

CITY ADMINISTRATOR Michael E. Parks PLANNING COMMISSION

Kim Skriba Carolyn Wade Bo Bland Jon Gomolak Robert Yoe

PLANNING COMMISSION AGENDA October 16, 2024 1 Auburn Way 6:00 p.m.

CALL TO ORDER:

APPROVAL OF AGENDA

APPROVAL OF MINUTES - September 25, 2024

OLD BUSINESS:

 Case: RZ 24-000, MBC Developers, LLC c/o Andersen Tate & Carr, has submitted an application to rezone 100 Lyle Road (AU11 148) and 0 Main Street (AU11 031B), a combined 57.917± acres, from AG – Agricultural District to PUD – Planned Unit Development district for the purpose of developing the property with a 188-lot single-family detached subdivision.

Announcements

Adjournment

Agenda subject to change...



<u>Mayor</u> Richard E. Roquemore <u>City Council</u> Robert L. Vogel III Taylor Sisk Jamie Bradley Joshua Rowan

City Administrator Michael E. Parks

Planning & Zoning Commission Meeting Minutes September 25, 2024

The meeting was Called to order by Chairwoman Skriba

The chairwoman asked for approval of the agenda, motion, 2nd, all in favor, motion carried.

Chairwoman asked for the approval of minutes from July 17, 2024, and a motion was made to approve, 2nd - all in favor, motion carried.

New Business: City Planner Presented

 Proposed Adoption of the updated Official Zoning Map amendment to correct 4 parcels that were zoned incorrectly during the previous update. 1 question by a Commission Member was to see if there was a way to add the parcel numbers to the map, The Planner will see what can be done.

Motion made to approve, 2nd, all in favor

 Proposed amendment to the City's Zoning Ordinance 17.91, Auburn Downtown Overlay District. The Planner outlined some items that needed to be updated & to make sure the Ordinance aligns with the Comp Plan. No major changes since the ordinance was put into place & slightly updated in 2021.

A motion was made to approve the updated ADOD Ordinance 17.91, 2nd, all in favor

Chairwoman announced case: **ZTA 24-000**, MBC Developers, LLC c/o Andersen Tate & Carr, has applied for a proposed amendment to the City's Zoning Ordinance, Section 17.90.140, PUD Planned Unit Development District announced by Chairwoman & staff presented brief description: Denser product from 2.2 to 3.3 units per acre, also request to eliminate 1 standard within the development so they would be able to grade for lot layout and everything all at once. Staff recommended approval.

(The chairwoman read the Procedures of the Meeting).

Applicant representative: Melody Glouton representing Anderson, Tate & Carr spoke on behalf of the applicant for the text amendment requesting 2 modifications for the Planned Unit Development, the 1st is requesting a change from 2.2 units an acre to 3.3 units per acre, a gradual density increase she explained. Requesting the minimum density to be 3.3 and the 2nd modification is to eliminate the requirement in terms of the grading so they can grade more than 1 lot at a time.

A few residents spoke in opposition to the text amendment request & the current road conditions.

The applicant spoke in rebuttal & respectfully requested that the units per acre be changed, they are there in good faith & will discuss more in the rezoning case.

Commission members had another chance to ask questions and make comments.

A motion was made to deny text amendment change to C.1 to increase the maximum density to 3.3 dwelling units per acre and to approve text amendment C.5 to delete the prohibition of mass-grading during the land development process, 2nd, vote 3-1 passed.

Chairwoman announced the next case **RZ 24-000**, MBC Developers, LLC c/o Andersen Tate & Carr, has applied to rezone 100 Lyle Road (AU11 148) and 0 Main Street (AU11 031B), a combined 57.917± acres, from AG – Agricultural District to PUD – Planned Unit Development district for the purpose of developing the property with a 188-lot single-family detached subdivision.

Staff Planner gave a summary and turned it over to the applicant. Applicant representative Melody Glouton asked that the item RZ 24-000 be tabled until the next meeting and Mayor and Council have decided on ZTA 24-000, the proposed PUD text amendment.

Motion to allow the table, all voted-passed. The next meeting is scheduled for the 16th of October 2024.

The Chairwoman asked for a motion to adjourn, all in favor. Motion passed.

AUBURN GEORGIA-EST. 1892

COMMUNITY DEVELOPMENT DEPARTMENT

CITY OF AUBURN 1 Auburn Way AUBURN, GA 30011 PHONE: 770-963-4002 www.cityofauburn-ga.org

M E M O R A N D U M

TO:	Planning & Zoning Commission Members
FROM:	Sarah McQuade, City Planner
DATE:	October 9, 2024
RE:	RZ 24-000 - Application to rezone 100 Lyle Road (AU11 148) and 0 Main Street (AU11 031B), a combined 57.917± acres, from AG – Agricultural district to PUD – Planned Unit Development district for the purpose of developing the property with a 188-lot single-family detached subdivision.

Dear Planning & Zoning Commission Members,

During the September 25, 2024, Planning & Zoning Commission meeting, the commission tabled this item, at the request of the applicant, until after a decision regarding ZTA 24-000 had been made by Mayor and Council. ZTA 24-000 will be heard at the October 10, 2024, Mayor and Council meeting.

At this time there have been no changes to the request to rezone the property from AG – Agricultural district to PUD – Planned Unit Development district.

Please let me know if you have any questions.

Thank you.

CC: Mayor and Members of City Council Michael Parks, City Manager Jack Wilson, City Attorney ANNEXATION & REZONING APPLICATION



CITY OF AUBURN COMMUNITY DEVELOPMENT DEPARTMENT 1369 4TH AVE, AUBURN, GA 30011 (770) 963-4002 www.cityofauburn-ga.org

ANNEXATION & REZONING APPLICATION AN APPLICATION TO AMEND THE OFFICIAL ZONING MAP FOR THE CITY OF AUBURN, GA.

APPLICANT INFORMATION	PROPERTY OWNER INFORMATION		
NAME: MBC Developers, LLC c/o Andersen Tate & Carr	NAME: Donna J. Evans		
ADDRESS: S-4000	ADDRESS: 100 Lyle Road		
CITY: Duluth	CITY: Aubum		
STATE: GA ZIP: 30097	STATE: GA ZIP: 30011		
PHONE: 770-822-0900	PHONE:		
EMAIL: mglouton@atclawfirm.com	EMAIL:		
CONTACT PERSON: Melody A. Glouton	PHONE: 770-822-0900		
EMAIL: mglouton@atclawfirm.com			

APPLICANT IS:	OWNER'S AGENT		R DICONTRACT PURCHASER	
PRESENT ZONING	DISTRICT(S): AG	REQUESTED	ZONING DISTRICT: PUD	
PARCEL NUMBER(S): AU11 148 & AU11 031B		в	ACREAGE: 57.917	
ADDRESS OF PRO	PERTY: 100 Lyle Road, Au	iburn, GA		
PROPOSED DEVEL	OPMENT: Single Family	Detached		

RESIDENTIAL DEVELOPMENT	NON-RESIDENTIAL DEVELOPMENT
NO. OF LOTS/DWELLING UNITS: 188	NO. OF BUILDINGS/LOTS:
DWELLING UNIT SIZE (SQ.FT.): 1600 sq feet	TOTAL BUILDING SQ.FT.:
GROSS DENSITY: 3.25 upa	DENSITY:
NET DENSITY:	

PLEASE ATTACHED A LETTER OF INTENT EXPLAINING PROPOSED DEVELOPMENT

REZONING APPLICANT'S CERTIFICATION

THE UNDERSIGNED BELOW IS AUTHORIZED TO MAKE THIS APPLICATION. THE UNDERSIGNED IS AWARE THAT NO APPLICATION OR REAPPLICATION AFFECTING THE SAME LAND SHALL BE ACTED UPON WITHIN 12 MONTHS FROM THE DATE OF LAST ACTION BY THE CITY COUNCIL UNLESS WAIVED BY THE CITY COUNCIL. IN NO CASE SHALL AN APPLICATION OR REAPPLICATION BE ACTED UPON IN LESS THAN SIX (6) MONTHS FROM THE DATE OF LAST ACTION BY THE CITY COUNCIL.

SIGNATURE OF APPLICANT

08/23/2024

DATE

Melody A. Glouton, Attorney for Applicant

PRINT NAME AND TITLE

SIGNATURE OF NOTARY PUBLIC

08/23/2024

DATE



REZONING PROPERTY OWNER'S CERTIFICATION

THE UNDERSIGNED BELOW, OR AS ATTACHED, IS THE OWNER OF THE PROPERTY CONSIDERED IN THIS APPLICATION. THE UNDERSIGNED IS AWARE THAT NO APPLICATION OR REAPPLICATION AFFECTING THE SAME LAND SHALL BE ACTED UPON WITHIN 12 MONTHS FROM THE DATE OF LAST ACTION BY THE CITY COUNCIL UNLESS WAIVED BY THE CITY COUNCIL. IN NO CASE SHALL AN APPLICATION OR REAPPLICATION BE ACTED UPON IN LESS THAN SIX (6) MONTHS FROM THE DATE OF LAST ACTION BY THE CITY COUNCIL.

SIGNATURE OF PROPERTY OWNER

08/23/2024 DATE

Science Service Science and Constructions

Melody A. Glouton, with express permission from property owner

PRINT NAME AND TITLE

SIGNATURE OF NOTARY PUBLIC

08/24/2023

DATE



CONFLICT OF INTEREST CERTIFICATION FOR REZONING

THE UNDERSIGNED BELOW, MAKING APPLICATION FOR A REZONING, HAS COMPLIED WITH THE OFFICIAL CODE OF GEORGIA SECTION 36-67A-1, ET. SEQ, CONFLICT OF INTEREST IN ZONING ACTIONS, AND HAS SUBMITTED OR ATTACHED THE REQUIRED INFORMATION ON THE FORMS PROVIDED.

Melger A. Dlander	08/23/2024	
SIGNATURE OF PROPERTY OWNER	DATE	
Melody A. Glouton with express permission from pr	operty owner	
PRINT NAME AND TITLE		
Adden	08/23/2024	100
SIGNATURE OF NOTARY PUBLIC	DATE GEONOTAL	RYSEAL
DISCLOSURE OF CA	MPAIGN CONTRIBUTIONS	and the second second
HAVE YOU, WITHIN THE TWO YEARS IMME APPLICATION, MADE CAMPAIGN CONTRIB MEMBER OF THE CITY COUNCIL OR A MEM	UTIONS AGGREGATING \$250.00 OR MORE 1	
□ YES □ NO Donna J. Evans		

YOUR NAME

IF THE ANSWER IF YES, PLEASE COMPLETE THE FOLLOWING SECTION:

NAME AND POSITION OF GOVERNMENT OFFICIAL	CONTRIBUTIONS (LIST ALL WHICH AGGREGATE TO \$250 OR MORE)	DATE CONTRIBUTION WAS MADE (WITHIN LAST TWO YEARS)

ATTACHED ADDITIONAL SHEETS IF NECESSARY, TO DISCLOSE OR DESCRIBE ALL CONTRIBUTIONS.

Page 5 of 6

ANDERSEN | TATE | CARR

August 23, 2024

LETTER OF INTENT AND JUSTIFICATION FOR REZONING

Rezoning Application City of Auburn Barrow County, Georgia

Applicant: MBC Developers, LLC

Rezoning Tract: Tax Parcel IDs AU11 031B and AU11 148 ±57.917 Acres of Land

Located at 100 Lyle Road, Auburn, Georgia From AG to PUD

Submitted for Applicant by:

Melody A. Glouton, Esq. ANDERSEN TATE & CARR, P.C. One Sugarloaf Centre 1960 Satellite Blvd. Suite 4000 Duluth, Georgia 30097 770.822.0900 mglouton@atclawfirm.com

Andersen, Tate & Carr, P.C. - One Sugarloaf Centre - Suite 4000 - 1960 Satellite Boulevard - Duluth GA 30097 - www.atclawfirm.com

I. INTRODUCTION

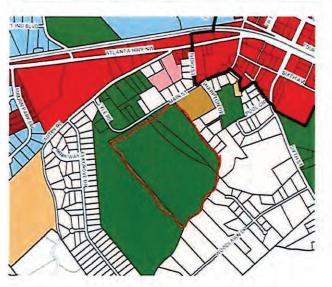
This Application for Rezoning is submitted for a 57.917-acre parcel of land located at 100 Lyle Road, just south of its intersection of Autry Road (hereinafter the "Property"). The Property is an assemblage of two tax parcels, with frontage on Lyle Road. The Property is currently zoned AG (Agricultural District) pursuant to the City of Auburn Zoning Ordinance (the "Zoning Ordinance"). The Applicant, MBC Developers, LLC (the "Applicant") now seeks approval to rezone the Property to PUD (Planned Unit Development District) in order to develop a distinctive and attractive single-family detached residential community with 188 lots.

This document is submitted as the Letter of Intent, Impact Analysis Statement, and other materials required by the Zoning Ordinance.

II. DESCRIPTION OF THE PROPERTY AND SURROUNDING AREA

The Property is a large tract fronting Lyle Road. It contains a personal residence and several accessory structures. The Property is mostly wooded and slopes southward toward a creek with floodplain. The surrounding zoning classifications and uses are as follows:

Location	Zoning	
Proposed Site	PUD	
North	AG and R-100	_
East	MH and R-100	-
South	R-100	-
West	AG	



The Applicant is requesting the City of Auburn rezone the Property to allow for a planned unit development. The site is surrounded by other residential uses to include primarily R-100 zoning classifications. As such, the Property is ideal for development as a residential community and will allow for the development of more housing.

As stated in the City of Auburn's 2018 Comprehensive Plan (the "Comprehensive Plan"), the Future Land Use Map identifies this area as single-family residential. The rezoning and development of the Property, as intended by the Applicant, will enhance the surrounding and existing area. Specifically, the proposed development of a planned unit development will provide additional housing options for residents.

III. PROJECT SUMMARY

As shown on the site plan by Thomas & Hutton, dated August 21, 2024, and filed with this Application (hereinafter the "Site Plan"), the Applicant is proposing to rezone 57.917 acres from AG to PUD in order to accommodate the development of a planned unit development with 188 units. The Applicant proposes to develop the Property in compliance with the PUD zoning classification to allow for a more unique and creative community. The minimum heated floor area would be 1,600 square feet. To the extent necessary, the Applicant is seeking a concurrent variance from Section 17.90.150 as related to the minimum dwelling unit size. The proposed development will consist of homes at a size, quality, and price point commensurate with or exceeding homes in the surrounding communities. Generally, the architectural style and composition of the exterior of the homes would consist of brick, stacked stoned, cedar and/or cementitious shake, siding board and batten or combinations thereof. The Applicant has included sample renderings with this submittal. The proposed development would be served by a primary full access entrance and a secondary entrance for emergency vehicles as required by Barrow County Fire Marshall along Lyle Road, which would be landscaped and maintained by a Homeowners' Association.

