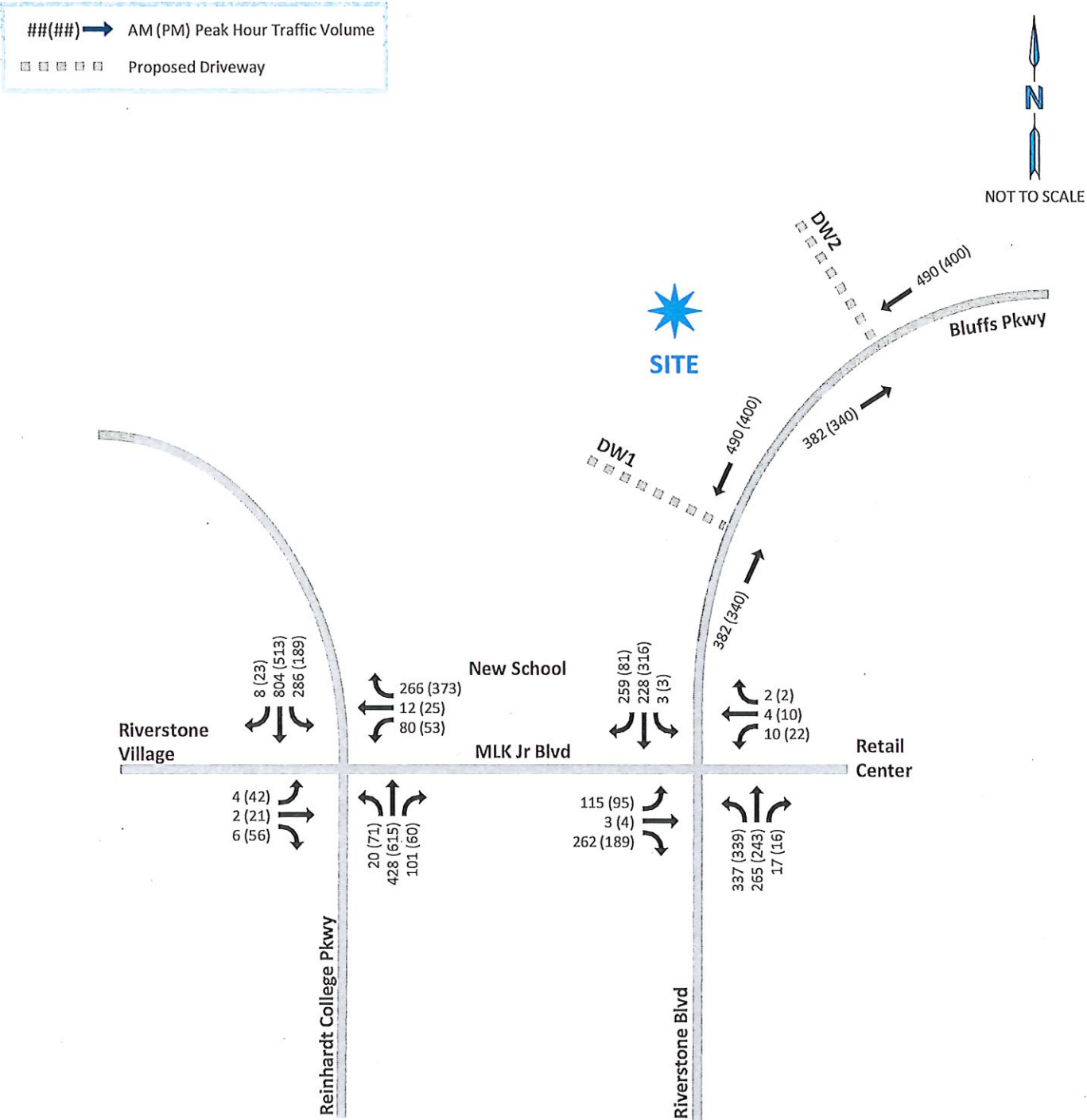


Table 5: Background (2029) Conditions Capacity Analysis

Intersection	Control	Lane Group Movement	AM Peak Hour			PM Peak Hour		
			Delay (s)	LOS	95 th % Queue (ft)	Delay (s)	LOS	95 th % Queue (ft)
Reinhardt College Pkwy at MLK Jr Blvd	Signal Control	EBL	21.7	C	9	21.5	C	51
		EBT/R	21.5	C	15	22.0	C	59
		WBL	23.5	C	39	23.6	C	40
		WBT	21.6	C	28	20.4	C	36
		WBR	0.0	A	-	0.0	-	116
		NBL	10.4	B	19	9.1	A	47
		NBT	13.0	B	50	13.6	B	132
		NBR	0.0	-	-	0.0	-	-
		SBL	23.9	C	87	24.4	C	95
		SBT	10.5	B	66	11.8	B	97
		SBR	0.0	-	-	0.0	-	8
		Intersection	14.3	B	-	15.2	B	-
MLK Jr Blvd at Bluffs Pkwy / Riverstone Blvd	Signal Control	EBL	18.9	B	32	18.7	B	60
		EBT	17.3	B	18	17.1	B	12
		EBR	17.6	B	-	17.3	B	-
		WBL	32.8	C	14	29.9	C	26
		WBT/R	32.0	C	10	28.9	C	19
		NBL	26.3	C	63	26.7	C	158
		NBT	8.1	A	44	8.8	A	41
		NBR	7.5	A	15	7.9	A	9
		SBL	18.8	B	4	19.7	B	7
		SBT/R	21.8	C	73	22.8	C	136
		Intersection	19.4	B	-	20.1	C	-

Background Conditions:

Reinhardt College Pkwy at MLK Jr Blvd

In the background conditions this signalized intersection operates at LOS B during both the AM and PM peak periods. The eastbound approaches from the shopping plaza continue to operate at LOS C in both the AM and PM peak periods. The southbound left and westbound through movement also continue to operate at LOS C in both the AM and PM peak periods.

Bluffs Pkwy at MLK Jr Blvd / Riverstone Blvd

In the background conditions, this signalized intersection operates at LOS B in the AM and degrades to LOS C in the PM peak period. The westbound approaches from the shopping plaza and the northbound left movement operate at LOS C in both the AM and PM peak periods. The southbound through-right movement also operates at LOS C in both the AM and PM periods. All other movements operate at LOS A or B.

5. Future Conditions

5.1. Trip Generation

Project trips for the residential development were estimated using the equations presented in the Institute of Transportation Engineers' (ITE) latest Trip Generation Manual, 11th Ed., 2021 for ITE land use code 251 Multifamily Housing (Mid-Rise). The development will be built in one phase with an anticipated full-build out year of completion by 2029.

Table 6 summarizes the trip generation for the proposed development for the appropriate land use codes. The full trip generation worksheets are presented in Appendix D.

Table 6: Project Trip Generation

Project Land Use	Density	ITE LUC	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Mid-Rise)	251 D.U.	221	1,151	576	575	99	23	76	98	60	38
Total Trips			1,151	576	575	99	23	76	98	60	38
Reductions for Internal Capture			0	0	0	0	0	0	0	0	0
Reductions for Modal Split			0	0	0	0	0	0	0	0	0
Reductions for Pass-By Trips			0	0	0	0	0	0	0	0	0
Total Net New Project Trips			1,151	576	575	99	23	76	98	60	38

The development is anticipated to generate 1,151 new daily trips (576 inbound and 575 outbound). The highest peak hour volume is expected during the AM peak hour with 99 peak hour vehicle trips (23 inbound and 76 outbound). The site is expected to generate 98 peak hour vehicle trips (60 inbound and 38 outbound) during the PM peak hour.

5.2. Distribution

The assignment and directional distribution of new project trips were based on existing traffic patterns, adjacent major roadways and trip destination densities (job centers, residential developments, and retail developments) in the surrounding area. The traffic patterns associated by this site are expected to be largely impacted by the proximity to SR 140 to the west and I-575 to the east. The directional distribution for new trips is shown in Figure 7.

5.3. Turn Lane Analysis

Turn lane warrants were also analyzed for the proposed site access locations on Bluffs Parkway per NCHRP Report 457: Evaluating Intersection Improvement recommendations which evaluates the necessity of a turn lane comparing the amount of turning movements with advancing and opposing volumes. Turn lane warrants that were analyzed were the southbound right-turn from major road and northbound left-turn from the major road. The proposed northern entrance is planned to align with the existing median opening that has an existing northbound U-turn lane that will be utilized as a future left turn lane.

- Driveway 1 at Bluffs Pkwy:
 - Southbound right-turn lane: *Not Warranted*
- Driveway 2 at Bluffs Pkwy:
 - Northbound left-turn lane: **WARRANTED** – *Existing U-Turn Lane*
 - Southbound right-turn lane: *Not Warranted*

5.4. Future Traffic Volumes

Project trips estimated in the trip generation and distributed to the roadway network are shown graphically in 8. Future traffic volumes including the proposed development and background traffic growth are shown in Figure 9. Future lane geometry is presented in Figure 10.