The Applicant further submits that several community benefits would result in the property being developed under the City's PUD zoning classification. For example, the proposed development would increase the supply of housing in the area, which is currently in high demand. By providing more homes, the development can help alleviate the shortage of single-family detached housing and provide citizens with additional housing options. In summary, the requested zoning of PUD for development of a neighborhood is consistent with the Comprehensive Plan.

PUD - Planned Unit Development District

Pursuant to Section 17.90.140, the intent and purpose of a PUD zoning is to provide for the possibility of relatively large scale, mixed-use planned developments, which incorporate innovative concepts of efficiency in land use, public services delivery, energy conservation, and environmental preservation. A planned unit development may allow more flexible placement, arrangement and orientation of residential structures, the accompanying flexibility in the subdivision of land, and the grouping of open space and accessory facilities such as garages and parking. A planned unit development is intended to allow a mixture and/or density of land uses not otherwise allowed in an established zoning district. The planned development will contain a variety of housing and lot sizes to meet the increasing demand for the community. Moreover, the proposed development would provide attractive, high-end personal residences. Approximately 21 acres of the overall site will be preserved as open space, which far exceeds the minimum required per the Zoning Ordinance.

IV. SITE IMPACT ANALYSIS

Pursuant to the Zoning Resolution, the Applicant submits its written responses to the impact analysis which shows that rezoning to PUD satisfies the "Standards Governing Exercise of the Zoning Power," as follows:

A) Whether a proposed rezoning will permit a use that is suitable in view of the use and development of adjacent and nearby property:

Yes. The proposed rezoning is consistent and suitable with the existing use and development of adjacent and nearby properties. The Property maintains frontage on Lyle Road. The proposed residential development is compatible with existing residential uses and will further diversify housing options in the surrounding area.

B) Whether a proposed rezoning will adversely affect the existing use or useability of adjacent or nearby property:

No, approval of the proposed rezoning will not adversely affect the existing use or usability of adjacent or nearby properties. The proposed development is compatible with the Comprehensive Plan and complimentary to adjacent and nearby uses.

C) Whether the property to be affected by a proposed rezoning has reasonable economic use as currently zoned:

The Applicant submits that due to the size, location, layout, topography, and natural features of the Subject Property, it does not have reasonable economic use as currently zoned.

D) Whether the proposed rezoning will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools:

No, approval of the proposed rezoning will not result in an excessive or burdensome use of the existing infrastructure systems. The Property has direct access to Lyle Road and is in close proximity to Atlanta Highway. Appropriate zoning conditions and site development requirements can mitigate any potential impacts on public facilities such as traffic, utility demand, stormwater, and schools.

E) Whether the proposed rezoning is in conformity with the policy and intent of the Land Use <u>Plan</u>:

Yes, the proposed Rezoning Application conforms with the policy and intent of the Comprehensive Plan and Future Land Use Map. The Subject Property is identified as single-family residential on the future land use map.

F) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either the approval or disapproval of the zoning proposal:

Yes. The proposed Rezoning achieves a goal of the Comprehensive Plan by proposing a development and site layout that serves as an opportunity to provide additional housing.

V. JUSTIFICATION FOR REZONING

The Applicant respectfully submits that "City of Auburn Zoning Ordinance" (the "Zoning Ordinance"), as amended from time to time, to the extent that it classifies the Property in any zoning district that would preclude development of a planned, unit development, under the PUD zoning classification, is unconstitutional as a taking of property, a denial of equal protection, an arbitrary and capricious act, and an unlawful delegation of authority under the specific constitutional provisions later set forth herein. Any existing inconsistent zoning of the Property pursuant to the Zoning Resolution deprives the Applicant and Property owner of any alternative reasonable use and development of the Property. Additionally, all other zoning classifications, including ones intervening between the existing classification and that requested herein, would deprive the Applicant and Property owner of any reasonable use and development of the Property. Further, any attempt by the Mayor and Council of the City of Auburn to impose greater restrictions upon the manner in which the Property will be developed than presently exist would be equally unlawful.

Accordingly, Applicant submits that the current zoning classification and any other zoning of the Property save for what has been requested as established in the Zoning Resolution constitute an arbitrary and unreasonable use of the zoning and police powers because they bear no substantial relationship to the public health, safety, morality or general welfare of the public and substantially harm the Applicant and Property owner. All inconsistent zoning classifications between the existing zoning and the zoning requested hereunder would constitute and arbitrary and unreasonable use of the zoning and police powers because they bear or would bear no substantial relationship to the public health, safety, morality, or general welfare of the public and would substantially harm the Applicant and Property owner. Further, the existing inconsistent zoning classification constitutes, and all zoning and plan classifications intervening between the existing inconsistent zoning classification and that required to develop this Project would constitute, a taking of the owner's private property without just compensation and without due process in violation of the Fifth Amendment and Fourteenth Amendment of the Constitution of the United States, and Article I, Section I, Paragraph I and Article I, Section III, Paragraph I of the Constitution of the State of Georgia and the Due Process and Equal Protection Clauses of the Fourteenth Amendment to the Constitution of the United States.

Further, the Applicant respectfully submits that failure to approve the requested rezoning change would be unconstitutional and would discriminate in an arbitrary, capricious and unreasonable manner between the Applicant and Property owner and owners of similarly situated property in violation of Article I, Section III, Paragraph I of the Constitution of the State of Georgia and the Equal Protection Clause of the Fourteenth Amendment of the Constitution of the United States.

Finally, the Applicant respectfully submits that the Mayor and Council of the City of Auburn cannot lawfully impose more restrictive standards upon the development of the Property than presently exist, as to do so not only would constitute a taking of the Property as set forth above, but also would amount to an unlawful delegation of their authority, in response to neighborhood opposition, in violation of Article IX, Section IV, Paragraph II of the Georgia Constitution.

This Application meets favorably with the prescribed test set out by the Georgia Supreme Court to be used in establishing the constitutional balance between private property rights and zoning and planning as an expression of the government's police power. See Guhl v. Holcomb Bridge Road Corp., 238 Ga. 322 (1977).

VI. CONCLUSION

For the foregoing reasons, the Applicant respectfully requests that this Application to Rezone from AG to PUD be approved. The Applicant welcomes the opportunity to meet with the City of Auburn Planning Department staff to answer any questions or to address any concerns relating to this Letter of Intent or supporting materials.

Respectfully submitted this 23rd day of August, 2024.

ANDERSEN, TATE & CARR, P.C.

Melody A. Glowton

Melody A. Glouton, Esq.

Enclosures MAG/dwb 4855-9356-0795, v. 1

LEGAL DESCRIPTION

All that tract or parcel of land lying and being in G.M.D. 1740, City of Auburn, Barrow County, Georgia and being more particularly described as follows:

Beginning at the intersection of the centerline of Lyle Road (a.k.a. Main Street) and the centerline of Third Street; THENCE continuing 492.66 feet along said centerline of Lyle Road in a southwesterly direction to a point; THENCE South 29 degrees 53 minutes 18 seconds East 20.00 feet to a point located on the southeasterly right-of-way of Lyle Road, said point being THE TRUE POINT OF BEGINNING;

THENCE South 38 degrees 54 minutes 23 seconds East for a distance of 506.56 feet to a point; THENCE South 39 degrees 07 minutes 00 seconds East for a distance of 262.17 feet to a point; THENCE South 39 degrees 42 minutes 12 seconds East for a distance of 260.91 feet to a point; THENCE South 37 degrees 12 minutes 14 seconds East for a distance of 117.42 feet to a point; THENCE South 36 degrees 22 minutes 35 seconds East for a distance of 96.06 feet to a point; THENCE South 36 degrees 22 minutes 35 seconds East for a distance of 72.20 feet to a point; THENCE South 21 degrees 24 minutes 35 seconds West for a distance of 272.51 feet to a point;

THENCE continuing along said centerline of creek the following 13 calls:

THENCE South 12 degrees 08 minutes 00 seconds East for a distance of 94.40 feet to a point; THENCE South 43 degrees 07 minutes 00 seconds East for a distance of 146.70 feet to a point; THENCE South 28 degrees 33 minutes 00 seconds West for a distance of 124.90 feet to a point; THENCE South 36 degrees 05 minutes 00 seconds West for a distance of 143.07 feet to a point; THENCE South 42 degrees 57 minutes 00 seconds West for a distance of 149.40 feet to a point; THENCE South 33 degrees 46 minutes 00 seconds West for a distance of 294.96 feet to a point; THENCE South 6 degrees 53 minutes 00 seconds West for a distance of 66.00 feet to a point; THENCE South 6 degrees 28 minutes 00 seconds West for a distance of 103.80 feet to a point; THENCE South 50 degrees 2 minutes 00 seconds West for a distance of 57.70 feet to a point; THENCE North 85 degrees 44 minutes 00 seconds West for a distance of 97.50 feet to a point; THENCE South 36 degrees 26 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 58 degrees 33 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 58 degrees 36 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 58 degrees 36 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 36 degrees 26 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 58 degrees 10 minutes 00 seconds West for a distance of 50.00 feet to a point; THENCE South 54 degrees 53 minutes 00 seconds West for a distance of 35.00 feet to a point; THENCE South 54 degrees 53 minutes 00 seconds West for a distance of 71.10 feet to a point; THENCE North 40 degrees 00 minutes 00 seconds West for a distance of 2075.30 feet leaving said creek to a point;

THENCE North 56 degrees 11 minutes 00 seconds East for a distance of 385.80 feet to a point located on the southeasterly right-of-way of Lyle Road;

THENCE North 60 degrees 03 minutes 41 seconds East for a distance of 114.32 feet to a point; THENCE North 57 degrees 36 minutes 02 seconds East for a distance of 240.38 feet to a point; THENCE North 56 degrees 03 minutes 34 seconds East for a distance of 76.79 feet to a point; THENCE North 55 degrees 04 minutes 36 seconds East for a distance of 104.51 feet to a point; THENCE along an arc of cure to the left for an arc length of 490.73 feet having a radius of 7,691.74 feet and being subtended by a chord bearing North 58 degrees 05 minutes 33 seconds East for a distance of 490.65 feet to a point, said point being THE TRUE POINT OF BEGINNING.

The above-described tract contains an area of 57.917 acres.

ANDERSEN | TATE | CARR

September 6, 2024

<u>COMBINED LETTER OF INTENT AND JUSTIFICATION</u> FOR REZONING AND TEXT AMENDMENT

Rezoning Application Text Amendment Application City of Auburn Barrow County, Georgia

> Applicant: MBC Developers, LLC

Rezoning Tract: Tax Parcel IDs AU11 031B and AU11 148 ±57.917 Acres of Land

Located at 100 Lyle Road, Auburn, Georgia From AG to PUD

Submitted for Applicant by:

Melody A. Glouton, Esq. ANDERSEN TATE & CARR, P.C. One Sugarloaf Centre 1960 Satellite Blvd. Suite 4000 Duluth, Georgia 30097 770.822.0900 mglouton@atclawfirm.com

Andersen, Tate & Carr, P.C. - One Sugarloaf Centre - Suite 4000 - 1960 Satellite Boulevard - Duluth GA 30097 - www.atclawfirm.com

I. INTRODUCTION

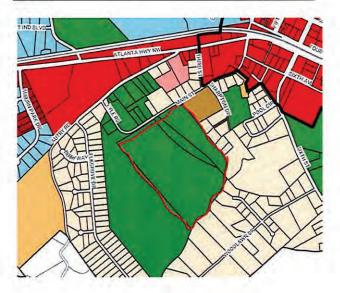
This Application for Rezoning and Text Amendment¹ is submitted for a 57.917-acre parcel of land located at 100 Lyle Road, just south of its intersection of Autry Road (hereinafter the "Property"). The Property is an assemblage of two tax parcels, with frontage on Lyle Road. The Property is currently zoned AG (Agricultural District) pursuant to the City of Auburn Zoning Ordinance (the "Zoning Ordinance"). The Applicant, MBC Developers, LLC (the "Applicant") now seeks approval to rezone the Property to PUD (Planned Unit Development District) in order to develop a distinctive and attractive single-family detached residential community with 188 lots.

This document is submitted as the Letter of Intent, Impact Analysis Statement, and other materials required by the Zoning Ordinance.

II. DESCRIPTION OF THE PROPERTY AND SURROUNDING AREA

The Property is a large tract fronting Lyle Road. It contains a personal residence and several accessory structures. The Property is mostly wooded and slopes southward toward a creek with floodplain. The surrounding zoning classifications and uses are as follows:

Location	Zoning	
Proposed Site	PUD	
North	AG and R-100	
East	MH and R-100	-
South	R-100	
West	AG	



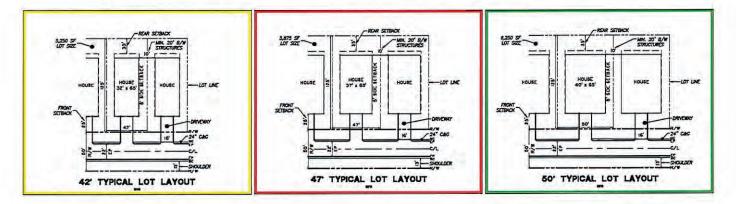
¹ In conjunction with the requested rezoning, the Applicant is seeking a text amendment to Section 17.90.140(C)(1) and (6) of the City of Auburn Zoning Ordinance.

The Applicant is requesting the City of Auburn rezone the Property to allow for a planned unit development. The site is surrounded by other residential uses to include primarily R-100 zoning classifications. As such, the Property is ideal for development as a residential community and will allow for the development of more housing.

As stated in the City of Auburn's 2018 Comprehensive Plan (the "Comprehensive Plan"), the Future Land Use Map identifies this area as single-family residential. The rezoning and development of the Property, as intended by the Applicant, will enhance the surrounding and existing area. Specifically, the proposed development of a planned unit development will provide additional housing options for residents.

III. PROJECT SUMMARY

As shown on the site plan by Thomas & Hutton, dated August 21, 2024, and filed with this Application (hereinafter the "Site Plan"), the Applicant is proposing to rezone 57.917 acres from AG to PUD in order to accommodate the development of a planned unit development with 188 units. The Applicant proposes to develop the Property in compliance with the PUD zoning classification to allow for a more unique and creative community. The minimum heated floor area would be 1,600 square feet. To the extent necessary, the Applicant is seeking a concurrent variance from Section 17.90.150 as related to the minimum dwelling unit size. The development would include the required 50-foot buffer along all abutting R-100 zoning districts. As referenced on the Site Plan, the typical lot layout for each type of housing unit is identified below:



The proposed development will consist of homes at a size, quality, and price point commensurate with or exceeding homes in the surrounding communities. Generally, the architectural style and composition of the exterior of the homes would consist of brick, stacked stone, cedar and/or cementitious shake, siding board, and batten or combinations thereof. The Applicant has included sample renderings with this submittal. The proposed development would be served by a primary full-access entrance and a secondary entrance for emergency vehicles as required by Barrow County Fire Marshall along Lyle Road, which would be landscaped and maintained by a Homeowners' Association. The proposed development would be serviced by Barrow County Water & Sewer Authority (sewer) and the City of Auburn Public Works (water).

The Applicant further submits that several community benefits would result in the property being developed under the City's PUD zoning classification. For example, the proposed development would increase the supply of housing in the area, which is currently in high demand. By providing more homes, the development can help alleviate the shortage of single-family detached housing and provide citizens with additional housing options. In summary, the requested zoning of PUD for development of a neighborhood is consistent with the Comprehensive Plan.

PUD – Planned Unit Development District

Pursuant to Section 17.90.140, the intent and purpose of a PUD zoning is to provide for the possibility of relatively large scale, mixed-use planned developments, which incorporate innovative concepts of efficiency in land use, public services delivery, energy conservation, and environmental preservation. A planned unit development may allow more flexible placement, arrangement and orientation of residential structures, the accompanying flexibility in the subdivision of land, and the grouping of open space and accessory facilities such as garages and parking. A planned unit development is intended to allow a mixture and/or density of land uses not otherwise allowed in an established zoning district.

The planned development will contain a variety of housing and lot sizes to meet the increasing demand for the community. Moreover, the proposed development would provide attractive, high-end personal residences. Approximately 21 acres of the overall site will be preserved as open space, which far exceeds the minimum required per the Zoning Ordinance.

IV. TEXT AMENDMENT

The Applicant is seeking to amend Sections 17.90.140 (C)(1) and (6) of the City of Auburn Zoning Ordinance. The current Ordinance reads as follows, with the requested amendments (additions in **Bold**; redactions with Strikethrough):

- "C. Special Requirements. All proposed PUD planned unit development district applications shall conform to the following specific requirements:
 - 1. The maximum density shall not to exceed two and two-tenths three and three-tenths dwelling units per gross acre.
 - 2. The site must abut a public street for a distance of at least one hundred feet.
 - 3. A registered engineer, architect, land surveyor or landscape architect shall prepare the plans required for inclusion in an application. The plans shall have their official registration seal.
 - 4. Sidewalks shall be required along both sides of all streets within a PUD. The construction standard of the required sidewalks are given in the city development regulations.
 - 5. Where a PUD abuts a R-100 district, the PUD shall contain a fifty-foot wide buffer strip along the abutting property lines, unless the property has the same land use and lot size (within a ten percent variation) is adjacent to the R-100 property; and shall further meet all requirements of the city landscape requirements.
 - 6. There shall be no land disturbance beyond the areas needed for the construction of roads and other public utilities/facilities, prior to issuance of building permits for the individual buildings within a PUD planned unit development."

The Applicant is seeking to increase the overall density from 2.2/upa to 3.3/upa to provide more variety in housing type/sizes, as well as more affordable housing units. The request to repeal the land disturbance provision is to allow for multiple lot grading during development, which will result in a more cohesive site. The proposed text amendments will promote and encourage the development of properties that incorporate more walkable communities in close proximity to neighbor-serving commercial uses. In addition, the text amendment will allow for a gradual density increase in communities that also incorporate open space, recreational areas, and community gathering areas. Moreover, by allowing for a mixed-use development with higher density, community members have improved access to things such as healthcare, grocery stores, and employment opportunities. In summary, by allowing for diverse housing options and community spaces, the text amendment can foster a sense of

community and belonging, as well as attract businesses and investments, leading to job creation and economic growth for the City.

V. <u>SITE IMPACT ANALYSIS</u>

Pursuant to the Zoning Resolution, the Applicant submits its written responses to the impact analysis which shows that rezoning to PUD satisfies the "Standards Governing Exercise of the Zoning Power," as follows:

A) Whether a proposed rezoning will permit a use that is suitable in view of the use and development of adjacent and nearby property:

Yes. The proposed rezoning is consistent and suitable with the existing use and development of adjacent and nearby properties. The Property maintains frontage on Lyle Road. The proposed residential development is compatible with existing residential uses and will further diversify housing options in the surrounding area.

B) Whether a proposed rezoning will adversely affect the existing use or useability of adjacent or nearby property:

No, approval of the proposed rezoning will not adversely affect the existing use or usability of adjacent or nearby properties. The proposed development is compatible with the Comprehensive Plan and complimentary to adjacent and nearby uses.

C) Whether the property to be affected by a proposed rezoning has reasonable economic use as currently zoned:

The Applicant submits that due to the size, location, layout, topography, and natural features of the Subject Property, it does not have reasonable economic use as currently zoned.

D) Whether the proposed rezoning will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools:

No, approval of the proposed rezoning will not result in an excessive or burdensome use of the existing infrastructure systems. The Property has direct access to Lyle Road and is in close proximity to Atlanta Highway. Appropriate zoning conditions and site development requirements can mitigate any potential impacts on public facilities such as traffic, utility demand, stormwater, and schools.

E) Whether the proposed rezoning is in conformity with the policy and intent of the Land Use Plan:

Yes, the proposed Rezoning Application conforms with the policy and intent of the Comprehensive Plan and Future Land Use Map. The Subject Property is identified as single-family residential on the future land use map.

F) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either the approval or disapproval of the zoning proposal:

Yes. The proposed Rezoning achieves a goal of the Comprehensive Plan by proposing a development and site layout that serves as an opportunity to provide additional housing.

VI. JUSTIFICATION FOR REZONING

The Applicant respectfully submits that "City of Auburn Zoning Ordinance" (the "Zoning Ordinance"), as amended from time to time, to the extent that it classifies the Property in any zoning district that would preclude development of a planned, unit development, under the PUD zoning classification, is unconstitutional as a taking of property, a denial of equal protection, an arbitrary and capricious act, and an unlawful delegation of authority under the specific constitutional provisions later set forth herein. Any existing inconsistent zoning of the Property pursuant to the Zoning Resolution deprives the Applicant and Property owner of any alternative reasonable use and development of the Property. Additionally, all other zoning classifications, including ones intervening between the existing classification and that requested herein, would deprive the Applicant and Property owner of any reasonable use and development of the Property. Further, any attempt by the Mayor and Council of the City of Auburn to impose greater restrictions upon the manner in which the Property will be developed than presently exist would be equally unlawful.

Accordingly, Applicant submits that the current zoning classification and any other zoning of the Property save for what has been requested as established in the Zoning Resolution constitute an arbitrary and unreasonable use of the zoning and police powers because they bear no substantial relationship to the public health, safety, morality or general welfare of the public and substantially harm the Applicant and Property owner. All inconsistent zoning classifications between the existing zoning and the zoning requested hereunder would constitute and arbitrary and unreasonable use of the zoning and police powers because they bear or would bear no substantial relationship to the public health, safety, morality, or general welfare of the public and would substantially harm the Applicant and Property owner. Further, the existing inconsistent zoning classification constitutes, and all zoning and plan classifications intervening between the existing inconsistent zoning classification and that required to develop this Project would constitute, a taking of the owner's private property without just compensation and without due process in violation of the Fifth Amendment and Fourteenth Amendment of the Constitution of the United States, and Article I, Section I, Paragraph I and Article I, Section Clauses of the Fourteenth Amendment to the Constitution of the United States.

Further, the Applicant respectfully submits that failure to approve the requested rezoning change would be unconstitutional and would discriminate in an arbitrary, capricious and unreasonable manner between the Applicant and Property owner and owners of similarly situated property in violation of Article I, Section III, Paragraph I of the Constitution of the State of Georgia and the Equal Protection Clause of the Fourteenth Amendment of the Constitution of the United States.

Finally, the Applicant respectfully submits that the Mayor and Council of the City of Auburn cannot lawfully impose more restrictive standards upon the development of the Property than presently exist, as to do so not only would constitute a taking of the Property as set forth above, but also would amount to an unlawful delegation of their authority, in response to neighborhood opposition, in violation of Article IX, Section IV, Paragraph II of the Georgia Constitution.

This Application meets favorably with the prescribed test set out by the Georgia Supreme Court to be used in establishing the constitutional balance between private property rights and zoning and planning as an expression of the government's police power. See <u>Guhl v. Holcomb Bridge Road Corp.</u>, 238 Ga. 322 (1977).

VII. <u>CONCLUSION</u>

For the foregoing reasons, the Applicant respectfully requests that this Application to Rezone from AG to PUD, as well as the associated Text Amendment, be approved. The Applicant welcomes the opportunity to meet with the City of Auburn Planning Department staff to answer any questions or to address any concerns relating to this Letter of Intent or supporting materials.

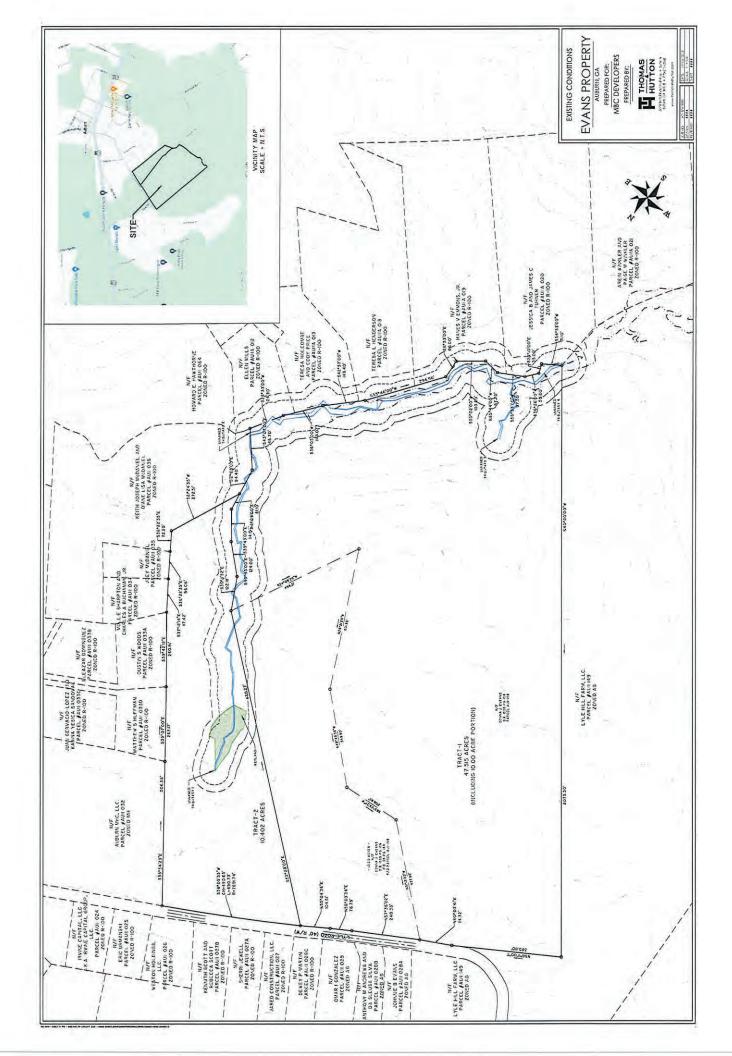
Respectfully submitted this 23rd day of August, 2024.

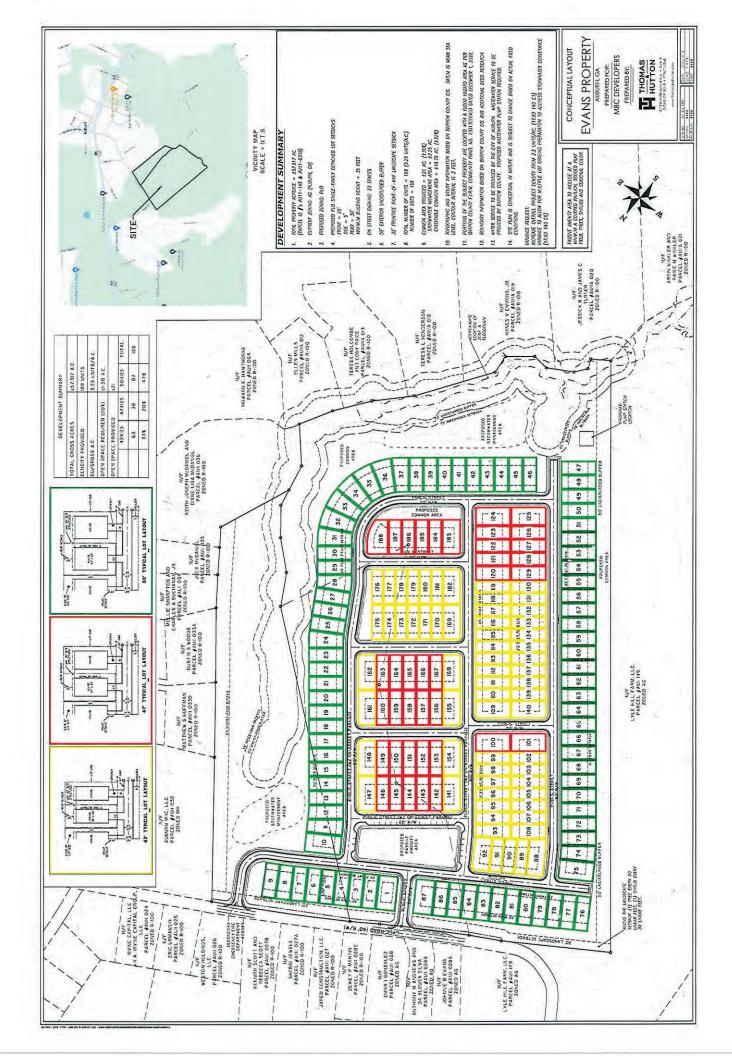
ANDERSEN, TATE & CARR, P.C.

Melody A. Glouton

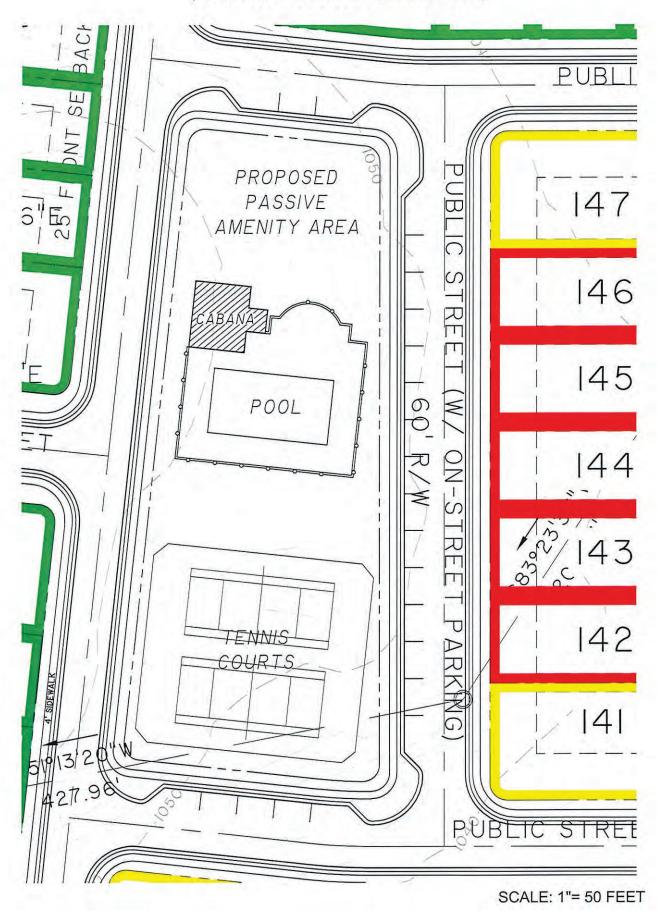
Melody A. Glouton, Esq.