Figure 7: Trip Distribution

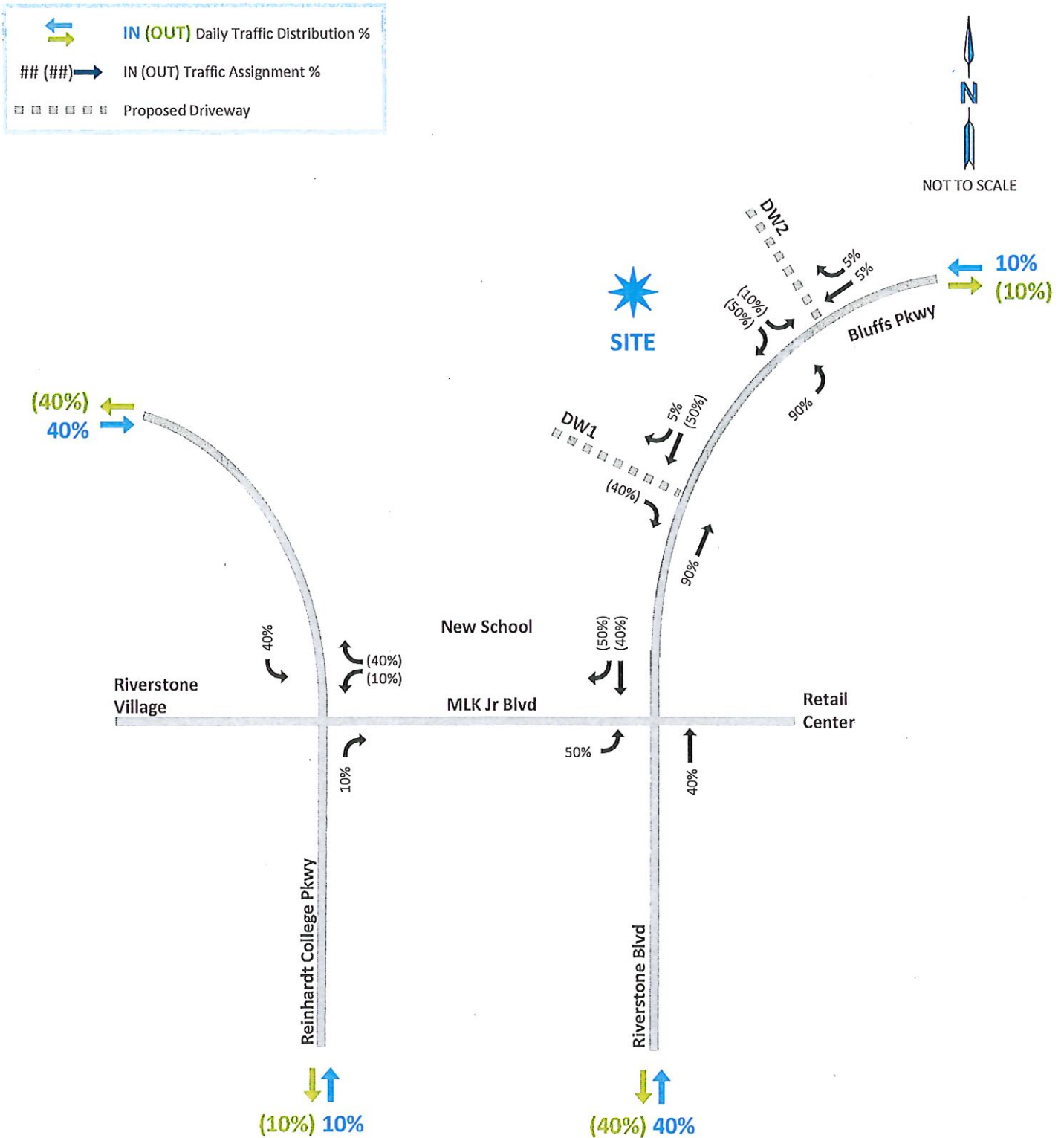


Figure 8: Project Trips

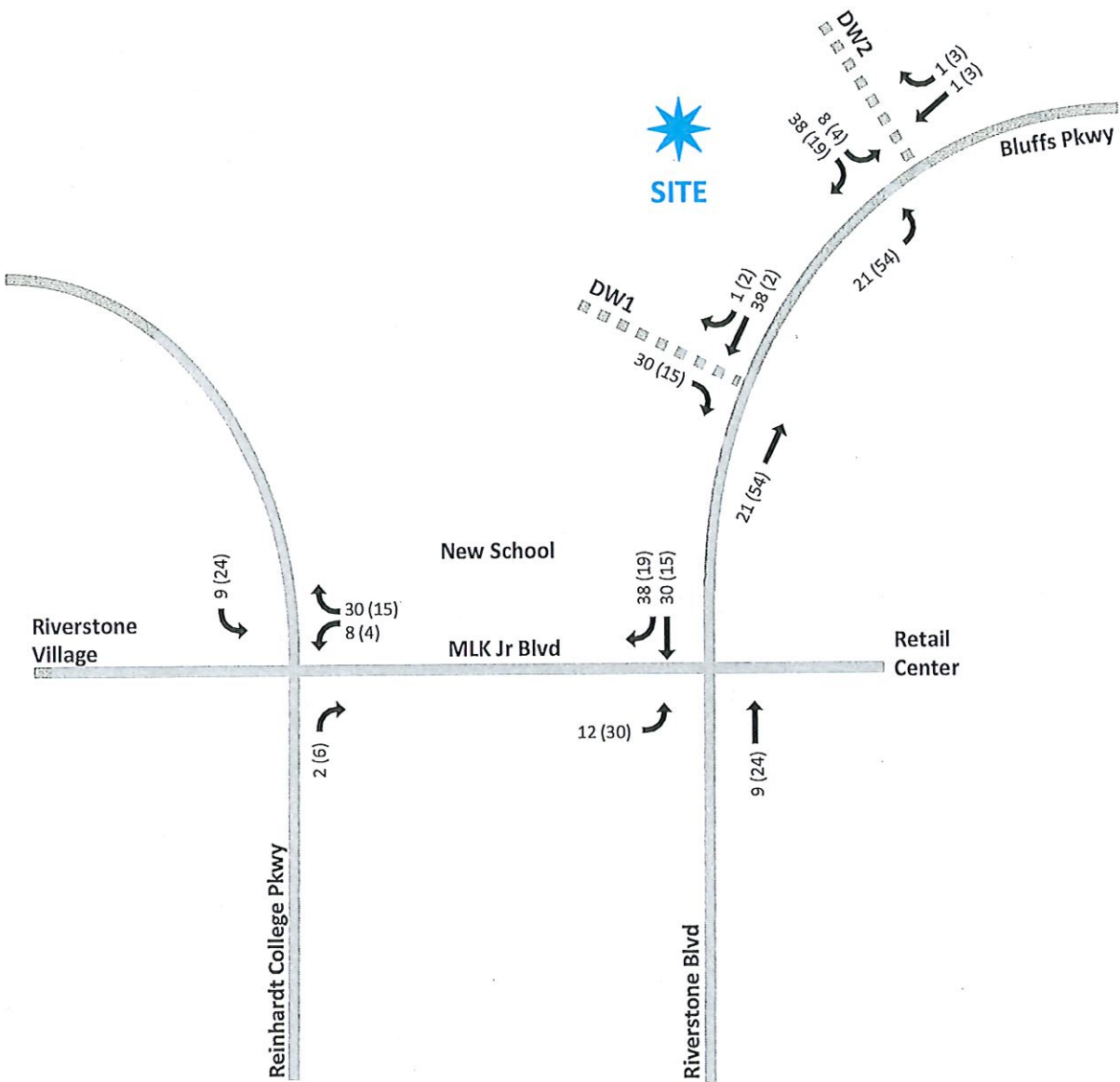
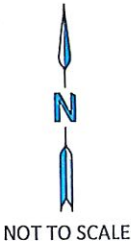
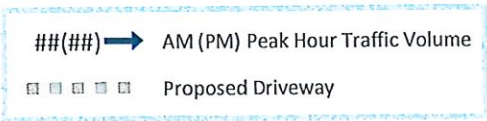


Figure 9: Future (2023) Traffic Volumes

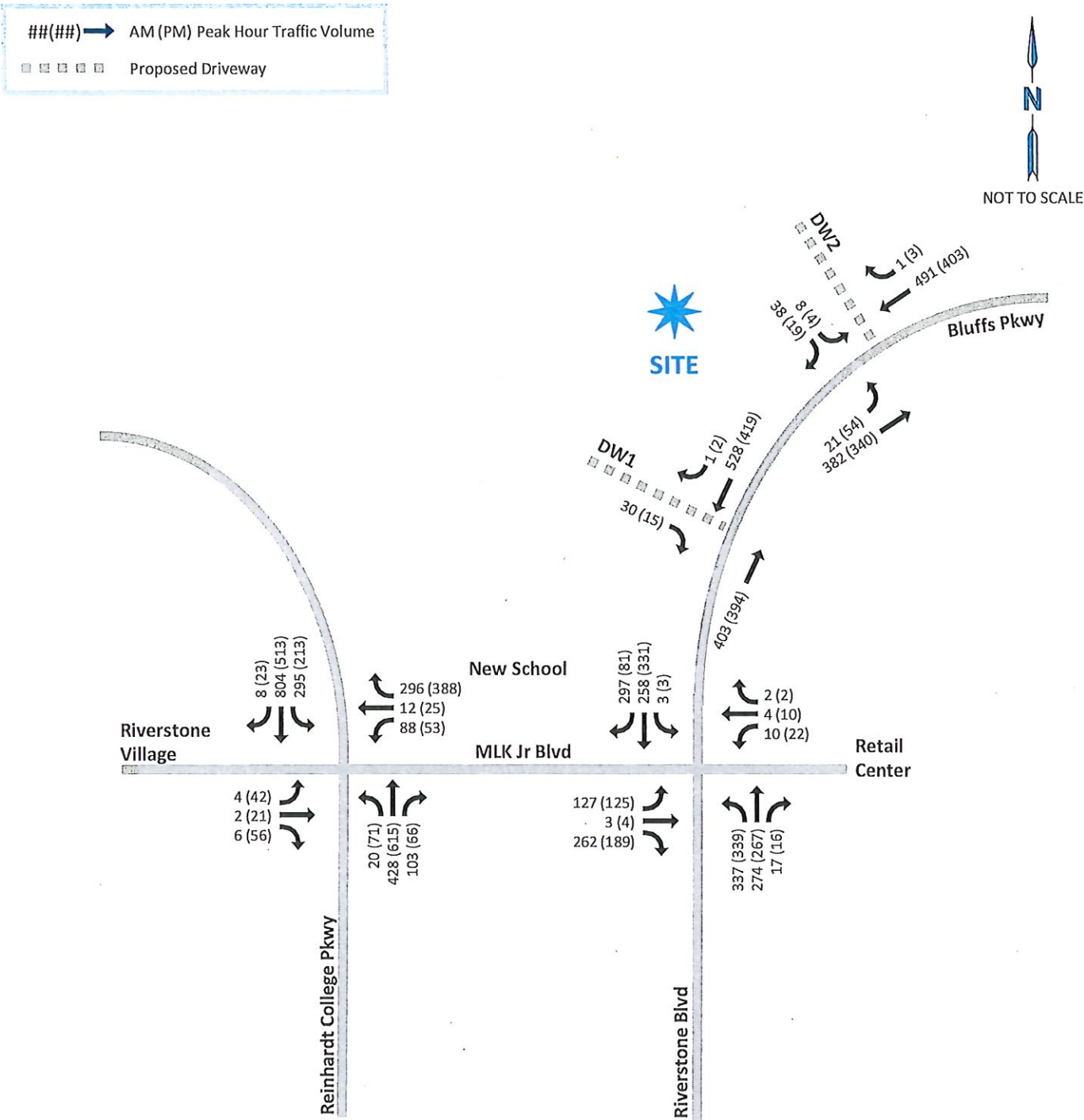
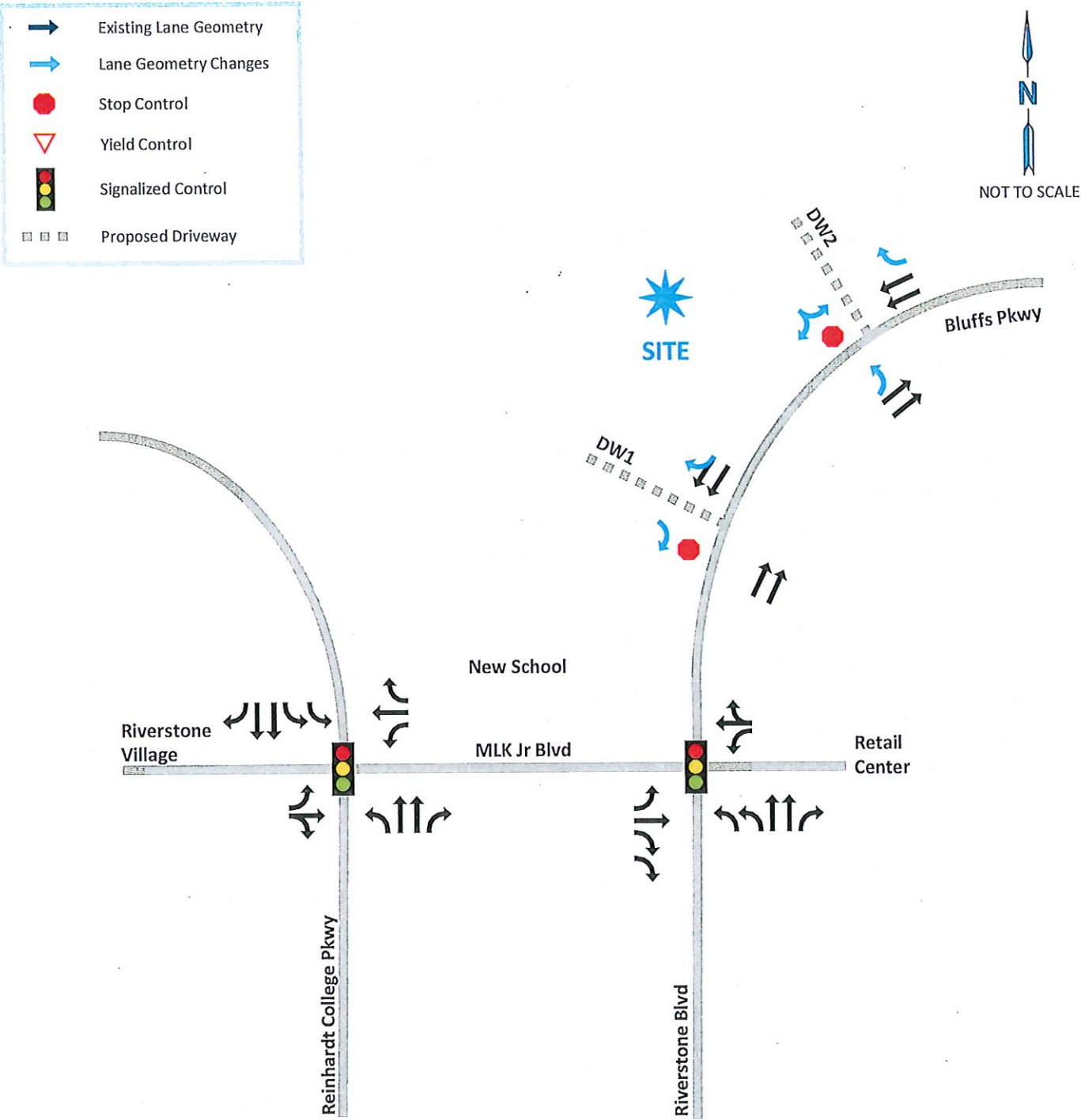


Figure 10: Future Lane Geometry



5.5. Future Conditions Capacity Analysis

The future Build traffic volumes were entered into a *Synchro 11* model. The results of the capacity analysis are shown by lane group movement in Table 7. Average vehicular delays and level-of-service, as defined by the Highway Capacity Manual (HCM) 6th Edition are presented, and 95th percentile queues from *SimTraffic 11* are shown. Due to non-standard NEMA phasing at the signalized intersection, HCM 2000 was used for capacity analysis of the signalized intersection at Bluffs Parkway. Signal timings remained the same as in existing and background conditions. Full Synchro output reports are included in Appendix C.

Background Conditions:

Reinhardt College Pkwy at MLK Jr Blvd

In the build conditions this signalized intersection operates at LOS B during both the AM and PM peak periods. The eastbound approaches from the shopping plaza continue to operate at LOS C in both the AM and PM peak periods. The southbound left and westbound through movement also continue to operate at LOS C in both the AM and PM peak periods.

Bluffs Pkwy at MLK Jr Blvd / Riverstone Blvd

In the build conditions, this signalized intersection degrades to LOS C in the AM and continues to operate at LOS C in the PM peak period. The westbound approaches from the shopping plaza and the northbound left movement operate at LOS C in both the AM and PM peak periods. The southbound through-right movement also operates at LOS C in both the AM and PM periods. All other movements operate at LOS A or B.

Bluff Pkwy at Driveway 1 (RIRO)

This stop-controlled minor street eastbound approach operates at LOS B during both the AM period and LOS A in the PM peak period.

Bluffs Pkwy at Driveway 2

This stop-controlled minor street eastbound approach operates at LOS B in the AM peak period with 11.6 seconds of approach delay and LOS B in the PM peak period with 10.9 seconds of approach delay. The inbound northbound left movement operates at LOS A during both the AM and PM peak periods.