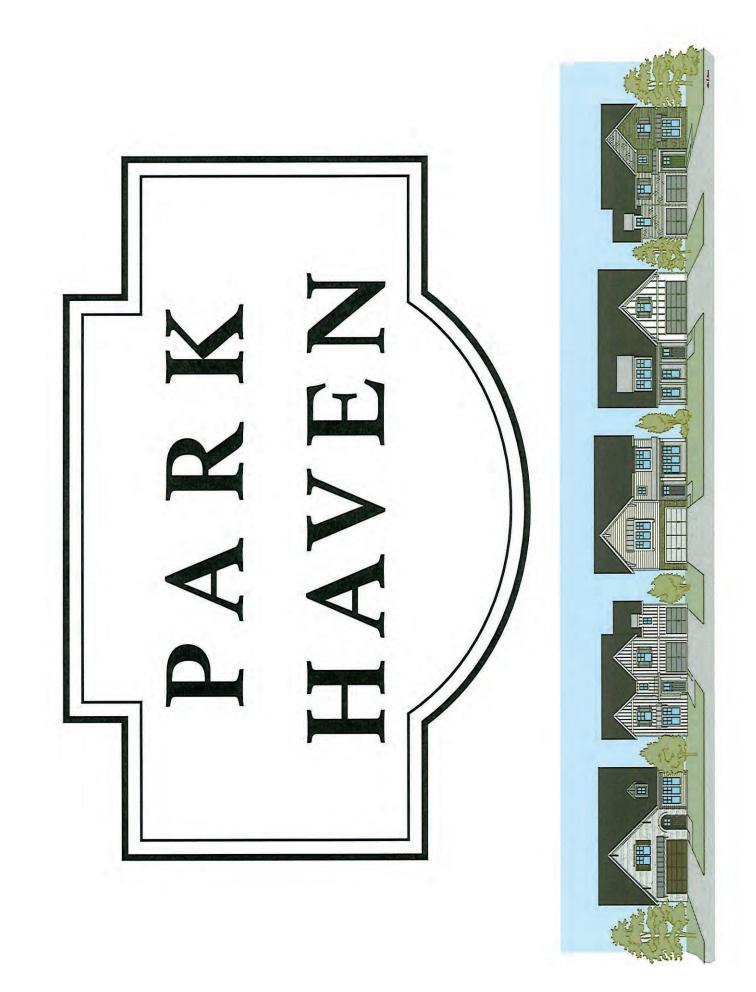
Enclosures MAG/dwb 4863-0052-1186, v. 1





AMENITY AREA EXHIBIT (TO SHOW SPATIAL REPRESENTATION)





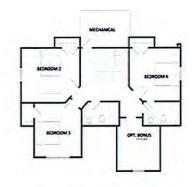


Front Entrance House Plans





FIRST FLOOR PLAN







FIRST FLOOR PLAN A

FIRST FLOOR PLAN B

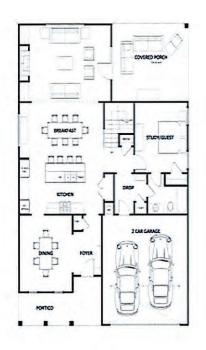




FIRST FLOOR PLAN















FIRST FLOOR PLAN

UPPER A FLOOR PLAN





BUILDING A TRADITION OF VALUE SINCE 1968

Traffic Impact Study

Proposed Main Street / Lyle Road Residential Subdivision City of Auburn, Georgia

June 13, 2024



in collaboration with



Traffic Impact Study

Proposed Main Street / Lyle Road Residential Subdivision City of Auburn, Georgia

prepared for:

MBC Developers 5072 Bristol Industrial Way, Suite A Buford, Georgia 30518

June 13, 2024



in collaboration with

ACAMPORA TRAFFIC, LLC 858 Myrtle Street, NE Atlanta, Georgia 30308 (678) 637-1763 e-mail: acamporatraffic@comcast.net

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Introduction

This study assesses the traffic impact of a proposed residential subdivision in the City of Auburn, Georgia. The site is located along the south side of Main Street between Autry Road and 3rd Street, as shown in Figure 1. The development will consist of 144 detached single-family homes and 44 attached townhomes which will be served by one full-movement access on Main Street. A secondary, emergency vehicle access will also be provided on Main Street.

The purpose of this traffic impact study is to determine existing traffic operating conditions in the vicinity of the proposed development, project future traffic volumes, assess the impact of the subject development, then develop conclusions and recommendations to mitigate the project traffic impact and ensure safe and efficient existing and future traffic conditions in the vicinity of the project.



Figure 1 – Site Location Map



Existing Traffic Conditions

Existing traffic operating conditions in the vicinity of the proposed development were assessed. The following is a description of existing transportation facilities, traffic volumes, and intersection operations.

Description of Existing Roadways

Main Street / Lyle Road is a two lane local street that begins to the northwest of the subject site at an all way stop sign controlled intersection at Autry Road (the fourth leg is the rear access to the Ingles retail center). From that intersection Lyle Road bends to the east, changes name to Main Street, passes the subject site, then bends back to the north, intersects 6th Avenue at an all-way stop sign controlled intersection, then a signalized intersection at Atlanta Highway (US 29 Business) (north of the intersection Main Street changes name to Mt Moriah Road). The terrain along Main Street / Lyle Road is level to gently rolling and the posted speed limit is 25 mph. The road is narrow with a rural cross-section with no sidewalks, shoulder, or curb-and-gutter and the pavement is in poor condition.

Pedestrian, Bicycle, and Transit Accessibility

There are no sidewalks along Main Street or Lyle Road or other local roadways. There is a sidewalk along the south side of US 29 Business and there are crosswalks and pedestrian signals on all approaches at the intersection of US 29 Business at Main Street. There are no dedicated bicycle lanes in this vicinity. There is no regularly scheduled mass transit within a reasonable walking distance of the proposed subdivision.

Existing Traffic Volumes

Existing full turning movement peak hour traffic volume counts were collected at the following intersections in the vicinity of the site:

- 1. Autry Road at Lyle Road / Ingles Access (all way stop)
- 2. Main Street at 6th Avenue / Bank Access (all way stop)
- 3. Atlanta Highway (US 29 Business) at Main Street / Mt Moriah Road (signal)

Figure 2 shows the locations of the counted intersections.

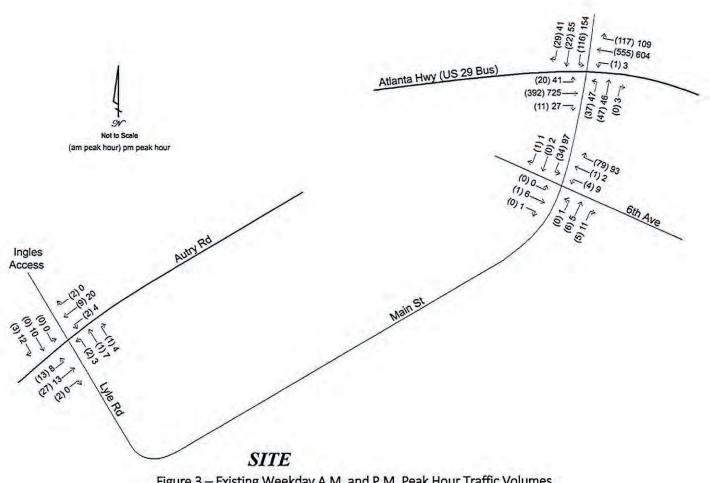


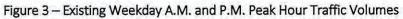


Figure 2 – Traffic Volume Count Location Map

The intersection counts were collected on Tuesday, June 4, 2024 from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. From the intersection turning movement count data, the highest four consecutive 15-minute interval volumes at each intersection, during each time period, were determined. The counts were collected during summer recess in area schools, which could affect typical volumes and travel patterns. The Georgia DOT provides recommended adjustment factors by month in their publication *Georgia's Traffic Monitoring Guide*, 2018. Table 7: Factor Groups, in that document, assigns a Factor Group of 4 to the area roadways, based on the description "urban/small urban major collectors, minor collectors, and locals". Table 4 in that document recommends a monthly adjustment factor 1.00 for June, which would not change the counted volumes. These existing counts are shown in Figure 3. The raw count data is found in Appendix A.









Existing Intersection Operations

Existing traffic operations were analyzed at the counted intersections using Synchro software, version 12, in accordance with the methodology presented in the Transportation Research Board's 2022 *Highway Capacity Manual* 7th Edition (*HCM 7*). This methodology is presented in Appendix B. The analysis was based on the existing volumes, lanes, and control. The results of the analysis are shown in Table 1. Computer printouts containing detailed results of the existing analysis are located in Appendix C. Levels of service and delays are provided for each overall intersection and for each controlled approach or movement. Locations that operate unacceptably (LOS E or LOS F) are presented in bold type.

	A.M. P	eak Hour	P.M. Pe	eak Hour
Intersection / Approach	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. Autry Road at Lyle Road / Ingles Access (all-way stop)	А	7.2	А	7.2
northbound approach (Lyle Rd)	А	7.1	А	7.1
southbound approach (Ingles access)	А	6.5	А	6.9
eastbound approach (Autry Rd)	А	7.3	А	7.3
westbound approach (Autry Rd)	А	7.0	А	7.3
2. Main Street at 6 th Avenue / Bank Access (all-way stop)	А	7.2	А	7.7
northbound approach (Main St)	А	7.0	А	7.1
southbound approach (Main St)	А	7.6	А	8.2
eastbound approach (bank access)	А	7.2	А	7.4
westbound approach (6 th Ave)	А	7.0	А	7.4
3. US 29 Business at Main Street / Mt Moriah Road (signal)	С	20.8	С	26.3
northbound approach (Main St)	В	16.7	С	20.5
southbound approach (Main St)	В	18.6	С	25.6
eastbound approach (US 29 Bus)	В	11.5	С	23.3
westbound approach (US 29 Bus)	C.	27.5	С	30.8

Table 1 - Existing	Intersection	Operations
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The existing analysis reveals acceptable traffic operations at all study locations. Therefore, no mitigation is identified at any study intersection for the existing condition.



No-Build Traffic Conditions

A 2029 no-build condition was developed. This represents the traffic conditions that will exist in the future at the anticipated date of the build-out of the subdivision, but not including the project's trips. The purpose of the analysis of this condition is to isolate the traffic impacts of the proposed development from background growth in volumes that is expected to occur in the area while the project is under construction.

In order to develop no-build volumes, a background growth factor was developed based on a review of historic Georgia DOT AADT traffic counts, as shown in Table 2.

Year	Atlanta Hwy E of Main	Annual Growth	Atlanta Hwy E of 6th St	Annual Growth	Carl Midway Church E of Kilcrease	Annual Growth
Station ID	013-0	007	013-0	009	013-7	006
2018	18,000	and the second second	15,600		1,920	
2019	18,800	4.4%	15,800	1.3%	1,960	2.1%
2020	17,300	-8.0%	17,900	13.3%	1,820	-7.1%
2021	19,100	10.4%	19,400	8.4%	1,930	6.0%
2022	19,500	2.1%	16,300	-16.0%	2,090	8.3%
avg growth		1.6%		0.9%		1.7%

Table 2 – Historic Georgia DOT Traffic Volume Counts and Annual Growth Rates

Growth in the area has fluctuated. Two of the three Georgia DOT count stations experienced a decrease in volumes between 2019 and 2020 which is considered an anomaly due to the pandemic. There was positive growth at all locations the following year, which is somewhat attributable to a return to pre-pandemic levels and not necessarily new growth. In the last year of the data there was an increase at two of the three count stations, but a -16.0% decrease on Atlanta Highway east of 6th Street. Overall there was a slight increasing trend at all three locations, ranging from 0.9% to 1.7%. Based on the growth trends identified in Table 2, and taking the pandemic into consideration, as well as the decrease on Atlanta Highway in the latest year of data, it was decided that a modest background annual growth rate of 2.0% could be expected on the roads in this study while the proposed subdivision is built-out. This equates to a 10.4% increase in volumes from existing to the anticipated 2029 project buildout year. The 10.4% background growth factor was applied to the counted trips at each study intersection to develop the 2029 no-build volumes.

Programmed Transportation Infrastructure Improvements

The Georgia DOT projects website was reviewed for transportation projects in the vicinity of the subject development. The following programmed (scheduled and funded) or planned (anticipated) transportation infrastructure project was identified:



Georgia DOT Project No. 0001816 – Grade Separation at CSX Railroad Tracks – This is a long-range (2052) project to grade separate certain intersections at the railroad crossings adjacent to Atlanta Highway. This project will occur well beyond the buildout date of the proposed subdivision and was, therefore, not included in the future modeling and analysis in this traffic study.

No-Build Intersection Operations

The no-build condition includes the no-build traffic volumes, as described above, applied to the existing lanes and control. The no-build volumes were entered into the Synchro 12 model and the 2029 no-build traffic operations were analyzed at each study intersection. The results of the no-build analysis are shown in Table 3. Computer printouts containing detailed results of the no-build analysis are located in Appendix D. Levels of service and delays are provided for each overall intersection and for each controlled approach or movement. Locations that operate unacceptably (LOS E or LOS F) are presented in bold type.

	A.M. P	eak Hour	P.M. Pe	eak Hour
Intersection / Approach	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. Autry Road at Lyle Road / Ingles Access (all-way stop)	А	7.2	А	7.2
northbound approach (Lyle Rd)	А	7.1	А	7.1
southbound approach (Ingles access)	А	6.5	А	7.0
eastbound approach (Autry Rd)	А	7.3	А	7.4
westbound approach (Autry Rd)	A	7.1	А	7.4
2. Main Street at 6 th Avenue / Bank Access (all-way stop)	А	7.2	А	7.8
northbound approach (Main St)	А	7.1	A	7.2
southbound approach (Main St)	A	7.7	A	8.3
eastbound approach (bank access)	А	7.2	А	7.4
westbound approach (6 th Ave)	А	7.0	А	7.5
3. US 29 Business at Main Street / Mt Moriah Road (signal)	С	22.0	C	31.7
northbound approach (Main St)	В	19.7	C	24.9
southbound approach (Main St)	C	22.2	C	33.0
eastbound approach (US 29 Bus)	В	11.0	C	27.4
westbound approach (US 29 Bus)	С	28.9	D	37.0

Table 3 - No-Build Intersection Operations

The no-build analysis reveals traffic operations comparable to the existing condition, with slight increases in delays. All locations will continue to operate acceptably in the no-build condition and no mitigation is identified at any study intersection.



Project Traffic Characteristics

This section describes the anticipated traffic characteristics of the proposed development, including a project description, how much traffic the project will generate, and where that traffic will travel.

Project Description

The proposed development is a residential subdivision which will consist of 144 detached single-family homes and 44 attached townhomes which will be served by one full-movement access on Main Street. A secondary, emergency vehicle access will also be provided on Main Street. The site plan is presented in Figure 4.

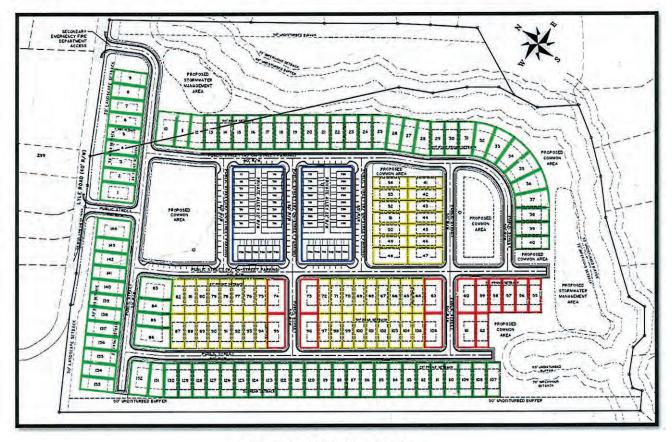


Figure 4 – Subdivision Site Plan

Trip Generation

Trip generation is an estimate of the number of entering and exiting vehicular trips that will be generated by the proposed development. The volume of traffic that will be generated by the project was calculated using the equations and rates in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition (the



current edition). ITE Land Use 210 – Single Family Detached Housing and ITE Land Use 215 – Single Family Attached Housing were chosen as representative of project. The trip generation for the project is presented in Table 4.

Land Use	ITE	Cine	A.	M. Peak H	our	P.1	M. Peak H	our	24-Hour
Land Use	Code	Size	In	Out	Total	In	Out	Total	2-Way
Single Family Detached	210	144 homes	26	78	104	88	52	140	1,412
Single Family Attached	215	44 homes	<u>4</u>	<u>13</u>	17	<u>13</u>	<u>9</u>	22	286
Project Totals		188 homes	30	91	121	101	61	162	1,698

Table 4 - Main Street / Lyle Road Subdivision Trip Generation

The proposed subdivision will generate 121 a.m. peak hour trips, 162 p.m. peak hour trips, and 1,698 weekday trips.

Trip Distribution and Assignment

The trip distribution percentages indicate what proportion of the subdivision's trips will travel to and from various directions. The trip distribution percentages for the subdivision were developed based on the locations and proximity of likely trip origins and destinations including regional employment centers, retail and offices in the area, nearby schools, other regional trip attractors, and the major routes of travel in the area. The project trips, shown in Table 4, were assigned to each study intersection and the project main access based on the distribution percentages. The trip distribution percentages and the total a.m. and p.m. peak hour trips expected to be generated by the proposed development are shown in Figure 5.



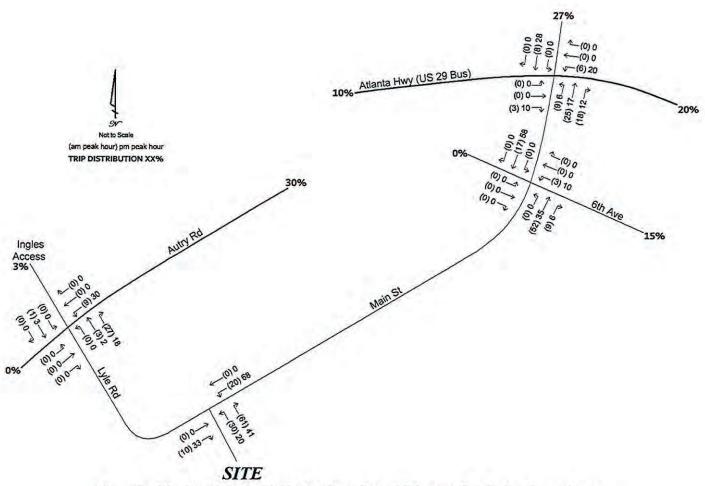


Figure 5 – Weekday A.M. and P.M. Peak Hour Project Trips and Distribution Percentages



Future Traffic Conditions

The future volumes consist of the no-build volumes plus the trips that will be generated by the proposed subdivision. The future volumes are shown in Figure 6.

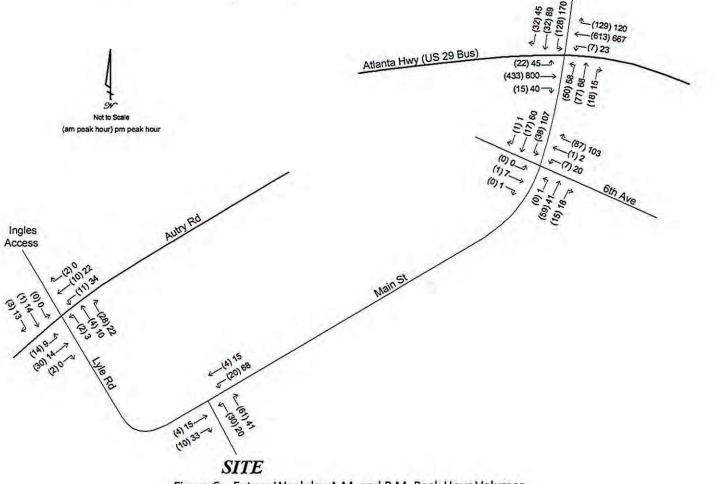


Figure 6 - Future Weekday A.M. and P.M. Peak Hour Volumes

Auxiliary Lane Requirements at Project Access

The Code of Ordinances of the City of Auburn was reviewed to determine the standards for providing left and right turn lanes on Main Street at the project main access. The Code Title 16 – Development Regulations, Chapter 16.28 – Access and Right of Way Requirements; Street Improvements and Construction Requirements, Section 16.28.020 – Minimum Right-of-Way and Street Improvements, B – Project Access Improvements – Single Family Detached Subdivisions states:

1. When property that abuts upon an existing or proposed city road is to be developed or redeveloped as a single family detached or duplex subdivision and the city street will provide access to the property, project



access improvements to the city road (deceleration lanes, turn lanes, etc.) shall be provided by the developer as required in this chapter.

- 2. A deceleration lane shall be required to be provided at each subdivision street entrance that is provided street access to a collector street or arterial street. In the event a street has an existing or proposed median, and the developer desires to construct a median break to serve the subdivision, a left turn lane leading to the median break shall be required to be provided by the developer and shall meet the standards contained herein.
- 3. Deceleration lanes shall have a length of one hundred fifty feet, with an additional fifty foot taper length, a pavement width of twelve feet (exclusive of curb and gutter) and shall be provided with curb and gutter. Additional right-of-way to accommodate the deceleration lane and an eleven foot shoulder shall be dedicated by the developer to the city at no cost. Associated drainage improvements as deemed necessary by the construction of the deceleration lane shall also be required.
- 4. Other project access improvements may be required by the city upon the recommendation of the Department of Transportation for Barrow and/or Gwinnett County or the state of Georgia in order to ensure adequate site access, pedestrian access, convenience and safety to the motoring public.
- 5. The developer shall be responsible for the relocation of public or private utilities and drainage structures, as may be occasioned by the required project access improvements.

Main Street / Lyle Street is a local street and as such, the code does not require an eastbound deceleration lane on Main Street at the project access. Given the extremely low volumes on Main Street (projected for the future at eastbound through 4 vehicles and 15 vehicles in the a.m. and p.m. peak hours, respectively, and westbound through also at 4 vehicles and 15 vehicles in the a.m. and p.m. peak hours, respectively), this study agrees with this conclusion. For the same reason, a westbound left turn lane is not considered necessary on Main Street at the project access. The secondary access was assumed to be for emergency vehicle use only and, therefore, no turn lanes are recommended on Main Street at the secondary access.

It is recommended that the project main access be constructed with one entering lane and one exiting lane. The exiting approach should be controlled by side street stop sign and accompanying stop bar.

Future Intersection Operations

An operational analysis was performed for the anticipated future project build-out at the study intersections. No analysis was performed at the project main access because the through volumes on Main Street are very low, as presented above, and the project access is expected to operate with minimal delays. Table 5 presents the results of the future analysis. Computer printouts containing detailed results of the future analysis are located in Appendix E. Levels of service and delays are provided for each overall intersection and for each controlled approach or movement. Locations that operate unacceptably (LOS E or LOS F) are presented in bold type.

	A.M. P	eak Hour	P.M. Pe	eak Hour
Intersection / Approach	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. Autry Road at Lyle Road / Ingles Access (all-way stop)	А	7.3	А	7.5
northbound approach (Lyle Rd)	А	7.1	А	7.2
southbound approach (Ingles access)	А	6.8	А	7.2
eastbound approach (Autry Rd)	А	7.5	А	7.5
westbound approach (Autry Rd)	А	7.4	А	7.9
2. Main Street at 6 th Avenue / Bank Access (all-way stop)	А	7.7	А	8.5
northbound approach (Main St)	А	7.9	А	7.9
southbound approach (Main St)	А	7.9	А	9.0
eastbound approach (bank access)	А	7.6	А	7.8
westbound approach (6 th Ave)	А	7.5	А	8.2
3. US 29 Business at Main Street / Mt Moriah Road (signal)	С	22.2	D	36.7
northbound approach (Main St)	С	21.6	С	26.3
southbound approach (Main St)	С	22.2	D	36.9
eastbound approach (US 29 Bus)	В	11.4	D	37.3
westbound approach (US 29 Bus)	С	28.7	D	38.3

Table 5 – Future Intersection Operations

The future analysis with the addition of the proposed subdivision's trips reveals a slight deterioration in operations at each study intersection, with all locations continuing to operate acceptably. Therefore, no mitigation is identified as a consequence of the proposed subdivision.



Conclusions and Recommendations

This study assesses the traffic impact of a proposed residential subdivision in the City of Auburn. The site is located along the south side of Main Street between Autry Road and 3rd Street. The development will consist of 144 detached single-family homes and 44 attached townhomes which will be served by one full-movement access on Main Street. A secondary, emergency vehicle access will also be provided on Main Street. The following are the findings and recommendations of this study:

- 1. The existing analysis reveals acceptable traffic operations at all study locations. Therefore, no mitigation is identified at any study intersection for the existing condition.
- 2. Traffic volume growth in this area has been a mix of positive and negative. An annual growth rate of 2.0%, applied for five years, for a total of 10.4% growth, was used in developing future volume projections.
- 3. The no-build analysis reveals operations comparable to the existing condition, with slight increases in delays. All locations will continue to operate acceptably in the no-build condition and no mitigation is identified at any study intersection.
- 4. The proposed subdivision will generate 121 a.m. peak hour trips, 162 p.m. peak hour trips, and 1,698 weekday trips.
- 5. The future analysis with the addition of the proposed subdivision's trips reveals a slight deterioration in operations at the study intersections. However, all study intersections will operate acceptably and no mitigation is recommended as a consequence of the proposed development.
- 6. No exclusive left or right turn lanes are required by City Code on Main Street at the main project access and none are recommended by this study.
- 7. The main subdivision access should be built with one entering lane and one exiting lane and the exiting approach should be controlled by side street stop sign and accompanying stop bar.
 - 8. Main Street / Lyle Road is very narrow and the pavement is in poor condition. Improving this road from Autry Road to 6th Avenue to City standards, is advised.
- 9. The project civil/site engineer should comply with all applicable design standards including sight distances, turn lane storage and taper lengths (when applicable), turn radii, driveway widths, islands, angles with the adjacent roadways, and grades.



14

Appendix A

Traffic Count Data



	-	-	4	101	-		4	101		-	4	101	4		4	101
Counted Volumes (Tuesday, June 4, 2024 7:15-8:15)	2	1	1	4	0	0	m	е	13	27	2	42	2	6	2	13
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1.00	1.00	1.00	2	1.00	1.00	1.00		1.00	1.00	1.00	
Existing Adjusted Volumes	2	-	Ţ	4	a	0	m	m	13	27	2	42	2	6	2	13
Annual Background Growth to 2029	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
2029 No-Build Volumes	2	÷	T	4	o	a	m	m	14	30	2	46	Z	10	2	14
Lyle Road / Main Street Subdivision Trips	0	m	27	30	0	-	0	H	0	0	0	o	6	Ō	D	6
2029 Build Volumes	2	4	28	34	0	1	£	4	14	30	2	46	11	10	2	23
Weekday P.M. Peak Hour		Northboun	Northbound Lyle Road		S	outhbound	Southbound Ingles Access	S		Eastbound Autry Road	Autry Road			Westbound	Westbound Autry Road	
	1	Ţ.	R	Tot	7	Ŧ	8	Tot	a	1	R	Tot	,	1	R	Tot
Counted Volumes (Tuesday, June 4, 2024 4:30-5:30)	æ	7	4	14	0	10	12	22	8	13	0	21	4	20	0	24
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Existing Adjusted Volumes	m	7	4	14	0	10	12	22	80	13	0	21	4	20	0	24
Annual Background Growth to 2029	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
2029 No-Build Volumes	m	80	4	15	0	11	13	24	თ	14	0	23	4	22	0	26
Lyle Road / Main Street Subdivision Trips	0	2	18	20	0	m	0	ŝ	0	0	0	0	30	0	0	30
2029 Build Volumes	3	10	22	35	0	14	13	27	6	14	0	23	34	22	0	56

Lyle Road / Main Street Subdivision Traffic Impact Study City of Auburn, Georgia

June 2024

Intersection: 1. Autry Road at Lyle Road / Ingles Access

Tot 13

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Tot 42

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Tot

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Tot

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Northbound Lyle Road

Weekday A.M. Peak Hour

Southbound Ingles Access

Eastbound Autry Road

Westbound Autry Road

ACAMPORATPRAFET, LL.C.