Table 7: Build (2029) Capacity Analysis

Intersection	Control	Lane Group Movement	AM Peak Hour			PM Peak Hour		
			Delay (s)	LOS	95 th % Queue (ft)	Delay (s)	LOS	95 th % Queue (ft)
Reinhardt College Pkwy at MLK Jr Blvd	Signal Control	EBL	21.7	C	13	21.6	C	45
		EBT/R	21.6	C	16	22.1	C	61
		WBL	23.8	C	40	23.8	C	48
		WBT	21.6	C	28	20.6	C	37
		WBR	0.0	-	8	0.0	-	125
		NBL	10.6	B	23	9.2	A	45
		NBT	13.2	B	46	13.8	B	134
		NBR	0.0	-	-	0.0	-	-
		SBL	24.0	C	92	24.7	C	94
		SBT	10.5	B	79	11.8	B	90
		SBR	0.0	-	-	0.0	-	-
		Intersection	14.5	B	-	15.4	B	-
MLK Jr Blvd at Bluffs Pkwy / Riverstone Blvd	Signal Control	EBL	19.9	B	54	19.1	B	80
		EBT	18.0	B	17	17.2	B	18
		EBR	18.4	B	-	17.4	B	-
		WBL	34.4	C	13	33.5	C	28
		WBT/R	33.5	C	11	32.6	C	20
		NBL	27.2	C	63	27.6	C	166
		NBT	8.3	A	50	9.2	A	45
		NBR	7.6	A	16	8.4	A	12
		SBL	19.2	B	58	20.7	C	4
		SBT/R	23.1	C	51	24.1	C	97
		Intersection	20.3	C	-	20.8	C	-
Bluffs Pkwy at Driveway 1 (RIRO)	Side-Street Stop Control	EBR	10.3	B	47	9.8	A	39
		NBT	-	-	-	-	-	-
		SB	-	-	-	-	-	-
		Intersection	-	-	-	-	-	-
Bluffs Pkwy at Driveway 2	Side-Street Stop Control	EB	11.6	B	16	10.9	B	8
		NBL	8.6	A		8.4	A	
		NBT						
		SBT						
		SBR	-	-	-	-	-	-
		Intersection	-	-	-	0.1	-	-

6. Conclusions and Recommendations

A proposed development consisting of up to 251-unit multifamily residential development in the City of Canton has been analyzed to identify the traffic impacts associated with the proposed development on the surrounding roadway network. Due to the nature of the proposed development, construction will be completed in a single phase. Buildout is expected to be completed by the year 2029. As a result of the analysis, there are no required roadway improvements or mitigation required as result of the minor impacts to traffic associated with this development project. The specific conclusions of the analysis and recommendations associated with this project are listed below:

Reinhardt College Pkwy at MLK Jr Blvd

- This signalized intersection continues to operate at an acceptable level of service during the future build conditions.
- No mitigation is required at this intersection as part of this development.

MLK Jr Blvd at Bluffs Pkwy/ Riverstone Blvd

- This signalized intersection continues to operate at an acceptable level of service during the future build conditions.
- No mitigation is required at this intersection as part of this development.

Driveway 1 at Bluffs Pkwy

- This intersection will operate at an acceptable level of service during the future build conditions.
- A right turn lane is not warranted at this location.
- No mitigation is required at this intersection as part of this development.

Driveway 2 at Bluffs Pkwy

- This intersection will operate at an acceptable level of service during the future build conditions.
- A left turn lane is warranted in the build conditions. The existing U-turn lane at the existing median opening should be utilized for this development's access.
- A right turn lane is not warranted at this location but is provided in the plans.
- No additional mitigation is required at this intersection as part of this development.

Appendix A: Site Plan

Appendix B: Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Reinhardt College Pkwy & Riverstone Village/Dr Martin Luther King Jr Blvd
City: Canton
Control: Signalized

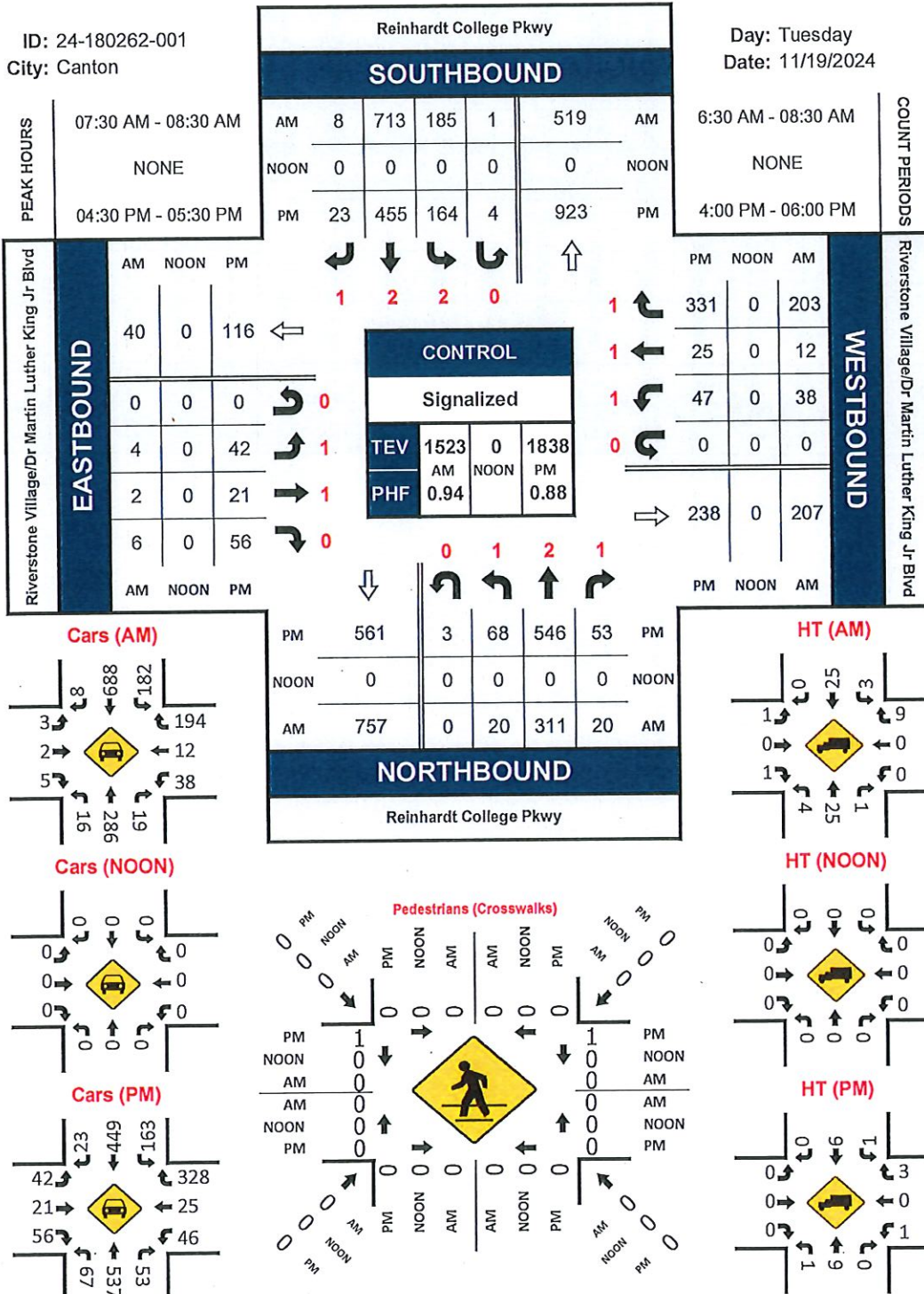
Project ID: 24-180262-001
Date: 11/19/2024

Data - Total

NS/EW Streets:	Reinhardt College Pkwy				Reinhardt College Pkwy				Riverstone Village/Dr Martin Luther King Jr Blvd				Riverstone Village/Dr Martin Luther King Jr Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	2	2	1	0	1	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:30 AM	1	24	4	0	29	116	1	0	1	0	1	0	3	1	13	0	194
6:45 AM	0	25	1	0	24	128	3	0	0	0	1	0	1	1	21	0	205
7:00 AM	2	44	7	0	34	145	0	0	1	0	1	0	2	1	17	0	254
7:15 AM	4	42	3	0	42	120	3	0	1	1	2	0	2	1	21	0	242
7:30 AM	3	70	3	0	52	174	3	0	0	0	5	0	4	5	49	0	368
7:45 AM	5	91	7	0	49	177	3	0	2	0	0	0	9	4	56	0	403
8:00 AM	6	82	6	0	45	179	1	0	1	1	0	0	15	2	58	0	396
8:15 AM	6	68	4	0	39	183	1	1	1	1	1	0	10	1	40	0	356
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	27	446	35	0	314	1222	15	1	7	3	11	0	45	16	275	0	2418
	5.31%	87.80%	6.89%	0.00%	20.23%	78.74%	0.97%	0.06%	33.33%	14.29%	52.38%	0.00%	13.65%	4.75%	81.60%	0.00%	
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	20	311	20	0	185	713	8	1	4	2	6	0	38	12	203	0	1523
PEAK HR FACTOR:	0.833	0.854	0.714	0.000	0.889	0.974	0.667	0.250	0.500	0.500	0.300	0.000	0.633	0.600	0.875	0.000	0.945
	0.852				0.990				0.600				0.843				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1	2	1	0	2	2	1	0	1	1	0	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	10	126	11	0	44	123	5	0	9	7	14	0	7	1	83	0	440
4:15 PM	18	141	9	0	21	107	4	0	8	6	11	0	9	4	70	1	409
4:30 PM	16	125	9	1	39	118	5	2	14	1	13	0	14	4	71	0	432
4:45 PM	17	136	11	1	40	97	10	0	10	7	20	0	11	6	74	0	440
5:00 PM	19	149	20	1	53	134	5	0	12	5	12	0	15	6	93	0	524
5:15 PM	16	136	13	0	32	106	3	2	6	8	11	0	7	9	93	0	442
5:30 PM	22	129	10	0	34	119	7	1	10	5	16	0	8	6	63	0	430
5:45 PM	27	136	10	1	31	101	7	1	9	4	7	0	3	11	64	0	412
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	145	1078	93	4	294	905	46	6	78	43	104	0	74	47	611	1	3529
	10.98%	81.67%	7.05%	0.30%	23.50%	72.34%	3.68%	0.45%	34.67%	19.11%	46.22%	0.00%	10.10%	6.41%	83.36%	0.14%	
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	68	546	53	3	164	455	23	4	42	21	56	0	47	25	331	0	1838
PEAK HR FACTOR:	0.895	0.916	0.663	0.750	0.774	0.849	0.575	0.500	0.750	0.656	0.700	0.000	0.783	0.694	0.890	0.000	0.877
	0.886				0.841				0.804				0.884				

Reinhardt College Pkwy & Riverstone Village/Dr Martin Luther King Jr Blvd

Peak Hour Turning Movement Count



National Data & Surveying Services

Intersection Turning Movement Count

Location: Bluffs Pkwy/Riverstone Blvd & Dr Martin Luther King Jr Blvd/Vista at Riverstone Drwy
City: Canton
Control: Signalized

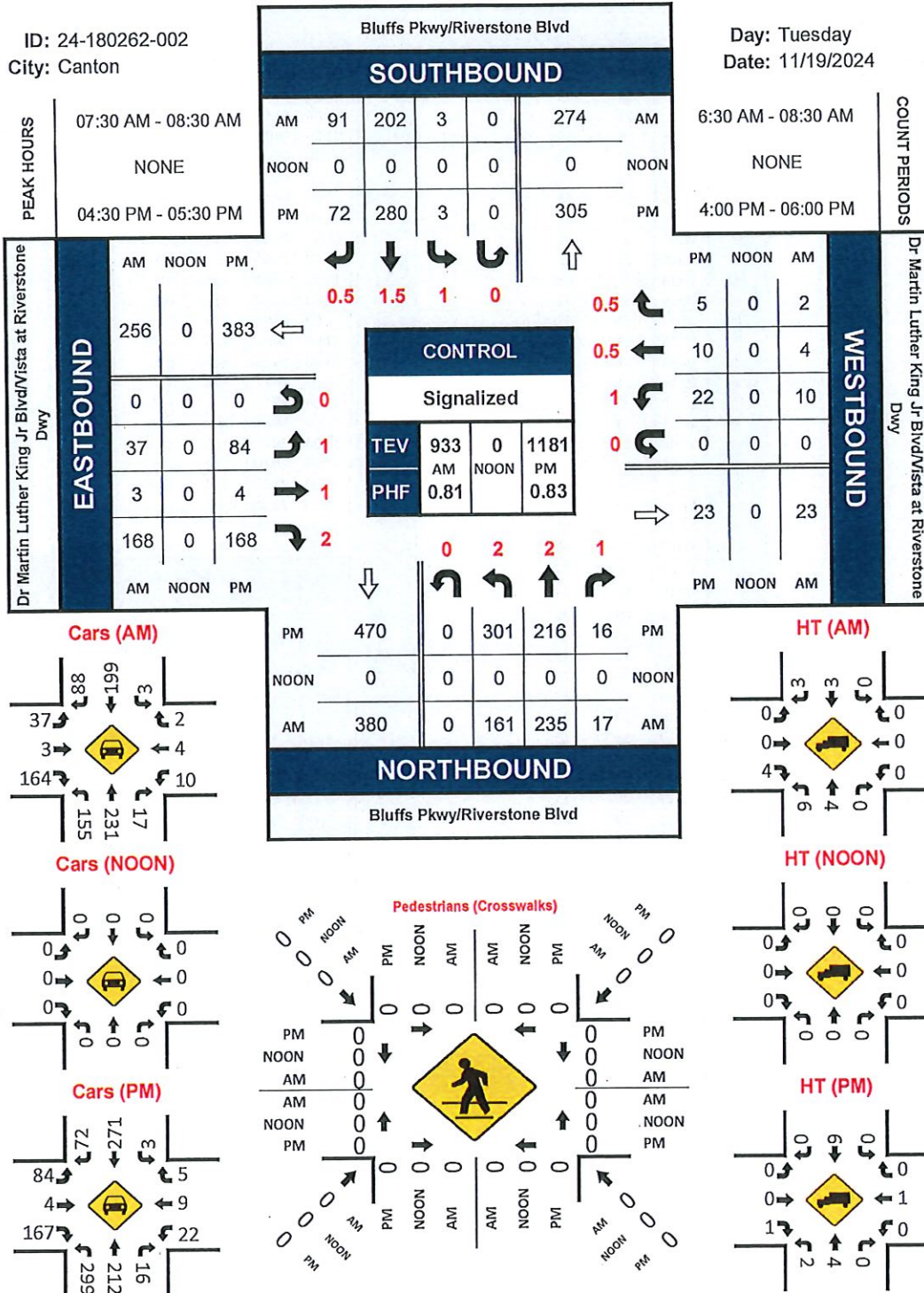
Project ID: 24-180262-002
Date: 11/19/2024

Data - Total

NS/EW Streets:	Bluffs Pkwy/Riverstone Blvd				Bluffs Pkwy/Riverstone Blvd				Dr Martin Luther King Jr Blvd/Vista at Riverstone Drwy				Dr Martin Luther King Jr Blvd/Vista at Riverstone Drwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
6:30 AM	2	2	1	0	1	1.5	0.5	0	1	1	2	0	1	0.5	0.5	0	133
6:45 AM	33	16	6	0	0	41	6	0	4	1	22	0	2	2	0	0	146
7:00 AM	27	31	3	0	0	53	5	0	5	0	27	0	2	0	1	0	154
7:15 AM	24	50	3	0	0	54	6	0	13	2	33	0	0	1	1	0	187
7:30 AM	45	58	8	0	1	46	13	0	8	2	44	0	2	1	0	0	228
7:45 AM	42	87	1	0	1	66	29	0	9	0	47	0	4	0	1	0	287
8:00 AM	47	42	4	0	0	57	30	0	10	1	37	0	1	1	0	0	230
8:15 AM	27	48	4	0	1	33	19	0	10	0	40	0	3	2	1	0	188
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	280	354	32	0	3	401	119	0	63	7	268	0	15	7	4	0	1553
	42.04%	53.15%	4.80%	0.00%	0.57%	76.67%	22.75%	0.00%	18.64%	2.07%	79.29%	0.00%	57.69%	26.92%	15.38%	0.00%	
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	161	235	17	0	3	202	91	0	37	3	168	0	10	4	2	0	933
PEAK HR FACTOR:	0.855	0.675	0.531	0.000	0.750	0.765	0.758	0.000	0.925	0.375	0.894	0.000	0.625	0.500	0.500	0.000	0.813
	0.794				0.771				0.929				0.667				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	2	2	1	0	1	1.5	0.5	0	1	1	2	0	1	0.5	0.5	0	294
4:15 PM	77	51	7	0	2	63	13	0	22	5	43	0	6	3	2	0	236
4:30 PM	70	55	4	0	1	48	14	0	15	0	23	0	3	0	3	0	270
4:45 PM	64	47	4	0	0	73	15	0	15	1	43	0	5	2	1	0	268
5:00 PM	68	44	6	0	0	67	17	0	17	1	42	0	4	2	0	0	356
5:15 PM	85	61	4	0	2	92	26	0	32	2	42	0	6	3	1	0	287
5:30 PM	84	64	2	0	1	48	14	0	20	0	41	0	7	3	3	0	246
5:45 PM	59	67	1	0	0	40	14	0	27	0	32	0	5	0	1	0	237
	63	67	0	0	1	38	11	0	14	0	33	0	7	2	1	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	570	456	28	0	7	469	124	0	162	9	299	0	43	15	12	0	2194
	54.08%	43.26%	2.66%	0.00%	1.17%	78.17%	20.67%	0.00%	34.47%	1.91%	63.62%	0.00%	61.43%	21.43%	17.14%	0.00%	
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	301	216	16	0	3	280	72	0	84	4	168	0	22	10	5	0	1181
PEAK HR FACTOR:	0.885	0.844	0.667	0.000	0.375	0.761	0.692	0.000	0.656	0.500	0.977	0.000	0.786	0.833	0.417	0.000	0.829
	0.888				0.740				0.842				0.712				

Bluffs Pkwy/Riverstone Blvd & Dr Martin Luther King Jr Blvd/Vista at Riverstone Dwy

Peak Hour Turning Movement Count



VOLUME

Bluffs Pkwy N/O Dr Martin Luther King Jr Blvd/Vista at Riverstone Dwy

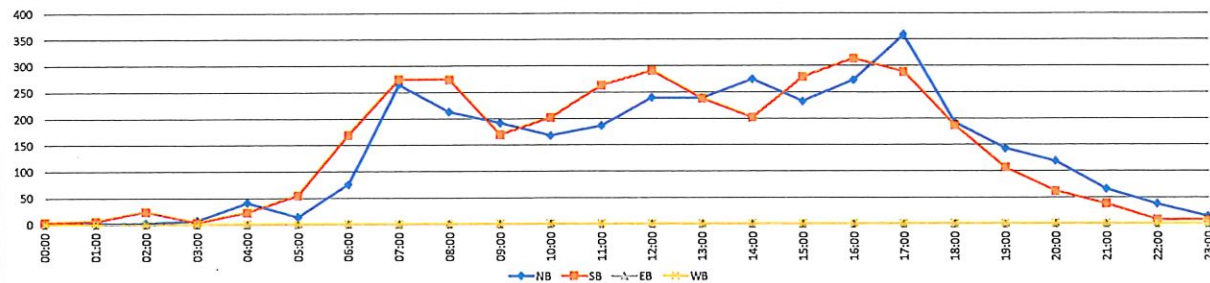
Day: Tuesday

Date: 11/19/2024

City: Canton

Project #: GA24_180263_001

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						3,338	3,466	0	0	6,804							
15-Minutes Interval											Hourly Intervals						
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00	2	1			3	12:00	46	86			132	00:00 01:00	3	3			6
0:15	0	1			1	12:15	64	63			127	01:00 02:00	1	5			6
0:30	0	1			1	12:30	71	75			146	02:00 03:00	1	23			24
0:45	1	0			1	12:45	58	66			124	03:00 04:00	6	3			9
1:00	1	2			3	13:00	79	55			134	04:00 05:00	40	22			62
1:15	0	1			1	13:15	61	61			122	05:00 06:00	13	54			67
1:30	0	0			0	13:30	58	63			121	06:00 07:00	75	168			243
1:45	0	2			2	13:45	40	58			98	07:00 08:00	264	274			538
2:00	0	19			19	14:00	55	50			105	08:00 09:00	212	273			485
2:15	0	1			1	14:15	78	55			133	09:00 10:00	191	169			360
2:30	0	1			1	14:30	72	47			119	10:00 11:00	167	201			368
2:45	1	2			3	14:45	69	49			118	11:00 12:00	186	262			448
3:00	0	0			0	15:00	57	62			119	12:00 13:00	239	290			529
3:15	1	1			2	15:15	54	71			125	13:00 14:00	238	237			475
3:30	2	2			4	15:30	57	73			130	14:00 15:00	274	201			475
3:45	3	0			3	15:45	64	72			136	15:00 16:00	232	278			510
4:00	10	2			12	16:00	75	78			153	16:00 17:00	272	313			585
4:15	25	3			28	16:15	73	63			136	17:00 18:00	358	287			645
4:30	2	9			11	16:30	63	88			151	18:00 19:00	191	186			377
4:45	3	8			11	16:45	61	84			145	19:00 20:00	142	106			248
5:00	2	9			11	17:00	94	120			214	20:00 21:00	118	61			179
5:15	3	11			14	17:15	87	63			150	21:00 22:00	65	37			102
5:30	4	14			18	17:30	95	54			149	22:00 23:00	37	7			44
5:45	4	20			24	17:45	82	50			132	23:00 00:00	13	6			19
6:00	14	27			41	18:00	56	61			117	STATISTICS					
6:15	15	32			47	18:15	52	45			97		NB	SB	EB	WB	TOTAL
6:30	20	47			67	18:30	49	35			84	Peak Period	00:00	to	12:00		
6:45	26	62			88	18:45	34	45			79	Volume	1159	1457			2616
7:00	37	58			95	19:00	32	42			74	Peak Hour	7:15	7:15			7:15
7:15	64	60			124	19:15	36	20			56	Peak Volume	279	303			582
7:30	66	60			126	19:30	47	23			70	Peak Hour Factor	0.719	0.789			0.754
7:45	97	96			193	19:45	27	21			48	Peak Period	12:00	to	00:00		
8:00	52	87			139	20:00	33	15			48	Volume	2179	2009			4188
8:15	59	53			112	20:15	31	19			50	Peak Hour	17:00	16:15			16:30
8:30	54	65			119	20:30	25	13			38	Peak Volume	358	355			660
8:45	47	68			115	20:45	29	14			43	Peak Hour Factor	0.942	0.740			0.771
9:00	43	30			73	21:00	17	20			37	Peak Period	07:00	to	09:00		
9:15	42	38			80	21:15	18	8			26	Volume	476	547			1023
9:30	46	50			96	21:30	15	4			19	Peak Hour	7:15	7:15			7:15
9:45	60	51			111	21:45	15	5			20	Peak Volume	279	303			582
10:00	53	57			110	22:00	15	1			16	Peak Hour Factor	0.719	0.789			0.754
10:15	38	62			100	22:15	9	3			12	Peak Period	16:00	to	18:00		
10:30	42	42			84	22:30	7	2			9	Volume	630	600			1230
10:45	34	40			74	22:45	6	1			7	Peak Hour	17:00	16:15			16:30
11:00	49	54			103	23:00	3	3			6	Peak Volume	358	355			660
11:15	40	61			101	23:15	5	1			6	Peak Hour Factor	0.942	0.740			0.771
11:30	48	64			112	23:30	3	1			4						
11:45	49	83			132	23:45	2	1			3						
TOTALS	1159	1457	0	0	2616	TOTALS	2179	2009	0	0	4188						
SPLIT %	44%	56%	0%	0%	38%	SPLIT %	52%	48%	0%	0%	62%						

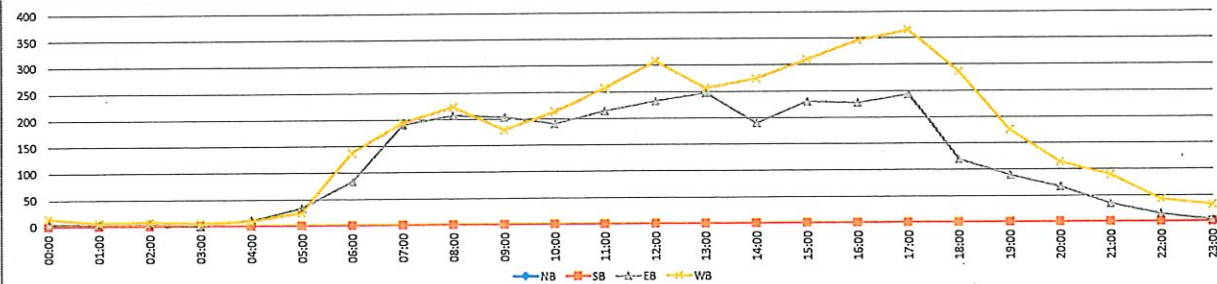


VOLUME

Dr Martin Luther King Jr Blvd Bet Reinhardt College Pkwy & Bluffs Pkwy/Riverstone Blvd

Day: Tuesday
Date: 11/19/2024City: Canton
Project #: GA24_180263_002

DAILY TOTALS						NB	SB	EB	WB	Total	DAILY TOTALS						
						0	0	2,838	3,844	6,682							
15-Minutes Interval											Hourly Intervals						
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL
0:00			1	7	8	12:00			66	79	145	00:00 01:00			4	13	17
0:15			2	5	7	12:15			53	73	126	01:00 02:00			3	5	8
0:30			0	1	1	12:30			63	70	133	02:00 03:00			5	7	12
0:45			1	0	1	12:45			50	85	135	03:00 04:00			1	4	5
1:00			1	0	1	13:00			72	63	135	04:00 05:00			10	8	18
1:15			0	4	4	13:15			62	62	124	05:00 06:00			33	23	56
1:30			1	0	1	13:30			45	62	107	06:00 07:00			83	137	220
1:45			1	1	2	13:45			68	68	136	07:00 08:00			190	193	383
2:00			1	3	4	14:00			47	69	116	08:00 09:00			207	222	429
2:15			2	1	3	14:15			54	72	126	09:00 10:00			203	178	381
2:30			1	1	2	14:30			48	70	118	10:00 11:00			190	212	402
2:45			1	2	3	14:45			40	62	102	11:00 12:00			214	256	470
3:00			0	0	0	15:00			45	76	121	12:00 13:00			232	307	539
3:15			0	3	3	15:15			45	78	123	13:00 14:00			247	255	502
3:30			0	0	0	15:30			68	75	143	14:00 15:00			189	273	462
3:45			1	1	2	15:45			72	80	152	15:00 16:00			230	309	539
4:00			4	2	6	16:00			70	93	163	16:00 17:00			227	345	572
4:15			3	2	5	16:15			38	84	122	17:00 18:00			243	364	607
4:30			2	3	5	16:30			59	81	140	18:00 19:00			119	285	404
4:45			1	1	2	16:45			60	87	147	19:00 20:00			89	174	263
5:00			2	1	3	17:00			76	114	190	20:00 21:00			67	113	180
5:15			9	5	14	17:15			61	101	162	21:00 22:00			34	88	122
5:30			10	4	14	17:30			59	73	132	22:00 23:00			15	42	57
5:45			12	13	25	17:45			47	76	123	23:00 00:00			3	31	34
6:00			20	17	37	18:00			31	96	127	STATISTICS					
6:15			13	33	46	18:15			37	70	107		NB	SB	EB	WB	TOTAL
6:30			27	41	68	18:30			26	60	86	Peak Period	00:00 to 12:00				
6:45			23	46	69	18:45			25	59	84	Volume			1143	1258	2401
7:00			32	32	64	19:00			25	54	79	Peak Hour			7:45	7:30	11:00
7:15			48	31	79	19:15			22	50	72	Peak Volume			215	256	470
7:30			54	59	113	19:30			27	38	65	Peak Hour Factor			0.881	0.821	0.864
7:45			56	71	127	19:45			15	32	47	Peak Period	12:00 to 00:00				
8:00			48	78	126	20:00			21	25	46	Volume			1695	2586	4281
8:15			50	48	98	20:15			18	37	55	Peak Hour			16:30	16:30	16:30
8:30			61	37	98	20:30			14	21	35	Peak Volume			256	383	639
8:45			48	59	107	20:45			14	30	44	Peak Hour Factor			0.842	0.840	0.841
9:00			50	40	90	21:00			13	26	39	Peak Period	07:00 to 09:00				
9:15			52	33	85	21:15			6	27	33	Volume			397	415	812
9:30			46	47	93	21:30			7	24	31	Peak Hour			7:45	7:30	7:30
9:45			55	58	113	21:45			8	11	19	Peak Volume			215	256	464
10:00			53	49	102	22:00			8	22	30	Peak Hour Factor			0.881	0.821	0.913
10:15			45	66	111	22:15			1	11	12	Peak Period	16:00 to 18:00				
10:30			36	41	77	22:30			2	6	8	Volume			470	709	1179
10:45			56	56	112	22:45			4	3	7	Peak Hour			16:30	16:30	16:30
11:00			48	50	98	23:00			2	7	9	Peak Volume			256	383	639
11:15			53	60	113	23:15			1	10	11	Peak Hour Factor			0.842	0.840	0.841
11:30			53	83	136	23:30			0	8	8	Peak Period					
11:45			60	63	123	23:45			0	6	6	Volume					
TOTALS	0	0	1143	1258	2401	TOTALS	0	0	1695	2586	4281	Peak Hour					
SPLIT %	0%	0%	48%	52%	36%	SPLIT %	0%	0%	40%	60%	64%	Peak Hour Factor					