Weekday A.M. Peak Hour		Northbound	Northbound Main Street			Southbound	Southbound Main Street			Eastbound	Eastbound Bank Access			Westbound 6th Avenue	6th Avenue	
	<u> </u>	1	Я	Tot	-1	F	R	Tot	-	F	8	Tot	1	F	R	Tot
Counted Volumes (Tuesday, June 4, 2024 7:00-8:00)	0	9	ъ	11	34	0	1	35	0	1	0	4	4	1	79	84
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Existing Adjusted Volumes	0	9	S	11	34	0	÷	35	a	r,	0	Ţ	4	-	6/	84
Annual Background Growth to 2029	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
2029 No-Build Volumes	0	2	9	12	38	o	÷	39	0	T	0	Ţ	4	T	87	63
Lyle Road / Main Street Subdivision Trips	0	52	6	61	0	17	0	17	Ō	0	0	0	m	0	0	m
2029 Build Volumes	0	59	15	73	38	17	Ţ	56	0	1	o	I	7	e	87	96
Weekday P.M. Peak Hour		Northbound	Northbound Main Street			Southbound	Southbound Main Street			Eastbound	Eastbound Bank Access			Westbound 6th Avenue	6th Avenue	
	4	F	8	Tot	L.	j-	æ	Tot	-	+	8	Tot	1	T	R	Tot
Counted Volumes (Tuesday, June 4, 2024 4:30-5:30)	1	5	11	17	16	2	**	100	O	9	Ţ	7	6	2	93	104
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1,00	1,00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Existing Adjusted Volumes	T	Ω	11	17	26	2	Ţ	100	٥	9	7	1	6	2	93	104
Annual Background Growth to 2029	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10,4%	10,4%	10.4%	
2029 No-Build Valumes	Ħ	9	12	19	107	2	f	110	0	٢	ц.	80	10	2	103	115
Lyle Road / Main Street Subdivision Trips	0	35	9	41	0	58	٥	58	O	O	Q	0	10	a	0	10
2029 Build Volumes	1	41	18	60	107	60	1	168	0	7	Ţ	00	20	2	103	125

Lyle Road / Main Street Subdivision Traffic Impact Study City of Auburn, Georgia

June 2024

Intersection: 2. Main Street at 6th Avenue / Bank Access

AUANDORA TRAFFIC, L.L.C.

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June 2024

Intersection: 3. US 29 Business (Atlanta Highway) at Main Street / Mt Moriah Road

Weekday A.M. Peak Hour		Vorthbound	Northbound Main Street		Sou	Southbound Mt Moriah Road	t Moriah Ro	ad		Eastbound US 29 Bus	US 29 Bus			Westbound US 29 Bus	US 29 Bus	
	-	4	R	Tot	4	۲	æ	Tot	_	÷	8	Tot	ш,	-	R	Tot
Counted Volumes (Tuesday, June 4, 2024 7:15-8:15)	37	47	0	84	116	22	29	167	20	392	п	423	-	555	117	673
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Existing Adjusted Volumes	37	47	0	84	116	22	29	167	20	392	11	423	н	555	117	673
Annual Background Growth to 2029	10.4%	10,4%	10.4%		10.4%	10,4%	10.4%		10.4%	10,4%	10.4%		10.4%	10.4%	10.4%	
2029 No-Build Volumes	41	52	0	93	128	24	32	184	22	433	12	467	1	613	129	743
Lyle Road / Main Street Subdivision Trips	6	25	18	52	0	œ	0	80	0	0	m	3	9	0	0	9
2029 Build Valumes	50	11	18	145	128	32	32	192	22	433	15	470	7	613	129	749

Weekday P.M. Peak Hour	2	Northbound Main Street	Main Street		Sou	thbound M	Southbound Mt Moriah Road	bad		Eastbound US 29 Bus	US 29 Bus			Westbound	Vestbound US 29 Bus	
	L	Ŧ	R	Tot	4	F	8	Tot	-	÷	R	Tot	ſ	T	R	Tot
Counted Volumes (Tuesday, June 4, 2024 4:15-5:15)	47	46	3	96	154	55	41	250	41	725	27	793	3	604	109	716
GDOT Monthly Adjustment Factor	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1	1.00	1.00	1.00	
Existing Adjusted Volumes	47	46	m	96	154	55	41	250	41	725	27	793	m	604	109	716
Annual Background Growth to 2029	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10,4%	10.4%	ļ	10.4%	10.4%	10.4%	
2029 No-Build Volumes	52	51	m	106	170	61	45	276	45	800	30	875	æ	299	120	064
Lyle Road / Main Street Subdivision Trips	9	17	12	35	0	28	0	28	0	0	10	10	20	O	0	20
2029 Build Volumes	58	68	15	141	170	89	45	304	45	800	40	885	23	667	120	810

ACAMPORA TURADER, LLG

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TMC Data Autry Rd @ Lyle Rd Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980001 Site Code : 48980001 Start Date : 6/4/2024 Page No :1

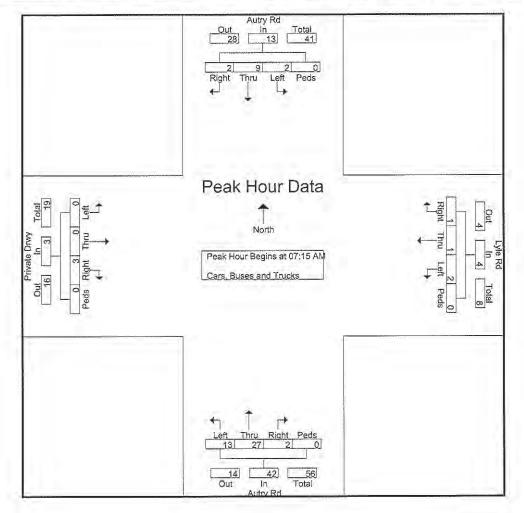
			utry F rthbou				A	utry F athbou	ld	- Cars, B		Pri	vate D astbou	nd			W	Lyle R estbou	nd		
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Tomi	Int. Total
07:00 AM	2	5	1	0	8	0	4	0	0	4	0	0	0	0	0	1	0	0	0	1	13
07:15 AM	1	7	0	0	8	0	1	1	0	2	0	0	1	0	1	1	1	1	0	3	14
07:30 AM	6	3	1	0	10	1	4	0	0	5	0	0	0	0	0	1	0	0	0	1	16
07:45 AM	4	10	0	0	14	1	2	0	0	3	0	0	1	0	1	0	0	0	0	0	18
Total	13	25	2	0	40	2	11	1	0	14	0	0	2	0	2	3	1	1	0	5	61
08:00 AM	2	7	1	0	10	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	14
08:15 AM	1	6	0	0	7	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	14
08:30 AM	2	6	0	0	8	0	3 2	0	0	3	1	0	1	0	2	0	1	0	0	1	12
08:45 AM	I	2	1	0	4	0	2	1	0	3	0	1	3	0	4	0	0	0	0	0	1
Total	6	21	2	0	29	0	8	2	0	10	1	1	5	0	7	0	1	1	0	2	4
04:00 PM 04:15 PM 04:30 PM	1 3 4	2 1 4	0 0 0	0 0 0	3 4 8	0 0 2	5 4 9	1 0 0	0 0 0	6 4 11	0 1 0	3 2 4	3 1 2	0 0 0	6 4 6	0 0 0	1 0 2	001	0 0 0	1 0 3	1
04:30 PM	4	4	0	0	3	- 1	9	0	0	11	0	4	4	0	5	Ő	Ő	÷.	0	ĩ	1
Total	9	10	0	0	19	3	24	1	0	28	I	10	10	0	21	0	3	2	0	5	7
05:00 PM	2	3	ō	0	5	1	1	0	0	2	0	1	2	0	3	3	2	1	0	6	1
05:15 PM	1	3	0	0	4	0	4	0	0	4	0	4	4	0	S	0	3	1	0	4	2
05:30 PM	0	3	0	0	3	1	7	0	0	8	1	3	2	0	6	0	2	0	0	2	1
05:45 PM	2	4	0	0	6	1	5	1	0	7	0	0	5	0	5	0	1	0	0	1	1
	5	13	0	0	18	3	17	1	Q	21	1	8	13	0	22	3	8	2	0	13	7
Total								10.00		as I		10	20	0	52	6	12				1
Grand Total	33	69	4	0	106	8	60	5	0	73	3	19	30	0	22	6	13	6	0	25	250
	33 31.1 12.9	69 65.1 27	4 3.8 1.6	0 0	106 41.4	8 11 3.1	60 82.2 23.4	5 6.8 2	0 0 0	73 28.5	5.8 1.2	19 36.5 7.4	57.7 11.7	0	20.3	24 2.3	52 5.1	24 2.3	0	25 9.8	25

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TMC Data Autry Rd @ Lyle Rd Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980001 Site Code : 48980001 Start Date : 6/4/2024 Page No : 2

			Autry I orthboi					Autry I uthbou					ivate D astbou					Lyle R estbou			
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysi	s From 07	7:00 AM	to 08:45 /	M - Peal	klof1																
Peak Hour for	Entire	Inters	ection 1	Begins	at 07:15	AM														1.1	1
07:15 AM	1	7	0	0	8	0	1	1	0	2	0	0	1	0	1	1	1	1	0	3	14
07:30 AM	6	3	1	0	10	1	4	0	0	5	0	0	0	0	0	Ĭ.	0	0	0	1	16
07:45 AM	4	10	0	0	14	1	2	0	0	3	0	0	1	0	1	0	0	0	0	0	18
08:00 AM	2	7	1	0	10	0	2	1	0	3	0	0	1	0	1	0	0	0	0	0	14
Total Volume	13	27	2	0	42	2	9	2	D	13	0	0	3	0	3	2	1	I	0	4	62
% App. Total		64.3				15.4	69.2	15.4										-			
PHF	.542	.675	.500	.000	.750	.500	.563	.500	.000	.650	.000	.000	.750	.000	.750	.500	.250	.250	.000	,333	.861

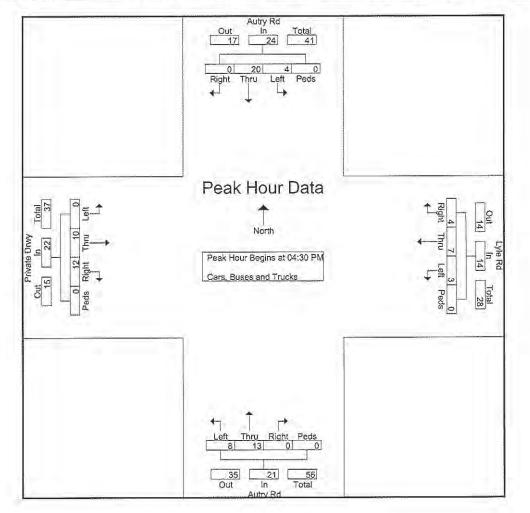


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TMC Data Autry Rd @ Lyle Rd Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980001 Site Code : 48980001 Start Date : 6/4/2024 Page No : 3

			Autry I orthboi					Autry I uthbou					ivate D astbou					Lyle R estbou			
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
eak Hour Analysi	s From 0.	4:00 PM t	o 05:45 P	M - Peak	lofl			and the second													
eak Hour for	Entire	Inters	ection]	Begins	at 04:30	PM									1.000						1.00
04:30 PM	4	4	0	0	8	2	9	0	0	11	0	4	2	0	6	0	2	1	0	3	28
04:45 PM	1	3	0	.0	4	1	6	0	0	7	0	1	4	0	5	0	0	1	0	1	17
05:00 PM	2	3	0	0	5	1	1	0	0	2	0	1	2	0	3	3	2	1	0	6	16
05:15 PM	1	3	0	0	4	0	4	. 0	0	4	0	4	4	0	8	0	3	1	0	4	20
Total Volume	8	13	0	0	21	4	20	0	0	24	0	10	12	0	22	3	7	4	0	14	81
% App. Total	38.1	61.9		(M		16.7	83.3					45.5	54.5		2.126.1	21.4		28.6			
PHF	.500	.813	.000	.000	.656	.500	.556	.000	.000	.545	.000	.625	.750	.000	.688	.250	.583	1.00	.000	.583	.723



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TMC Data Main St @ 6th Ave Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980002 Site Code : 48980002 Start Date : 6/4/2024 Page No : 1

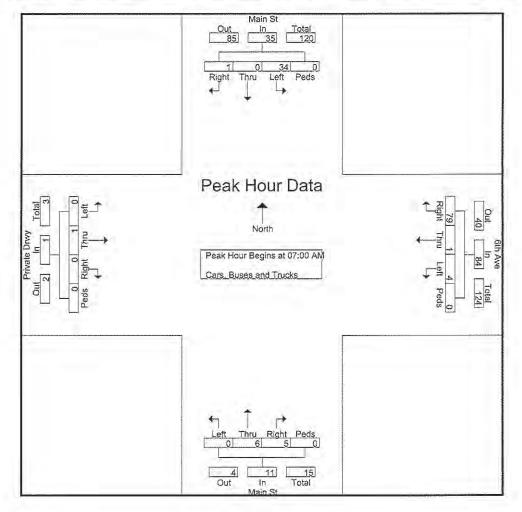
			Main S rthbor					Main S uthbou					vate D istbou					6th Av estbou	nd		
Start Time	Left	Thru	Right	Peds	App, Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	2	0	0	2	6	0	0	0	6	0	0	0	0	0	1	0	22	0	23	31
07:15 AM	0	0	1	0	1	5	0	1	0	6	0	1	0	0	1	0	1	27	0	28	36
07:30 AM	0	2	3	0	5	12	0	0	0	12	0	0	0	0	0	2	0	19	0	21	38
07:45 AM	0	2	1	0	3	11	0	0	0	11	0	0	0	0	0	1	0	- 11	0	12	26
Total	0	6	5	0	11	34	0	1	0	35	0	1	0	0	1	4	1	79	0	84	131
08:00 AM	0	1	2	0	3	6	0	0	0	6	0	0	0	0	0	1	0	19	0	20	29
08:15 AM	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	1	10	0	11	18
08:30 AM	0	0	1	0	1	8	1	0	0	9	0	0	0	0	0	0	0	10	0	10	20
08:45 AM	0	2	1	0	3	5	0	0	0	5	0	0	0	0	0	1	0	11	0	12	20
Total	0	3	4	0	7	26	1	0	0	27	0	0	0	0	0	2	1	50	0	53	87
** BREAK '	1	1	3	0	5	19	0	0	0	19	i	5	0	0	6	2	ĩ	14	0	17	47
04:15 PM	0	0	2	0	2	14	1	0	0	15	1	5	0	0	6	1	1	19	0	21	44
04:30 PM	0	0	5	0	5	18	0	0	0	18	0	5 2	0	0	2	2	0	35	0	37	62
04:45 PM	1	1	0	0	2	27	1	0	0	28	0	0	0	0	0	1	1	19	0	21	51
Total	2	2	10	0	14	78	2	0	0	80	2	12	0	0	14	6	3	87	0	96	204
05:00 PM	0	2	2	0	4	25	1	0	0	26	0	3	0	0	3	2	1	21	0	24	57
05:15 PM	0	2 2 2	4	0	6	27	0	1	0	28	0	1	1	0	2	4	0	18	0	22	58
05:30 PM	0	2	2	0	4	21	0	0	0	21	0	1	0	0	1	1	0	13	0	14	40
05:45 PM	0	1	0	0	1	15	0	1	0	16	0	2	0	0	2	1	0	13	0	14	33
Total	0	7	8	0	15	88	1	2	0	91	0	7	1	0	8	8	1	65	0	74	188
Grand Total	2	18	27	0	47	226	4	3	0	233	2	20	1	0	23	20	6	281	0	307	610
Apprch %	4.3	38.3	57.4	0	1 1 2 2	97	1.7	1.3	0		\$.7	87	4.3	0		6.5	2	91.5	0		-
Total %	0.3	3	4.4	0	7.7	37	0.7	0.5	0	38.2	0.3	3.3	0.2	0	3.8	3.3	1	46,1	0	50.3	