VOLUME

Reinhardt College Pkwy N/O Dr Martin Luther King Jr Blvd/Vista at Riverstone Dwy

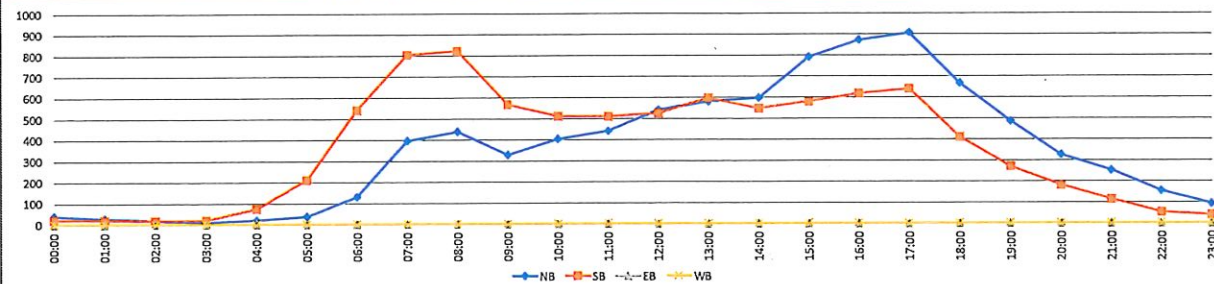
Day: Tuesday

Date: 11/19/2024

City: Canton

Project #: GA24_180263_003

DAILY TOTALS						NB				SB				EB				WB				Total		DAILY TOTALS					
						8,509				8,641				0				0				17,150							
15-Minutes Interval												Hourly Intervals																	
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL												
0:00	15	7			22	12:00	138	112			250	00:00	01:00	38	20			58											
0:15	10	6			16	12:15	110	135			245	01:00	02:00	25	18			43											
0:30	8	1			9	12:30	142	131			273	02:00	03:00	15	16			31											
0:45	5	6			11	12:45	148	145			293	03:00	04:00	9	19			28											
1:00	10	5			15	13:00	139	151			290	04:00	05:00	18	73			91											
1:15	10	2			12	13:15	145	168			313	05:00	06:00	36	210			246											
1:30	1	5			6	13:30	138	138			276	06:00	07:00	129	539			668											
1:45	4	6			10	13:45	156	137			293	07:00	08:00	394	802			1196											
2:00	2	5			7	14:00	150	121			271	08:00	09:00	436	820			1256											
2:15	7	5			12	14:15	152	155			307	09:00	10:00	328	565			893											
2:30	3	6			9	14:30	151	121			272	10:00	11:00	402	509			911											
2:45	3	0			3	14:45	143	147			290	11:00	12:00	440	508			948											
3:00	3	1			4	15:00	191	124			315	12:00	13:00	538	523			1061											
3:15	5	5			10	15:15	190	129			319	13:00	14:00	578	594			1172											
3:30	0	9			9	15:30	209	143			352	14:00	15:00	596	544			1140											
3:45	1	4			5	15:45	200	180			380	15:00	16:00	790	576			1366											
4:00	5	23			28	16:00	218	172			390	16:00	17:00	869	615			1484											
4:15	3	15			18	16:15	219	132			351	17:00	18:00	904	636			1540											
4:30	7	18			25	16:30	212	164			376	18:00	19:00	664	408			1072											
4:45	3	17			20	16:45	220	147			367	19:00	20:00	483	267			750											
5:00	4	38			42	17:00	254	192			446	20:00	21:00	324	179			503											
5:15	8	48			56	17:15	237	143			380	21:00	22:00	250	112			362											
5:30	8	49			57	17:30	203	161			364	22:00	23:00	152	50			202											
5:45	16	75			91	17:45	210	140			350	23:00	00:00	91	38			129											
6:00	23	113			136	18:00	212	129			341	STATISTICS																	
6:15	22	125			147	18:15	163	119			282		NB	SB	EB	WB	TOTAL												
6:30	38	146			184	18:30	150	82			232	Peak Period	00:00	to	12:00														
6:45	46	155			201	18:45	139	78			217	Volume	2270	4099			6369												
7:00	62	179			241	19:00	124	94			218	Peak Hour	7:30	7:30			7:30												
7:15	64	165			229	19:15	131	66			197	Peak Volume	519	907			1426												
7:30	119	229			348	19:30	112	59			171	Peak Hour Factor	0.871	0.990			0.943												
7:45	149	229			378	19:45	116	48			164	Peak Period	12:00	to	00:00														
8:00	141	225			366	20:00	81	53			134	Volume	6239	4542			10781												
8:15	110	224			334	20:15	93	48			141	Peak Hour	16:30	15:45			16:30												
8:30	95	197			292	20:30	67	47			114	Peak Volume	923	648			1569												
8:45	90	174			264	20:45	83	31			114	Peak Hour Factor	0.908	0.900			0.879												
9:00	80	147			227	21:00	59	29			88	Peak Period	07:00	to	09:00														
9:15	83	129			212	21:15	83	33			116	Volume	830	1622			2452												
9:30	73	141			214	21:30	59	22			81	Peak Hour	7:30	7:30			7:30												
9:45	92	148			240	21:45	49	28			77	Peak Volume	519	907			1426												
10:00	96	114			210	22:00	56	16			72	Peak Hour Factor	0.871	0.990			0.943												
10:15	108	122			230	22:15	41	16			57	Peak Period	16:00	to	18:00														
10:30	92	134			226	22:30	25	6			31	Volume	1773	1251			3024												
10:45	106	139			245	22:45	30	12			42	Peak Hour	16:30	16:30			16:30												
11:00	90	112			202	23:00	24	11			35	Peak Volume	923	646			1569												
11:15	108	122			230	23:15	27	12			39	Peak Hour Factor	0.908	0.841			0.879												
11:30	137	135			272	23:30	20	9			29																		
11:45	105	139			244	23:45	20	6			26																		
TOTALS	2270	4099	0	0	6369	TOTALS	6239	4542	0	0	10781																		
SPLIT %	36%	64%	0%	0%	37%	SPLIT %	58%	42%	0%	0%	63%																		



Appendix C: Synchro Capacity Analysis Reports

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

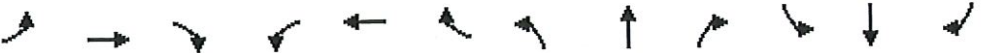
11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	2	6	38	12	203	20	311	20	185	713	8
Future Volume (vph)	4	2	6	38	12	203	20	311	20	185	713	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1645		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.75	1.00		0.75	1.00	1.00	0.36	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1395	1645		1400	1863	1583	667	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	2	7	41	13	221	22	338	22	201	775	9
RTOR Reduction (vph)	0	6	0	0	0	191	0	0	13	0	0	4
Lane Group Flow (vph)	4	3	0	41	13	30	22	338	9	201	775	5
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	8.6	8.6		8.6	8.6	8.6	27.1	25.8	25.8	9.2	33.7	33.7
Effective Green, g (s)	8.6	8.6		8.6	8.6	8.6	27.1	25.8	25.8	9.2	33.7	33.7
Actuated g/C Ratio	0.13	0.13		0.13	0.13	0.13	0.42	0.40	0.40	0.14	0.52	0.52
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	186	219		186	248	211	302	1417	634	490	1851	828
v/s Ratio Prot		0.00			0.01		0.00	0.10		c0.06	c0.22	
v/s Ratio Perm	0.00			c0.03		0.02	0.03		0.01			0.00
v/c Ratio	0.02	0.01		0.22	0.05	0.14	0.07	0.24	0.01	0.41	0.42	0.01
Uniform Delay, d1	24.2	24.2		24.9	24.3	24.6	10.9	12.8	11.6	25.1	9.4	7.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		0.6	0.1	0.3	0.1	0.1	0.0	0.6	0.2	0.0
Delay (s)	24.3	24.2		25.5	24.4	24.9	11.0	12.9	11.6	25.7	9.5	7.3
Level of Service	C	C		C	C	C	B	B	B	C	A	A
Approach Delay (s)		24.3			25.0			12.7			12.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		14.9										
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		64.4										
Intersection Capacity Utilization		53.5%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2	6	38	12	203	20	311	20	185	713	8
Future Volume (veh/h)	4	2	6	38	12	203	20	311	20	185	713	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	2	7	41	13	0	22	338	0	201	775	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	35	122	268	179		418	1383		381	1663	
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.00	0.03	0.39	0.00	0.11	0.47	0.00
Sat Flow, veh/h	1401	365	1276	1406	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	4	0	9	41	13	0	22	338	0	201	775	0
Grp Sat Flow(s), veh/h/ln	1401	0	1641	1406	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.1	0.0	0.3	1.4	0.3	0.0	0.4	3.3	0.0	2.8	7.6	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.3	1.7	0.3	0.0	0.4	3.3	0.0	2.8	7.6	0.0
Prop In Lane	1.00		0.78	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	0	157	268	179		418	1383		381	1663	
V/C Ratio(X)	0.02	0.00	0.06	0.15	0.07		0.05	0.24		0.53	0.47	
Avail Cap(c_a), veh/h	1222	0	1277	1228	1456		1402	4149		2018	4149	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	0.0	21.1	21.9	21.2	0.0	8.9	10.6	0.0	21.6	9.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.3	0.2	0.0	0.1	0.1	0.0	1.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.4	0.1	0.0	0.1	1.0	0.0	1.0	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	21.3	22.1	21.3	0.0	8.9	10.7	0.0	22.7	9.5	0.0
LnGrp LOS	C	A	C	C	C		A	B		C	A	
Approach Vol, veh/h	13				54				360			
Approach Delay, s/veh	21.3				21.9				10.6			
Approach LOS	C				C				B			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	26.5		12.2	8.6	30.5		12.2				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+I1), s	4.8	5.3		2.5	2.4	9.6		3.7				
Green Ext Time (p_c), s	0.6	2.2		0.0	0.0	5.7		0.1				

Intersection Summary

HCM 6th Ctrl Delay 12.3

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	3	168	10	4	2	161	235	19	3	202	91
Future Volume (vph)	37	3	168	10	4	2	161	235	19	3	202	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.85	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2898	1441	1770	1770		3433	3539	1583	1770	3374	
Flt Permitted	0.39	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.59	1.00	
Satd. Flow (perm)	725	2898	1441	1285	1770		3433	3539	1583	1106	3374	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	3	183	11	4	2	175	255	21	3	220	99
RTOR Reduction (vph)	0	70	67	0	2	0	0	0	10	0	33	0
Lane Group Flow (vph)	40	25	24	11	4	0	175	255	11	3	286	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	15.4	15.4	15.4	6.4	6.4		8.8	30.1	30.1	15.3	15.3	
Effective Green, g (s)	15.4	15.4	15.4	6.4	6.4		8.8	30.1	30.1	15.3	15.3	
Actuated g/C Ratio	0.27	0.27	0.27	0.11	0.11		0.15	0.52	0.52	0.27	0.27	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	248	776	385	143	197		525	1852	828	294	897	
v/s Ratio Prot	c0.01	0.01			0.00		c0.05	0.07			c0.08	
v/s Ratio Perm	c0.03		0.02	0.01					0.01	0.00		
v/c Ratio	0.16	0.03	0.06	0.08	0.02		0.33	0.14	0.01	0.01	0.32	
Uniform Delay, d1	16.1	15.5	15.7	22.9	22.8		21.7	7.0	6.6	15.5	16.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.0	0.1	0.2	0.0		0.4	0.0	0.0	0.0	0.2	
Delay (s)	16.4	15.6	15.7	23.1	22.8		22.1	7.1	6.6	15.5	17.1	
Level of Service	B	B	B	C	C		C	A	A	B	B	
Approach Delay (s)		15.8			23.0			12.9			17.1	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.30									
Actuated Cycle Length (s)			57.5				Sum of lost time (s)			24.0		
Intersection Capacity Utilization			48.7%				ICU Level of Service			A		
Analysis Period (min)			15									

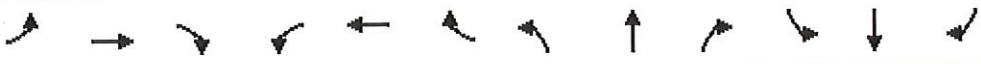
c Critical Lane Group

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (vph)	42	21	56	47	25	331	71	546	53	168	455	23
Future Volume (vph)	42	21	56	47	25	331	71	546	53	168	455	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1660		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.74	1.00		0.70	1.00	1.00	0.47	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1378	1660		1308	1863	1583	877	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	23	61	51	27	360	77	593	58	183	495	25
RTOR Reduction (vph)	0	52	0	0	0	305	0	0	37	0	0	15
Lane Group Flow (vph)	46	32	0	51	27	55	77	593	21	183	495	10
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	9.3	9.3		9.3	9.3	9.3	28.0	22.1	22.1	8.9	25.1	25.1
Effective Green, g (s)	9.3	9.3		9.3	9.3	9.3	28.0	22.1	22.1	8.9	25.1	25.1
Actuated g/C Ratio	0.15	0.15		0.15	0.15	0.15	0.46	0.36	0.36	0.15	0.41	0.41
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	209	252		199	283	240	488	1280	572	500	1453	650
v/s Ratio Prot		0.02			0.01		0.02	c0.17		c0.05	c0.14	
v/s Ratio Perm	0.03			c0.04		0.03	0.06		0.01			0.01
v/c Ratio	0.22	0.13		0.26	0.10	0.23	0.16	0.46	0.04	0.37	0.34	0.02
Uniform Delay, d1	22.7	22.4		22.8	22.3	22.7	9.4	15.0	12.6	23.6	12.3	10.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2		0.7	0.1	0.5	0.2	0.3	0.0	0.5	0.1	0.0
Delay (s)	23.3	22.6		23.5	22.4	23.2	9.5	15.2	12.6	24.0	12.5	10.7
Level of Service	C	C		C	C	C	A	B	B	C	B	B
Approach Delay (s)		22.8			23.2			14.4			15.4	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.40									
Actuated Cycle Length (s)			61.1				Sum of lost time (s)			20.8		
Intersection Capacity Utilization			61.4%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	21	56	47	25	331	71	546	53	168	455	23
Future Volume (veh/h)	42	21	56	47	25	331	71	546	53	168	455	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	23	61	51	27	0	77	593	0	183	495	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	311	64	170	259	265		540	1315		359	1413	
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.37	0.00	0.10	0.40	0.00
Sat Flow, veh/h	1383	453	1201	1314	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	46	0	84	51	27	0	77	593	0	183	495	0
Grp Sat Flow(s), veh/h/ln	1383	0	1654	1314	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.6	0.0	2.5	2.0	0.7	0.0	1.4	6.8	0.0	2.7	5.3	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	4.5	0.7	0.0	1.4	6.8	0.0	2.7	5.3	0.0
Prop In Lane	1.00		0.73	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	311	0	234	259	265		540	1315		359	1413	
V/C Ratio(X)	0.15	0.00	0.36	0.20	0.10		0.14	0.45		0.51	0.35	
Avail Cap(c_a), veh/h	1139	0	1224	1045	1384		1393	3944		1918	3944	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.2	0.0	21.0	23.0	20.2	0.0	8.8	12.9	0.0	22.9	11.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.4	0.2	0.0	0.1	0.2	0.0	1.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.9	0.6	0.3	0.0	0.4	2.1	0.0	1.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	21.9	23.4	20.4	0.0	8.9	13.1	0.0	24.0	11.5	0.0
LnGrp LOS	C	A	C	C	C		A	B		C	B	
Approach Vol, veh/h	130			78			670			678		
Approach Delay, s/veh	21.7			22.3			12.6			14.9		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	26.5		14.9	11.1	28.0		14.9				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+1), s	4.7	8.8		4.5	3.4	7.3		6.5				
Green Ext Time (p_c), s	0.6	4.1		0.6	0.2	3.3		0.2				

Intersection Summary

HCM 6th Ctrl Delay 14.9

HCM 6th LOS B

Notes

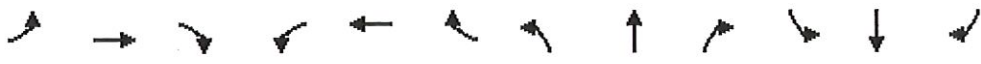
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↱	↱	↰	↰		↰↱	↰↱	↱	↰	↰↱	
Traffic Volume (vph)	84	4	168	22	10	2	301	216	16	3	280	72
Future Volume (vph)	84	4	168	22	10	2	301	216	16	3	280	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.86	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2903	1441	1770	1820		3433	3539	1583	1770	3431	
Flt Permitted	0.39	1.00	1.00	0.69	1.00		0.95	1.00	1.00	0.61	1.00	
Satd. Flow (perm)	726	2903	1441	1283	1820		3433	3539	1583	1128	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	4	183	24	11	2	327	235	17	3	304	78
RTOR Reduction (vph)	0	67	63	0	2	0	0	0	8	0	15	0
Lane Group Flow (vph)	91	29	28	24	11	0	327	235	9	3	367	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	20.4	20.4	20.4	6.5	6.5		11.9	34.1	34.1	16.2	16.2	
Effective Green, g (s)	20.4	20.4	20.4	6.5	6.5		11.9	34.1	34.1	16.2	16.2	
Actuated g/C Ratio	0.31	0.31	0.31	0.10	0.10		0.18	0.51	0.51	0.24	0.24	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	346	890	442	125	177		614	1814	811	274	835	
v/s Ratio Prot	c0.03	0.01			0.01		c0.10	0.07			c0.11	
v/s Ratio Perm	c0.05		0.02	0.02					0.01	0.00		
v/c Ratio	0.26	0.03	0.06	0.19	0.06		0.53	0.13	0.01	0.01	0.44	
Uniform Delay, d1	17.1	16.1	16.3	27.6	27.2		24.8	8.5	7.9	19.1	21.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.0	0.1	0.8	0.2		0.9	0.0	0.0	0.0	0.4	
Delay (s)	17.5	16.2	16.4	28.3	27.4		25.7	8.5	7.9	19.1	21.7	
Level of Service	B	B	B	C	C		C	A	A	B	C	
Approach Delay (s)		16.7			28.0			18.2			21.7	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			66.5			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			51.3%			ICU Level of Service			A			
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	2	6	80	12	266	20	428	101	286	804	8
Future Volume (vph)	4	2	6	80	12	266	20	428	101	286	804	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1645		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.75	1.00		0.75	1.00	1.00	0.32	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1395	1645		1400	1863	1583	605	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	2	7	87	13	289	22	465	110	311	874	9
RTOR Reduction (vph)	0	6	0	0	0	244	0	0	70	0	0	4
Lane Group Flow (vph)	4	3	0	87	13	45	22	465	40	311	874	5
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	10.5	10.5		10.5	10.5	10.5	27.3	24.9	24.9	11.8	34.3	34.3
Effective Green, g (s)	10.5	10.5		10.5	10.5	10.5	27.3	24.9	24.9	11.8	34.3	34.3
Actuated g/C Ratio	0.15	0.15		0.15	0.15	0.15	0.40	0.37	0.37	0.17	0.50	0.50
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	215	254		216	287	244	284	1295	579	595	1785	798
v/s Ratio Prot		0.00			0.01		0.00	0.13		c0.09	c0.25	
v/s Ratio Perm	0.00			c0.06		0.03	0.03		0.03			0.00
v/c Ratio	0.02	0.01		0.40	0.05	0.18	0.08	0.36	0.07	0.52	0.49	0.01
Uniform Delay, d1	24.4	24.4		25.9	24.5	25.0	12.3	15.7	14.0	25.5	11.1	8.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		1.2	0.1	0.4	0.1	0.2	0.1	0.8	0.2	0.0
Delay (s)	24.4	24.4		27.2	24.5	25.4	12.5	15.9	14.1	26.4	11.3	8.4
Level of Service	C	C		C	C	C	B	B	B	C	B	A
Approach Delay (s)		24.4			25.7			15.4			15.2	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.2									
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			68.0									
Intersection Capacity Utilization			57.4%									
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↱		↰	↱	↰	↰	↱	↱	↰	↱	↰
Traffic Volume (veh/h)	4	2	6	80	12	266	20	428	101	286	804	8
Future Volume (veh/h)	4	2	6	80	12	266	20	428	101	286	804	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	2	7	87	13	0	22	465	0	311	874	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	290	44	153	292	224		376	1292		479	1674	
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.03	0.36	0.00	0.14	0.47	0.00
Sat Flow, veh/h	1401	365	1276	1406	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	4	0	9	87	13	0	22	465	0	311	874	0
Grp Sat Flow(s), veh/h/ln	1401	0	1641	1406	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.1	0.0	0.3	3.2	0.3	0.0	0.4	5.3	0.0	4.7	9.5	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.3	3.5	0.3	0.0	0.4	5.3	0.0	4.7	9.5	0.0
Prop In Lane	1.00		0.78	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	290	0	196	292	224		376	1292		479	1674	
V/C Ratio(X)	0.01	0.00	0.05	0.30	0.06		0.06	0.36		0.65	0.52	
Avail Cap(c_a), veh/h	1141	0	1193	1147	1360		1292	3876		1885	3876	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	21.4	23.0	21.5	0.0	10.3	12.8	0.0	22.4	10.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.6	0.1	0.0	0.1	0.2	0.0	1.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	1.0	0.1	0.0	0.1	1.7	0.0	1.7	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	21.5	23.5	21.6	0.0	10.4	13.0	0.0	23.9	10.5	0.0
LnGrp LOS	C	A	C	C	C		B	B		C	B	
Approach Vol, veh/h	13			100			487			1185		
Approach Delay, s/veh	21.6			23.3			12.9			14.0		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	26.5		13.9	8.7	32.4		13.9				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+I1), s	6.7	7.3		2.5	2.4	11.5		5.5				
Green Ext Time (p_c), s	1.0	3.1		0.0	0.0	6.6		0.3				

Intersection Summary

HCM 6th Ctrl Delay 14.3

HCM 6th LOS B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	3	262	10	4	2	337	265	17	3	228	259
Future Volume (vph)	115	3	262	10	4	2	337	265	17	3	228	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.85	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2892	1441	1770	1770		3433	3539	1583	1770	3257	
Flt Permitted	0.47	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.58	1.00	
Satd. Flow (perm)	877	2892	1441	1863	1770		3433	3539	1583	1072	3257	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	3	285	11	4	2	366	288	18	3	248	282
RTOR Reduction (vph)	0	103	101	0	2	0	0	0	8	0	135	0
Lane Group Flow (vph)	125	43	41	11	4	0	366	288	10	3	395	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	19.8	19.8	19.8	2.5	2.5		12.7	36.1	36.1	17.4	17.4	
Effective Green, g (s)	19.8	19.8	19.8	2.5	2.5		12.7	36.1	36.1	17.4	17.4	
Actuated g/C Ratio	0.29	0.29	0.29	0.04	0.04		0.19	0.53	0.53	0.26	0.26	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	404	843	420	68	65		642	1881	841	274	834	
v/s Ratio Prot	c0.05	0.01			0.00		c0.11	0.08			c0.12	
v/s Ratio Perm	c0.04		0.03	0.01					0.01	0.00		
v/c Ratio	0.31	0.05	0.10	0.16	0.06		0.57	0.15	0.01	0.01	0.47	
Uniform Delay, d1	18.5	17.3	17.5	31.7	31.6		25.1	8.1	7.5	18.8	21.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	0.0	0.1	1.1	0.4		1.2	0.0	0.0	0.0	0.4	
Delay (s)	18.9	17.3	17.6	32.8	32.0		26.3	8.1	7.5	18.8	21.8	
Level of Service	B	B	B	C	C		C	A	A	B	C	
Approach Delay (s)		17.9			32.5			18.0			21.8	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			19.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			67.9			Sum of lost time (s)				24.0		
Intersection Capacity Utilization			53.0%			ICU Level of Service				A		
Analysis Period (min)			15									

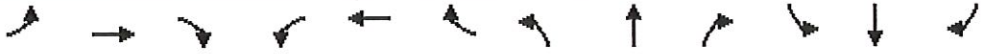
c Critical Lane Group

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	21	56	53	25	373	71	615	60	189	513	23
Future Volume (vph)	42	21	56	53	25	373	71	615	60	189	513	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1660		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.74	1.00		0.70	1.00	1.00	0.44	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1378	1660		1308	1863	1583	825	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	23	61	58	27	405	77	668	65	205	558	25
RTOR Reduction (vph)	0	51	0	0	0	341	0	0	41	0	0	14
Lane Group Flow (vph)	46	33	0	58	27	64	77	668	24	205	558	11
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1		6
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	10.0	10.0		10.0	10.0	10.0	29.1	23.1	23.1	9.7	26.8	26.8
Effective Green, g (s)	10.0	10.0		10.0	10.0	10.0	29.1	23.1	23.1	9.7	26.8	26.8
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.16	0.46	0.36	0.36	0.15	0.42	0.42
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	216	261		205	292	248	466	1285	574	523	1491	667
v/s Ratio Prot		0.02			0.01		0.02	c0.19		c0.06	c0.16	
v/s Ratio Perm	0.03			c0.04		0.04	0.06		0.01			0.01
v/c Ratio	0.21	0.12		0.28	0.09	0.26	0.17	0.52	0.04	0.39	0.37	0.02
Uniform Delay, d1	23.4	23.0		23.6	22.9	23.5	9.8	15.9	13.1	24.3	12.6	10.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2		0.8	0.1	0.6	0.2	0.4	0.0	0.5	0.2	0.0
Delay (s)	23.9	23.3		24.4	23.1	24.1	10.0	16.3	13.1	24.8	12.8	10.7
Level of Service	C	C		C	C	C	A	B	B	C	B	B
Approach Delay (s)		23.5			24.1			15.4			15.8	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			63.6				Sum of lost time (s)			20.8		
Intersection Capacity Utilization			64.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	21	56	53	25	373	71	615	60	189	513	23
Future Volume (veh/h)	42	21	56	53	25	373	71	615	60	189	513	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	23	61	58	27	0	77	668	0	205	558	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	64	170	259	265		512	1311		365	1416	
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.37	0.00	0.11	0.40	0.00
Sat Flow, veh/h	1383	453	1201	1314	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	46	0	84	58	27	0	77	668	0	205	558	0
Grp Sat Flow(s),veh/h/ln	1383	0	1654	1314	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.6	0.0	2.5	2.3	0.7	0.0	1.4	7.9	0.0	3.1	6.1	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	4.8	0.7	0.0	1.4	7.9	0.0	3.1	6.1	0.0
Prop In Lane	1.00		0.73	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	0	235	259	265		512	1311		365	1416	
V/C Ratio(X)	0.15	0.00	0.36	0.22	0.10		0.15	0.51		0.56	0.39	
Avail Cap(c_a), veh/h	1136	0	1220	1042	1380		1362	3933		1912	3933	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	0.0	21.0	23.2	20.3	0.0	8.9	13.3	0.0	23.0	11.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.4	0.2	0.0	0.1	0.3	0.0	1.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.9	0.7	0.3	0.0	0.4	2.5	0.0	1.1	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	22.0	23.6	20.4	0.0	9.1	13.6	0.0	24.4	11.8	0.0
LnGrp LOS	C	A	C	C	C		A	B		C	B	
Approach Vol, veh/h	130			85			745			763		
Approach Delay, s/veh	21.8			22.6			13.1			15.2		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	26.5		15.0	11.1	28.1		15.0				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+I1), s	5.1	9.9		4.5	3.4	8.1		6.8				
Green Ext Time (p_c), s	0.6	4.7		0.6	0.2	3.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay	15.2											
HCM 6th LOS	B											