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TMC Data Main St @ 6th Ave Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980002 Site Code : 48980002 Start Date : 6/4/2024 Page No :2

			Main and the Main					Main and the Main					ivate D astbou		- 1			6th Av estbou			
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysi																					
Peak Hour for	Entire	Inters	ection .	Begins	at 07:00	AM															a
07:00 AM	0	2	0	0	2	6	0	Ō	0	6	0	0	0	0	0	1	0	22	0	23	31
07:15 AM	0	0	1	0	1	5	0	1	0	6	0	1	0	0	1	0	1	27	0	28	36
07:30 AM	0	2	3	0	5	12	0	0	0	12	0	0	0	0	0	2	0	19	0	21	38
07:45 AM	0	2	1	0	3	11	0	0	0	11	0	0	0	0	0	1	0	11	0	12	26
Total Volume	0	6	5	Ø	11	34	0	1	0	35	0	1	Ø	0	1	4	1	79	Ø	84	131
% App. Total		54.5	45.5	100		97.1															
PHF	.000	.750	.417	.000	.550	.708	.000	.250	.000	.729	.000	.250	.000	.000	.250	.500	.250	.731	.000	.750	.862

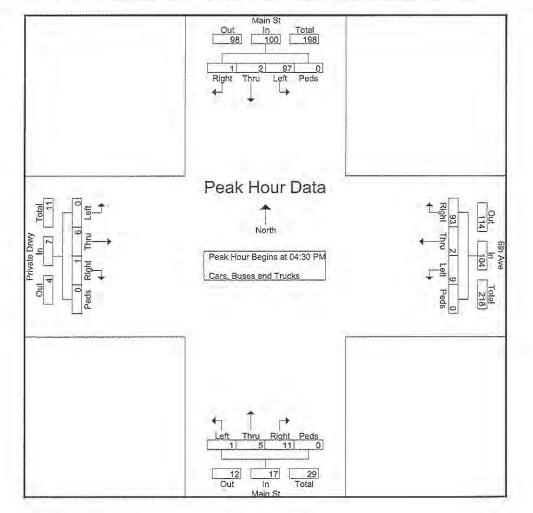


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TMC Data Main St @ 6th Ave Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980002 Site Code : 48980002 Start Date : 6/4/2024 Page No : 3

			Main i rthbou					Main S uthbou			-		ivate D astbou	*				6th Av estbou	100 C		
Start Time	Left	Thru	Right	Peds	App. Tomi	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysi	is From 0	4:00 PM 1	o 05:45 P	M - Peal	lofl										adjered the pas						
Peak Hour for	r Entire	Inters	ection	Begins	at 04:30	PM															
04:30 PM	0	0	5	0	5	18	0	0	0	18	0	2	0	0	2	2	0	35	0	37	62
04:45 PM	1	1	0	0	2	27	1	0	0	28	0	0	0	0	0	1	1	19	0	21	51
05:00 PM	0	2	2	0	4	25	1	0	0	26	0	3	0	0	3	2	1	21	0	24	57
05:15 PM	0	2	4	0	6	27	0	1	0	28	0	1	1	0	2	4	0	18	0	22	58
Total Volume	1	5	11	0	17	97	2	1	0	100	0	6	1	0	7	9	2	93	0	104	228
% App. Total		29.4	64.7	_						-	_	85.7	14.3					89.4			
PHF	.250	.625	.550	.000	.708	.898	.500	,250	.000	.893	.000	.500	.250	.000	.583	.563	.500	.664	.000	.703	.919



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TMC Data Atlanta Hwy (US29 Bus) @ Main St Auburn, GA 7-9 AM | 4-6 PM

File Name	:48980003
Site Code	: 48980003
Start Date	: 6/4/2024
Page No	\$1

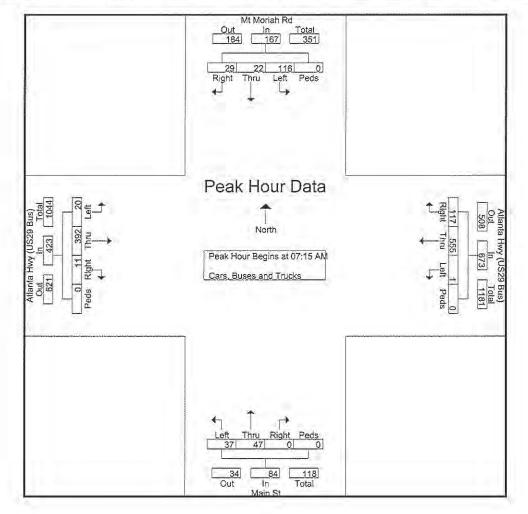
			Main S rthbou					Moria uthbou	10111200		At		Hwy (U astbou		us)	Atl		Hwy (U estbou		us)	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Tom!	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	8	13	1	0	22	27	4	7	0	38	8	67	2	0	77	0	165	21	0	186	323
07:15 AM	12	14	0	0	26	27	3	6	0	36	5	101	1	0	107	1	152	29	0	182	351
07:30 AM	7	13	0	0	20	25	8	9	0	42	4	102	2	0	108	0	141	27	0	168	338
07:45 AM	10	10	0	0	20	32	6	6	0	44	6	93	5	0	104	0	133	30	0	163	331
Total	37	50	1	0	88	111	21	28	0	160	23	363	10	0	396	1	591	107	0	699	1343
08:00 AM	8	10	0	0	18	32	5	8	0	45	5	96	3	0	104	0	129	31	0	160	327
08:15 AM	10	6	0	0	16	26	3	5	0	34	3	85	3	0	91	0	148	26	0	174	315
08:30 AM	3	4	0	0	7	35	5	4	0	44	7	89	3	0	99	1	130	25	0	156	306
08:45 AM	11	4	0	0	15	33	2	11	0	46	5	84	4	0	93	2	103	23	0	128	282
Total	32	24	0	0	56	126	15	28	0	169	20	354	13	0	387	3	510	105	0	618	1230
** BREAK	***																				
04:00 PM	6	9	2	0	17	36	12	7	0	55	5	177	7	0	189	0	155	23	0	178	439
04:15 PM	8	10	0	0	18	38	S	13	0	59	7	184	7	0	198	2	161	26	0	189	464
04:30 PM	15	16	1	0	32	40	11	6	0	57	10	162	4	0	176	0	165	30	0	195	460
04:45 PM	14	9	1	0	24	38	22	12	0	72	10	190	7	0	207	0	122	28	0	150	453
Total	43	44	4	0	91	152	53	38	0	243	32	713	25	0	770	2	603	107	0	712	1816
05:00 PM	10	11	T	0	22	38	14	10	0	62	14	189	9	Ó	212	1	156	25	0	182	478
05:15 PM	6	12	1	0	19	42	18	12	0	72	10	169	10	0	189	2	151	29	0	182	462
05:30 PM	8	9	2	0	19	35	13	16	0	64	12	191	10	0	213	0	135	31	0	166	462
05:45 PM	9	3	1	0	13	58	12	7	0	77	12	147	5	0	164	0	101	21	0	122	376
Total	33	35	5	0	73	173	57	45	0	275	48	696	34	0	778	3	543	106	0	652	1778
Grand Total	145	153	10	0	308	562	146	139	0	847	123	2126	82	0	2331	9	2247	425	Ó	2681	6167
Apprch %	47.1	49.7	3.2	0		66.4	17.2	16.4	0		5.3	91.2	3.5	0		0.3	\$3.8	15.9	0		
Total %	2.4	2.5	0.2	0	5	9.1	2.4	2.3	0	13.7	2	34.5	1.3	0	37.8	0.1	36.4	6.9	0	43.5	

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TMC Data Atlanta Hwy (US29 Bus) @ Main St Auburn, GA 7-9 AM | 4-6 PM

File Name : 48980003 Site Code : 48980003 Start Date : 6/4/2024 Page No : 2

			Main S orthboi	3.7				Moria uthbox			At		Hwy (U astbou		us)	At		Hwy (U estbou		lus)	
Start Time	Left	Thru	Right	Peds	App, Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analys	s From 0'	7:00 AM	to 08:45 /	AM - Pea	kl of 1	_															
Peak Hour fo	Entire	Inters	ection .	Begins	at 07:15	AM					100										1000
07:15 AM	12	14	0	0	26	27	3	6	0	36	5	101	1	0	107	1	152	29	0	182	351
07:30 AM	7	13	0	0	20	25	8	9	0	42	4	102	2	0	108	0	141	27	0	168	338
07:45 AM	10	10	0	0	20	32	6	6	0	44	6	93	5	0	104	0	133	30	0	163	331
08:00 AM	8	10	0	0	18	32	- 5	8	0	45	5	96	3	0	104	0	129	31	0	160	327
Total Volume	-37	47	0	0	84	116	22	29	0	167	20	392	11	0	423	1	555	117	0	673	1347
% App. Total				-		69.5	13.2	17.4			1.00	92.7					82.5	17.4			
PHF	.771	.839	.000	.000	.808	.906	.688	.806	.000	.928	.833	.961	.550	.000	.979	.250	.913	.944	.000	.924	.959

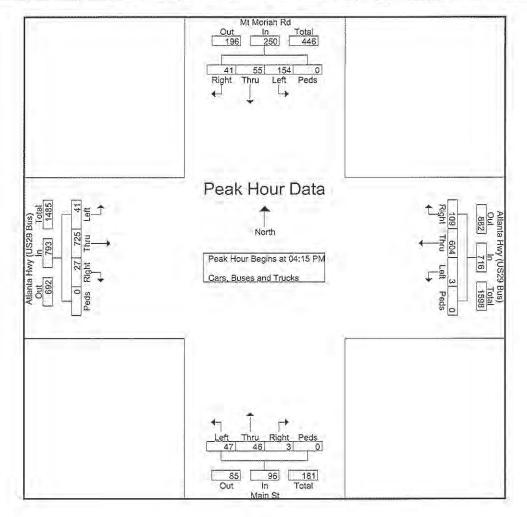


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TMC Data Atlanta Hwy (US29 Bus) @ Main St Auburn, GA 7-9 AM | 4-6 PM

File Name	: 48980003
Site Code	: 48980003
Start Date	: 6/4/2024
Page No	: 3

	Main St Northbound				Mt Moriah Rd Southbound			At	Atlanta Hwy (US29 Bus) Eastbound				At	Atlanta Hwy (US29 Bus) Westbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Left Thru Right Peds App. Total				Left	Thru	Right	Peds	App. Tom!	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysi	s From 0	4:00 PM (to 05:45 F	'M - Peak	lofl																
Peak Hour for	Entire	Inters	ection	Begins	at 04:15	PM					× .										
04:15 PM	8	10	0	0	18	38	8	13	0	59	7	184	7	0	198	2	161	26	0	189	464
04:30 PM	15	16	1	0	32	40	11	6	0	57	10	162	4	0	176	0	165	30	0	195	460
04:45 PM	14	9	1	0	24	38	22	12	0	72	10	190	7	0	207	0	122	28	0	150	453
05:00 PM	10	11	1	0	22	38	14	10	0	62	14	189	9	0	212	1	156	25	0	182	478
Total Volume	47	46	3	0	96	154	55	41	0	250	41	725	27	0	793	3	604	109	0	716	1855
% App. Total		47.9				61.6		16.4				91.4					84.4	15.2			
PHF	.783	.719	.750	.000	.750	.963	.625	.788	.000	.868	.732	.954	.750	.000	.935	.375	.915	.908	.000	.918	.970



Appendix B

Intersection Analysis Methodology



Intersection Analysis Methodology

The methodology used for evaluating traffic operations at intersections is presented in the Transportation Research Board's 2022 *Highway Capacity Manual*, 7th Edition (HCM 7). Synchro 12 software, which emulates the HCM 7 methodology, was used for all analyses. The following is an overview of the methodology employed for the analysis of signalized intersections and roundabouts and stop-sign controlled (unsignalized) intersections. Levels of service (LOS) are assigned letters A through F. LOS A indicates operations with very low control delay while LOS F describes operations with high control delay. LOS F is considered to be unacceptable by most drivers, while LOS E is typically considered to be the limit of acceptable delay.

Signalized Intersections and Roundabouts – Level of service for a signalized intersection and a roundabout is defined in terms of control delay per vehicle. For signalized intersections and roundabouts, a composite intersection level of service is determined. The thresholds for each level of service are higher for signalized intersections and roundabouts than for unsignalized intersections. This is attributable to a variety of factors including expectation and acceptance of higher delays at signals/roundabouts, and the fact that drivers can relax when waiting at a signal as opposed to having to remain attentive as they proceed through the unsignalized intersection. The level of service criteria for signalized intersections and roundabouts are shown in Table A.

Control Delay (s/veh)	LOS
≤ 10	A
> 10 and ≤ 20	В
> 20 and ≤ 35	С
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

Table A – Level of Service Criteria for Signalized Intersections and Roundabouts

Source: Highway Capacity Manual 7

Unsignalized Intersections – Level of service for an unsignalized intersection is defined in terms of control delay per vehicle. Control delay is that portion of delay attributable to the control device and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The delays at unsignalized intersections are based on gap acceptance theory, factoring in availability of gaps, usefulness of the gaps, and the priority of right-of-way given to each traffic stream. The level of service criteria for unsignalized intersections are presented in Table B.