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	4	189	22	10	2	339	243	16	3	316	81
Future Volume (vph)	95	4	189	22	10	2	339	243	16	3	316	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.86	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2901	1441	1770	1820		3433	3539	1583	1770	3431	
Flt Permitted	0.39	1.00	1.00	0.68	1.00		0.95	1.00	1.00	0.59	1.00	
Satd. Flow (perm)	731	2901	1441	1269	1820		3433	3539	1583	1097	3431	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	4	205	24	11	2	368	264	17	3	343	88
RTOR Reduction (vph)	0	75	71	0	2	0	0	0	8	0	15	0
Lane Group Flow (vph)	103	32	31	24	11	0	368	264	9	3	416	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	21.1	21.1	21.1	6.6	6.6		13.2	36.5	36.5	17.3	17.3	
Effective Green, g (s)	21.1	21.1	21.1	6.6	6.6		13.2	36.5	36.5	17.3	17.3	
Actuated g/C Ratio	0.30	0.30	0.30	0.09	0.09		0.19	0.52	0.52	0.25	0.25	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	348	879	436	120	172		651	1855	830	272	852	
v/s Ratio Prot	c0.04	0.01			0.01		c0.11	0.07			c0.12	
v/s Ratio Perm	c0.05		0.02	0.02					0.01	0.00		
v/c Ratio	0.30	0.04	0.07	0.20	0.07		0.57	0.14	0.01	0.01	0.49	
Uniform Delay, d1	18.2	17.1	17.3	29.1	28.7		25.6	8.5	7.9	19.7	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.0	0.1	0.8	0.2		1.1	0.0	0.0	0.0	0.4	
Delay (s)	18.7	17.1	17.3	29.9	28.9		26.7	8.5	7.9	19.7	22.8	
Level of Service	B	B	B	C	C		C	A	A	B	C	
Approach Delay (s)		17.7			29.5			18.8			22.8	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			69.6			Sum of lost time (s)				24.0		
Intersection Capacity Utilization			51.9%			ICU Level of Service				A		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	2	6	88	12	296	20	428	103	295	804	8
Future Volume (vph)	4	2	6	88	12	296	20	428	103	295	804	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1645		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.75	1.00		0.75	1.00	1.00	0.32	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1395	1645		1400	1863	1583	605	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	4	2	7	96	13	322	22	465	112	321	874	9
RTOR Reduction (vph)	0	6	0	0	0	271	0	0	71	0	0	4
Lane Group Flow (vph)	4	3	0	96	13	51	22	465	41	321	874	5
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	11.0	11.0		11.0	11.0	11.0	27.3	24.9	24.9	12.1	34.6	34.6
Effective Green, g (s)	11.0	11.0		11.0	11.0	11.0	27.3	24.9	24.9	12.1	34.6	34.6
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.16	0.40	0.36	0.36	0.18	0.50	0.50
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	223	263		223	297	253	280	1280	572	603	1779	796
v/s Ratio Prot		0.00			0.01		0.00	0.13		c0.09	c0.25	
v/s Ratio Perm	0.00			c0.07		0.03	0.03		0.03			0.00
v/c Ratio	0.02	0.01		0.43	0.04	0.20	0.08	0.36	0.07	0.53	0.49	0.01
Uniform Delay, d1	24.3	24.3		26.1	24.5	25.1	12.7	16.1	14.4	25.8	11.3	8.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		1.3	0.1	0.4	0.1	0.2	0.1	0.9	0.2	0.0
Delay (s)	24.4	24.3		27.4	24.5	25.5	12.8	16.3	14.4	26.7	11.5	8.5
Level of Service	C	C		C	C	C	B	B	B	C	B	A
Approach Delay (s)		24.4			25.9			15.8			15.5	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			68.8				Sum of lost time (s)			20.8		
Intersection Capacity Utilization			59.2%				ICU Level of Service			B		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	2	6	88	12	296	20	428	103	295	804	8
Future Volume (veh/h)	4	2	6	88	12	296	20	428	103	295	804	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	4	2	7	96	13	0	22	465	0	321	874	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	45	156	295	229		375	1282		490	1675	
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.00	0.03	0.36	0.00	0.14	0.47	0.00
Sat Flow, veh/h	1401	365	1276	1406	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	4	0	9	96	13	0	22	465	0	321	874	0
Grp Sat Flow(s),veh/h/ln	1401	0	1641	1406	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	0.1	0.0	0.3	3.6	0.3	0.0	0.4	5.3	0.0	4.9	9.6	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.3	3.9	0.3	0.0	0.4	5.3	0.0	4.9	9.6	0.0
Prop In Lane	1.00		0.78	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	293	0	201	295	229		375	1282		490	1675	
V/C Ratio(X)	0.01	0.00	0.04	0.33	0.06		0.06	0.36		0.66	0.52	
Avail Cap(c_a), veh/h	1132	0	1184	1138	1350		1283	3846		1870	3846	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	21.5	23.2	21.5	0.0	10.5	13.0	0.0	22.5	10.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.6	0.1	0.0	0.1	0.2	0.0	1.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	1.1	0.1	0.0	0.1	1.7	0.0	1.8	2.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.7	0.0	21.6	23.8	21.6	0.0	10.6	13.2	0.0	24.0	10.5	0.0
LnGrp LOS	C	A	C	C	C		B	B		C	B	
Approach Vol, veh/h	13			109			487			1195		
Approach Delay, s/veh	21.6			23.5			13.1			14.1		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.9	26.5		14.1	8.7	32.6		14.1				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+I1), s	6.9	7.3		2.5	2.4	11.6		5.9				
Green Ext Time (p_c), s	1.0	3.1		0.0	0.0	6.6		0.3				
Intersection Summary												
HCM 6th Ctrl Delay	14.5											
HCM 6th LOS	B											
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	3	262	10	4	2	337	274	17	3	258	297
Future Volume (vph)	127	3	262	10	4	2	337	274	17	3	258	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.85	0.85	1.00	0.95		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2892	1441	1770	1770		3433	3539	1583	1770	3255	
Flt Permitted	0.47	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	877	2892	1441	1863	1770		3433	3539	1583	1061	3255	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	138	3	285	11	4	2	366	298	18	3	280	323
RTOR Reduction (vph)	0	103	100	0	2	0	0	0	8	0	134	0
Lane Group Flow (vph)	138	43	42	11	4	0	366	298	10	3	469	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	20.7	20.7	20.7	2.5	2.5		13.4	38.1	38.1	18.7	18.7	
Effective Green, g (s)	20.7	20.7	20.7	2.5	2.5		13.4	38.1	38.1	18.7	18.7	
Actuated g/C Ratio	0.29	0.29	0.29	0.04	0.04		0.19	0.54	0.54	0.26	0.26	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	410	845	421	65	62		649	1904	851	280	859	
v/s Ratio Prot	c0.06	0.01			0.00		c0.11	0.08			c0.14	
v/s Ratio Perm	c0.04		0.03	0.01					0.01	0.00		
v/c Ratio	0.34	0.05	0.10	0.17	0.07		0.56	0.16	0.01	0.01	0.55	
Uniform Delay, d1	19.4	18.0	18.3	33.1	33.0		26.0	8.2	7.6	19.2	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.0	0.1	1.2	0.4		1.1	0.0	0.0	0.0	0.7	
Delay (s)	19.9	18.0	18.4	34.4	33.5		27.2	8.3	7.6	19.2	23.1	
Level of Service	B	B	B	C	C		C	A	A	B	C	
Approach Delay (s)		18.7			34.1			18.4			23.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			70.8			Sum of lost time (s)				24.0		
Intersection Capacity Utilization			55.0%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM 6th TWSC
3: Bluffs Pkwy & Entrance 1

11/26/2024

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	
Traffic Vol, veh/h	0	30	0	403	528	1
Future Vol, veh/h	0	30	0	403	528	1
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	33	0	438	574	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	288	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	709	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	709	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	10.3	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 709		-	-		
HCM Lane V/C Ratio	- 0.046		-	-		
HCM Control Delay (s)	- 10.3		-	-		
HCM Lane LOS	- B		-	-		
HCM 95th %tile Q(veh)	- 0.1		-	-		

HCM 6th TWSC
4: Bluffs Pkwy & Entrance 2

11/26/2024

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	38	21	382	491	13
Future Vol, veh/h	8	38	21	382	491	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	175
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	9	41	23	415	534	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	788	267	548
Stage 1	534	-	-
Stage 2	254	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	328	731	1018
Stage 1	552	-	-
Stage 2	765	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	320	731	1018
Mov Cap-2 Maneuver	320	-	-
Stage 1	539	-	-
Stage 2	765	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1018	-	598	-	-
HCM Lane V/C Ratio	0.022	-	0.084	-	-
HCM Control Delay (s)	8.6	-	11.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

HCM Signalized Intersection Capacity Analysis

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱	↰	↰	↱	↱	↰	↱	↰
Traffic Volume (vph)	42	21	56	53	25	388	71	615	66	213	513	23
Future Volume (vph)	42	21	56	53	25	388	71	615	66	213	513	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frt	1.00	0.89		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1660		1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.74	1.00		0.70	1.00	1.00	0.44	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1378	1660		1308	1863	1583	825	3539	1583	3433	3539	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	23	61	58	27	422	77	668	72	232	558	25
RTOR Reduction (vph)	0	51	0	0	0	355	0	0	46	0	0	14
Lane Group Flow (vph)	46	33	0	58	27	67	77	668	26	232	558	11
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8		8	2		2			6
Actuated Green, G (s)	10.2	10.2		10.2	10.2	10.2	29.2	23.2	23.2	10.3	27.5	27.5
Effective Green, g (s)	10.2	10.2		10.2	10.2	10.2	29.2	23.2	23.2	10.3	27.5	27.5
Actuated g/C Ratio	0.16	0.16		0.16	0.16	0.16	0.45	0.36	0.36	0.16	0.43	0.43
Clearance Time (s)	7.3	7.3		7.3	7.3	7.3	7.0	6.5	6.5	7.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	217	262		206	294	250	461	1272	569	548	1508	674
v/s Ratio Prot		0.02			0.01		0.02	c0.19		c0.07	c0.16	
v/s Ratio Perm	0.03			c0.04		0.04	0.06		0.02			0.01
v/c Ratio	0.21	0.12		0.28	0.09	0.27	0.17	0.53	0.05	0.42	0.37	0.02
Uniform Delay, d1	23.6	23.3		23.9	23.2	23.9	10.1	16.3	13.4	24.4	12.6	10.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2		0.8	0.1	0.6	0.2	0.4	0.0	0.5	0.2	0.0
Delay (s)	24.1	23.5		24.7	23.3	24.4	10.3	16.7	13.5	25.0	12.8	10.7
Level of Service	C	C		C	C	C	B	B	B	C	B	B
Approach Delay (s)		23.7			24.4			15.8			16.2	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			64.5				Sum of lost time (s)			20.8		
Intersection Capacity Utilization			65.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

1: Reinhardt College Pkwy & Riverstone Village/MLK Jr Blvd

11/26/2024

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	↰	↱		↰	↱	↱	↰	↱	↱	↰	↱	↱
Traffic Volume (veh/h)	42	21	56	53	25	388	71	615	66	213	513	23
Future Volume (veh/h)	42	21	56	53	25	388	71	615	66	213	513	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	23	61	58	27	0	77	668	0	232	558	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	64	169	257	264		514	1303		383	1428	
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.00	0.08	0.37	0.00	0.11	0.40	0.00
Sat Flow, veh/h	1383	453	1201	1314	1870	1585	1781	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	46	0	84	58	27	0	77	668	0	232	558	0
Grp Sat Flow(s),veh/h/ln	1383	0	1654	1314	1870	1585	1781	1777	1585	1728	1777	1585
Q Serve(g_s), s	1.6	0.0	2.5	2.3	0.7	0.0	1.4	8.0	0.0	3.5	6.1	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	4.8	0.7	0.0	1.4	8.0	0.0	3.5	6.1	0.0
Prop In Lane	1.00		0.73	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	310	0	233	257	264		514	1303		383	1428	
V/C Ratio(X)	0.15	0.00	0.36	0.23	0.10		0.15	0.51		0.61	0.39	
Avail Cap(c_a), veh/h	1129	0	1213	1035	1372		1359	3910		1901	3910	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	0.0	21.2	23.4	20.4	0.0	9.0	13.5	0.0	23.1	11.6	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.4	0.2	0.0	0.1	0.3	0.0	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.0	0.7	0.3	0.0	0.4	2.5	0.0	1.3	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	22.1	23.8	20.6	0.0	9.2	13.8	0.0	24.7	11.8	0.0
LnGrp LOS	C	A	C	C	C		A	B		C	B	
Approach Vol, veh/h		130			85			745			790	
Approach Delay, s/veh		22.0			22.8			13.3			15.5	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	26.5		15.0	11.1	28.4		15.0				
Change Period (Y+Rc), s	7.0	6.5		* 7.3	7.0	6.5		* 7.3				
Max Green Setting (Gmax), s	30.0	60.0		* 40	30.0	60.0		* 40				
Max Q Clear Time (g_c+1), s	5.5	10.0		4.5	3.4	8.1		6.8				
Green Ext Time (p_c), s	0.7	4.7		0.6	0.2	3.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				15.4								
HCM 6th LOS				B								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM Signalized Intersection Capacity Analysis

2: Riverstone Blvd/Bluffs Pkwy & MLK Jr Blvd/Shopping Cnt

11/26/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	4	189	22	10	10	339	267	16	3	331	81
Future Volume (vph)	125	4	189	22	10	10	339	267	16	3	331	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00		0.97	0.95	1.00	1.00	0.95	
Frt	1.00	0.86	0.85	1.00	0.93		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	2901	1441	1770	1723		3433	3539	1583	1770	3435	
Flt Permitted	0.38	1.00	1.00	0.91	1.00		0.95	1.00	1.00	0.57	1.00	
Satd. Flow (perm)	716	2901	1441	1693	1723		3433	3539	1583	1070	3435	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	136	4	205	24	11	11	368	290	17	3	360	88
RTOR Reduction (vph)	0	73	70	0	10	0	0	0	8	0	14	0
Lane Group Flow (vph)	136	34	32	24	12	0	368	290	9	3	434	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Prot	NA	Perm	Perm	NA	
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4		4	8					2	6		
Actuated Green, G (s)	22.8	22.8	22.8	4.4	4.4		13.8	37.5	37.5	17.7	17.7	
Effective Green, g (s)	22.8	22.8	22.8	4.4	4.4		13.8	37.5	37.5	17.7	17.7	
Actuated g/C Ratio	0.32	0.32	0.32	0.06	0.06		0.19	0.52	0.52	0.24	0.24	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	406	914	454	103	104		655	1835	821	261	840	
v/s Ratio Prot	c0.06	0.01			0.01		c0.11	0.08			c0.13	
v/s Ratio Perm	c0.05		0.02	0.01					0.01	0.00		
v/c Ratio	0.33	0.04	0.07	0.23	0.11		0.56	0.16	0.01	0.01	0.52	
Uniform Delay, d1	18.6	17.1	17.3	32.3	32.1		26.5	9.1	8.4	20.7	23.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.0	0.1	1.2	0.5		1.1	0.0	0.0	0.0	0.5	
Delay (s)	19.1	17.2	17.4	33.5	32.6		27.6	9.2	8.4	20.7	24.1	
Level of Service	B	B	B	C	C		C	A	A	C	C	
Approach Delay (s)		18.0			33.1			19.2			24.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			72.3			Sum of lost time (s)				24.0		
Intersection Capacity Utilization			53.6%			ICU Level of Service				A		
Analysis Period (min)			15									

c - Critical Lane Group

HCM 6th Edition methodology does not support turning movements with shared & exclusive lanes.

HCM 6th TWSC
3: Bluffs Pkwy & Entrance 1

11/26/2024

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	
Traffic Vol, veh/h	0	15	0	394	419	2
Future Vol, veh/h	0	15	0	394	419	2
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	16	0	428	455	2
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	229	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	774	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	774	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	9.8	0	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	-	774	-	-		
HCM Lane V/C Ratio	-	0.021	-	-		
HCM Control Delay (s)	-	9.8	-	-		
HCM Lane LOS	-	A	-	-		
HCM 95th %tile Q(veh)	-	0.1	-	-		

HCM 6th TWSC
4: Bluffs Pkwy & Entrance 2

11/26/2024

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑	↑↑	↑
Traffic Vol, veh/h	4	19	54	340	403	3
Future Vol, veh/h	4	19	54	340	403	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	125	-	-	175
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	4	21	59	370	438	3

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	741	219	441
Stage 1	438	-	-
Stage 2	303	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	352	785	1115
Stage 1	618	-	-
Stage 2	723	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	333	785	1115
Mov Cap-2 Maneuver	333	-	-
Stage 1	585	-	-
Stage 2	723	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1115	-	635	-	-
HCM Lane V/C Ratio	0.053	-	0.039	-	-
HCM Control Delay (s)	8.4	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Appendix D: Trip Generation Calculation

Trip Generation

Calculation of Anticipated Project Trips

Based upon methodology from ITE's Trip Generation Manual, 11th Edition (2021)



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Project Land Use	Project Density	Project Trips			ITE Code	Variable	Equation Used ¹	In/Out Distribution
		Total	Inbound	Outbound				
Multifamily Housing (Mid-Rise)	251 D.U.	1,151	576	575	221	Dwelling Unit	$T = 4.77(X) - 46.46$ $T = 0.44(X) - 11.61$ $T = 0.39(X) + 0.34$	50% / 50% 23% / 77% 61% / 39%
Daily		99	23	76				
AM Peak Hour		98	60	38				
PM Peak Hour								
Reductions for Internal Capture								
Daily	0%	0	0	0				
AM Peak Hour	0%	0	0	0				
PM Peak Hour	0%	0	0	0				
Reductions for Modal Split								
Daily	0%	0	0	0				
AM Peak Hour	0%	0	0	0				
PM Peak Hour	0%	0	0	0				
Reductions for Pass-By Trips								
Daily	0%	0	0	0				
AM Peak Hour	0%	0	0	0				
PM Peak Hour	0%	0	0	0				
NET NEW EXTERNAL VEHICULAR TRIPS		1,151	576	575				
Daily		99	23	76				
AM Peak Hour		98	60	38				
PM Peak Hour								

Land Use	Daily		0	0	0			
	AM Peak Hour		0	0	0			
	PM Road Peak		0	0	0			
Reductions for Internal Capture	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
Reductions for Modal Split	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
Reductions for Pass-By Trips	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
NET NEW EXTERNAL VEHICULAR TRIPS	Daily		0	0	0			
	AM Peak Hour		0	0	0			
	PM Peak Hour		0	0	0			

Land Use	Daily		0	0	0			
	AM Peak Hour		0	0	0			
	PM Road Peak		0	0	0			
Reductions for Internal Capture	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
Reductions for Modal Split	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
Reductions for Pass-By Trips	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
NET NEW EXTERNAL VEHICULAR TRIPS	Daily		0	0	0			
	AM Peak Hour		0	0	0			
	PM Peak Hour		0	0	0			

Land Use	Daily		0	0	0			
	AM Peak Hour		0	0	0			
	PM Road Peak		0	0	0			
Reductions for Internal Capture	Daily	0%	0	0	0			
	AM Peak Hour	0%	0	0	0			
	PM Peak Hour	0%	0	0	0			
Reductions for Modal Split								

Trip Generation -

Calculation of Anticipated Project Trips

Based upon methodology from ITE's *Trip Generation Manual*, 10th Edition (2017)



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Project Land Use	Project Density	Project Trips			ITE Code	Variable	Equation Used ¹	In/Out Distribution
		Total	Inbound	Outbound				
High School	2,800 Students	5,432	2,716	2,716	530	1000 S.F.	$T = 1.94(X)$ $\ln(T) = 0.71\ln(X) + 1.41$	50% / 50% 68% / 232%
	Daily	1,148	781	367				
	AM Peak Hour							
Reductions for Internal Capture								
	Daily	0						
	AM Peak Hour	0						
	PM Peak Hour	0						
Reductions for Modal Split								
	Daily	0	0	0				
	AM Peak Hour	0	0	0				
	PM Peak Hour	0	0	0				
Reductions for Pass-By Trips								
	Daily	0	0	0				
	AM Peak Hour	0	0	0				
	PM Peak Hour	0	0	0				
NET NEW EXTERNAL VEHICULAR TRIPS								
	Daily	5,432	2,716	2,716				
	AM Peak Hour	1,148	781	367				
	PM Peak Hour	0	0	0				

Appendix E: Turn Lane Warrant Analysis

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

4-lane roadway

INPUT

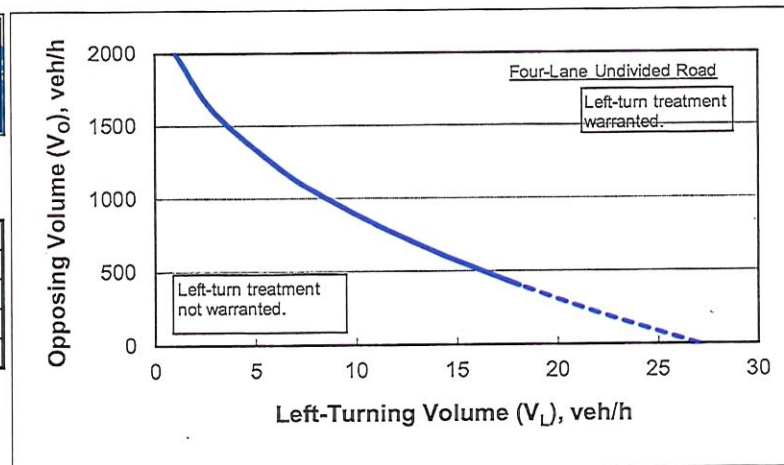
Variable	Value
Left-turning volume (V_L), veh/h:	54
Advancing volume (V_A), veh/h:	394
Opposing volume (V_O), veh/h:	406

OUTPUT

Variable	Message
Opposing volume (V_O) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn s:	4.0
Critical headway s:	6.0



Note: When $V_O < 400$ veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h ($V_A > 400$ veh/h).

Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	422
Right-turn volume, veh/h:	3

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	134
Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:	
Do NOT add right-turn bay.	

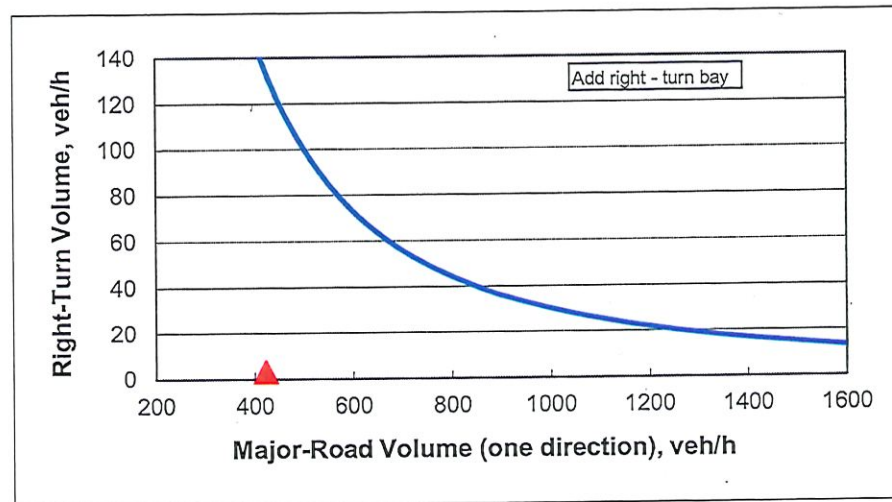


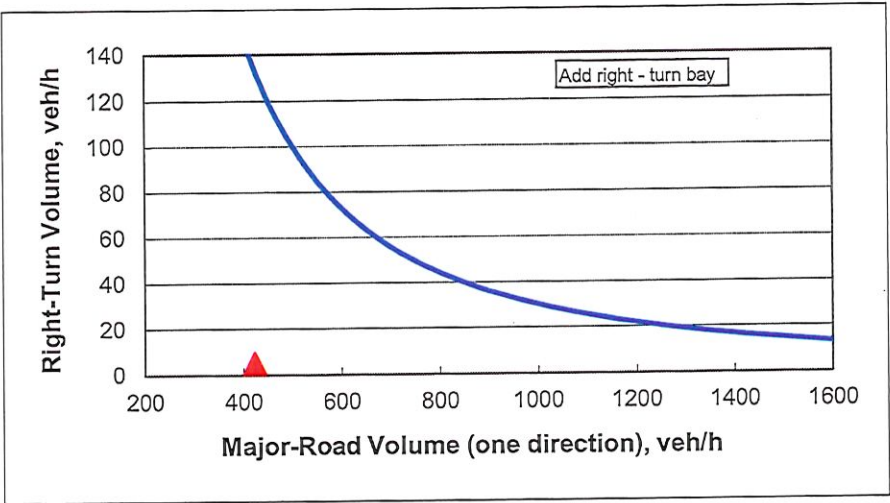
Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.

INPUT

Roadway geometry:	4-lane roadway
Variable	Value
Major-road speed, mph:	45
Major-road volume (one direction), veh/h:	422
Right-turn volume, veh/h:	5

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	134
Guidance for determining the need for a major-road right-turn bay for a 4-lane roadway:	
Do NOT add right-turn bay.	





Dear Mr. Patton

On behalf of TBG Residential, I am writing to formally request to be placed on the agenda for the upcoming Canton City Council meetings. Specifically, we would like to be included in the March 6 Public Hearing and the March 20 Vote Agenda in regards to our proposed affordable housing community, Summit at Hickory Creek.

We are seeking the City of Canton's GICH (Georgia Initiative for Community Housing) allocation, as well as a financial commitment letter in the amount of \$500,000 to support the construction of 96 affordable housing units. These units are essential to addressing the city's need for affordable housing, and we are eager to present our proposal and discuss how this partnership will benefit the community.

We would greatly appreciate the opportunity to appear before the Council to discuss this request and answer any questions.

Thank you for considering our request. We look forward to the opportunity to present at the upcoming meetings.

Sincerely,

A handwritten signature in black ink, appearing to read "Sarah Buckner".

Sarah Buckner
TBG Residential