Table B - Leve	l of Service Criteria	for Unsignalized	Intersections
----------------	-----------------------	------------------	---------------

Control Delay (s/veh)	LOS
0-10	А
> 10 and ≤ 15	В
> 15 and ≤ 25	С
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Source: Highway Capacity Manual 7



Appendix C

Existing Intersection Operational Analysis



7.2 A existing a.m.

Intersection Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			4	
Traffic Vol, veh/h	13	27	2	2	9	2	2	1	1	0	0	3
Future Vol, veh/h	13	27	2	2	9	2	2	1	1	0	0	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.33	0.33	0.33	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	36	3	3	14	3	6	3	3	0	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB		-		SB	
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1			-	1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	_
Conflicting Lanes Right	1	-		1			1				1	
HCM Control Delay, s/veh	7.3			7			7.1				6.5	
HCM LOS	А			А			A				A	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	50%	31%	15%	0%	
Vol Thru, %	25%	64%	69%	0%	
Vol Right, %	25%	5%	15%	100%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	4	42	13	3	
LT Vol	2	13	2	0	
Through Vol	1	27	9	0	
RT Vol	1	2	2	3	
Lane Flow Rate	12	56	20	4	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.014	0.062	0.022	0.004	
Departure Headway (Hd)	4.02	4.012	3.944	3.475	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	889	896	909	1026	
Service Time	2.051	2.021	1.96	1.509	
HCM Lane V/C Ratio	0.013	0.063	0.022	0.004	
HCM Control Delay, s/veh	7.1	7.3	7	6.5	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0	0.2	0.1	0	

7.2 A

Intersection Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			\$			\$			\$	
Traffic Vol, veh/h	0	1	0	4	1	79	0	6	5	34	0	1
Future Vol, veh/h	0	1	0	4	1	79	0	6	5	34	0	1
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.55	0.55	0.55	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	0	5	1	105	0	11	9	47	0	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach		EB		WB				NB		SB		
Opposing Approach		WB		EB				SB		NB		
Opposing Lanes		1		1				1		1		
Conflicting Approach Left		SB		NB				EB		WB		
Conflicting Lanes Left		1		1				1		1		
Conflicting Approach Right		NB		SB				WB		EB		
Conflicting Lanes Right		1		1				1		1		
HCM Control Delay, s/veh		7.2		7				7		7.6		
HCM LOS		А		А				А		А		
and the second sec												

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	5%	97%
Vol Thru, %	55%	100%	1%	0%
Vol Right, %	45%	0%	94%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	1	84	35
LT Vol	0	0	4	34
Through Vol	6	1	1	0
RT Vol	5	0	79	1
Lane Flow Rate	20	4	112	48
Geometry Grp	1	1	1	1
Degree of Util (X)	0.022	0.005	0.109	0.058
Departure Headway (Hd)	3.902	4.139	3.501	4.331
Convergence, Y/N	Yes	Yes	Yes	Yes
Сар	915	860	1019	828
Service Time	1.935	2.185	1.539	2.354
HCM Lane V/C Ratio	0.022	0.005	0.11	0.058
HCM Control Delay, s/veh	7	7.2	7	7.6
HCM Lane LOS	А	А	А	А
HCM 95th-tile Q	0.1	0	0.4	0.2

Acampora Traffic, LLC

Lyle / Main Subdivision Auburn 3: Main St/Mt Moriah Rd & US 29 Bus

existing a.m.

	٠	-	7	1	4	*	1	1	1	4	ŧ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	¢		7	¢î	-		4			4	
Traffic Volume (veh/h)	20	392	11	1	555	117	37	47	0	116	22	29
Future Volume (veh/h)	20	392	11	1	555	117	37	47	0	116	22	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	400	11	1	603	127	46	58	0	125	24	31
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	209	842	23	436	664	140	273	315	0	393	78	78
Arrive On Green	0.02	0.48	0.48	0.00	0.46	0.46	0.30	0.30	0.00	0.30	0.30	0.30
Sat Flow, veh/h	1781	1754	48	1781	1451	306	629	1041	0	974	257	256
Grp Volume(v), veh/h	20	0	411	1	0	730	104	0	0	180	0	0
Grp Sat Flow(s), veh/h/ln	1781	Ő	1802	1781	0	1756	1670	0	0	1487	0	0
Q Serve(g_s), s	0.4	0.0	9.6	0.0	0.0	24.1	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	9.6	0.0	0.0	24.1	2.6	0.0	0.0	5.5	0.0	0.0
Prop In Lane	1.00	0.0	0.03	1.00	0.0	0.17	0.44	0.0	0.00	0.69	0.0	0.17
Lane Grp Cap(c), veh/h	209	0	865	436	0	804	589	0	0.00	548	0	0
V/C Ratio(X)	0.10	0.00	0.48	0.00	0.00	0.91	0.18	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	313	0.00	938	579	0	914	589	0	0	548	0	0
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.3	0.0	10.9	9.7	0.0	15.7	16.1	0.0	0.0	17.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	0.0	11.8	0.7	0.0	0.0	1.6	0.0	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/In	0.0	0.0	3.0	0.0	0.0	9.9	1.1	0.0	0.0	2.1	0.0	0.0
Unsig. Movement Delay, s/ver		0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	2.1	0.0	0.0
LnGrp Delay(d), s/veh	13.5	0.0	11.4	9.7	0.0	27.5	16.7	0.0	0.0	18.6	0.0	0.0
LnGrp LOS	B	0.0	B	A.	0.0	27.5 C	B	0.0	0.0	10.0 B	0.0	0.0
	Ь	431	U	А	731	0	Б	104		D	180	_
Approach Vol, veh/h		11.5			27.5			16.7			18.6	
Approach Delay, s/veh		11.5 B			27.5 C			16.7 B			10.0 B	
Approach LOS		Б			C			Б			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.4	4.6	34.5		23.4	6.0	33.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.9	5.1	32.5		18.9	5.1	32.5				
Max Q Clear Time (g_c+l1), s		4.6	2.0	11.6		7.5	2.4	26.1				
Green Ext Time (p_c), s		0.4	0.0	2.2		0.7	0.0	2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			20.8									
HCM 7th LOS			С	-								

7.2 A

existing p.m.

Intersection Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			4	
Traffic Vol, veh/h	8	13	0	4	20	0	3	7	4	0	10	12
Future Vol, veh/h	8	13	0	4	20	0	3	7	4	0	10	12
Peak Hour Factor	0.66	0.66	0.66	0.55	0.55	0.55	0.58	0.58	0.58	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	20	0	7	36	0	5	12	7	0	14	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1				1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay, s/veh	7.3			7.3			7.1				6.9	
HCM LOS	А			А			А				А	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	21%	38%	17%	0%	
Vol Thru, %	50%	62%	83%	45%	
Vol Right, %	29%	0%	0%	55%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	14	21	24	22	
LT Vol	3	8	4	0	
Through Vol	7	13	20	10	
RT Vol	4	0	0	12	
Lane Flow Rate	24	32	44	32	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.027	0.037	0.05	0.033	
Departure Headway (Hd)	3.96	4.139	4.087	3.755	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	900	864	875	948	
Service Time	2.003	2.17	2.116	1.799	-
HCM Lane V/C Ratio	0.027	0.037	0.05	0.034	
HCM Control Delay, s/veh	7.1	7.3	7.3	6.9	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.1	0.1	0.2	0.1	

7.7 A

existing p.m.

Intersection Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4			4			4			4	
Traffic Vol, veh/h	0	6	1	9	2	93	1	5	11	97	2	1
Future Vol, veh/h	0	6	1	9	2	93	1	5	11	97	2	1
Peak Hour Factor	0.58	0.58	0.58	0.70	0.70	0.70	0.71	0.71	0.71	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	2	13	3	133	1	7	15	109	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach		EB		WB			NB			SB	-	
Opposing Approach		WB		EB			SB			NB		
Opposing Lanes		1		1			1			1		
Conflicting Approach Left		SB		NB			EB			WB		
Conflicting Lanes Left		1		1			1			1		
Conflicting Approach Right		NB		SB			WB			EB		
Conflicting Lanes Right		1		1			1			1		
HCM Control Delay, s/veh		7.4		7.4			7.1			8.2		
HCM LOS		А	-	А			А			А		
										-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	6%	0%	9%	97%	
Vol Thru, %	29%	86%	2%	2%	
Vol Right, %	65%	14%	89%	1%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	17	7	104	100	
LT Vol	1	0	9	97	
Through Vol	5	6	2	2	
RT Vol	11	1	93	1	
Lane Flow Rate	24	12	149	112	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.026	0.014	0.151	0.138	
Departure Headway (Hd)	3.925	4.304	3.659	4.421	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	900	837	964	808	
Service Time	2.003	2.304	1.745	2.468	
HCM Lane V/C Ratio	0.027	0.014	0.155	0.139	
HCM Control Delay, s/veh	7.1	7.4	7.4	8.2	
HCM Lane LOS	A	А	А	А	
HCM 95th-tile Q	0.1	0	0.5	0.5	-

existing p.m.

	1	-	7	1	+	×	1	t	1	4	ŧ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	Þ		7	Þ			4		1	\$	
Traffic Volume (veh/h)	41	725	27	3	604	109	47	46	3	154	55	41
Future Volume (veh/h)	41	725	27	3	604	109	47	46	3	154	55	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	771	29	3	657	118	63	61	4	177	63	47
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.75	0.75	0.75	0.87	0.87	0.87
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	217	891	34	190	714	128	275	246	14	343	119	75
Arrive On Green	0.04	0.51	0.51	0.00	0.48	0.48	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1734	65	1781	1494	268	676	824	48	885	397	251
Grp Volume(v), veh/h	44	0	800	3	0	775	128	0	0	287	0	0
	1781	0	1799	1781	0	1763	1548	0	0	1534	0	0
Grp Sat Flow(s),veh/h/ln	0.9	0.0	28.6	0.1	0.0	30.1	0.0	0.0	0.0	7.0	0.0	0.0
Q Serve(g_s), s	0.9		28.6	0.1	0.0	30.1	4.2	0.0	0.0	11.3	0.0	0.0
Cycle Q Clear(g_c), s		0.0		1.00	0.0			0.0	0.03	0.62	0.0	0.16
Prop In Lane	1.00	•	0.04		0	0.15	0.49	0	0.03	537	0	0.10
Lane Grp Cap(c), veh/h	217	0	924	190	0	842	535	0				
V/C Ratio(X)	0.20	0.00	0.87	0.02	0.00	0.92	0.24	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	269	0	968	306	0	948	535	0	0	537	0	0
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.3	0.0	15.6	14.5	0.0	17.9	19.5	0.0	0.0	21.8	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	8.0	0.0	0.0	13.0	1.1	0.0	0.0	3.8	0.0	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	0.3	0.0	11.2	0.0	0.0	12.8	1.7	0.0	0.0	4.5	0.0	0.0
Unsig. Movement Delay, s/veh								_				
LnGrp Delay(d), s/veh	15.8	0.0	23.7	14.5	0.0	30.9	20.5	0.0	0.0	25.6	0.0	0.0
LnGrp LOS	В		С	В		С	С			С		
Approach Vol, veh/h		844			778			128			287	
Approach Delay, s/veh		23.3			30.8			20.5			25.6	
Approach LOS		С			С			С			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		26.4	4.8	42.2		26.4	7.5	39.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.9	5.1	39.5		21.9	5.1	39.5				
Max Q Clear Time (g_c+l1), s		6.2	2.1	30.6		13.3	2.9	32.1				
Green Ext Time (p_c), s		0.5	0.0	3.5		1.0	0.0	3.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			26.3									
HCM 7th LOS			С									

Appendix D

No-Build Intersection Operational Analysis



Proposed Main Street / Lyle Road Subdivision, Auburn Traffic Impact Study A

Intersection Intersection Delay, s/veh Intersection LOS 7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	-		4			\$			4	
Traffic Vol, veh/h	14	30	2	2	10	2	2	1	1	0	0	3
Future Vol, veh/h	14	30	2	2	10	2	2	1	1	0	0	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.33	0.33	0.33	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	40	3	3	15	3	6	3	3	0	0	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1				1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay, s/veh	7.3			7.1			7.1				6.5	
HCM LOS	A			А			А				А	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	50%	30%	14%	0%	
Vol Thru, %	25%	65%	71%	0%	
Vol Right, %	25%	4%	14%	100%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	4	46	14	3	
LT Vol	2	14	2	0	
Through Vol	1	30	10	0	
RT Vol	1	2	2	3	
Lane Flow Rate	12	61	22	4	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.014	0.068	0.024	0.004	
Departure Headway (Hd)	4.032	4.014	3.952	3.487	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	885	895	907	1022	
Service Time	2.067	2.024	1.969	1.524	
HCM Lane V/C Ratio	0.014	0.068	0.024	0.004	
HCM Control Delay, s/veh	7.1	7.3	7.1	6.5	
HCM Lane LOS	А	A	А	А	
HCM 95th-tile Q	0	0.2	0.1	0	

no-build a.m.

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	А

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			\$			\$			\$	
Traffic Vol, veh/h	0	1	0	4	1	87	0	7	6	38	0	1
Future Vol, veh/h	0	1	0	4	1	87	0	7	6	38	0	1
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.55	0.55	0.55	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	0	5	1	116	0	13	11	52	0	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach		EB		WB				NB		SB		
Opposing Approach		WB		EB				SB		NB		-
Opposing Lanes		1		1				1		1		
Conflicting Approach Left		SB		NB				EB		WB		
Conflicting Lanes Left		1		1				1		1		
Conflicting Approach Right		NB		SB				WB		EB		
Conflicting Lanes Right		1		1				1		1		
HCM Control Delay, s/veh		7.2		7				7.1		7.7		_
HCM LOS		А		А				А		А		

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	0%	0%	4%	97%	
Vol Thru, %	54%	100%	1%	0%	
Vol Right, %	46%	0%	95%	3%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	13	1	92	39	
LT Vol	0	0	4	38	
Through Vol	7	1	1	0	
RT Vol	6	0	87	1	
Lane Flow Rate	24	4	123	53	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.026	0.005	0.12	0.065	
Departure Headway (Hd)	3.919	4.161	3.511	4.354	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	910	854	1014	822	
Service Time	1.959	2.216	1.556	2.382	
HCM Lane V/C Ratio	0.026	0.005	0.121	0.064	
HCM Control Delay, s/veh	7.1	7.2	7	7.7	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.1	0	0.4	0.2	

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	٠	+	7	4	+	*	1	1	1	4	ŧ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ţ,		7	¢Î,			4			4	
Traffic Volume (veh/h)	22	433	12	1	613	129	41	52	0	128	24	32
Future Volume (veh/h)	22	433	12	1	613	129	41	52	0	128	24	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	442	12	1	666	140	51	64	0	138	26	34
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	199	915	25	446	722	152	253	290	0	364	71	71
Arrive On Green	0.03	0.52	0.52	0.00	0.50	0.50	0.28	0.28	0.00	0.28	0.28	0.28
Sat Flow, veh/h	1781	1755	48	1781	1451	305	633	1042	0	984	254	257
Grp Volume(v), veh/h	22	0	454	1	0	806	115	0	0	198	0	0
Grp Sat Flow(s), veh/h/ln	1781	0	1803	1781	0	1756	1676	0	0	1495	0	0
Q Serve(g_s), s	0.4	0.0	10.9	0.0	0.0	28.9	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	10.9	0.0	0.0	28.9	3.2	0.0	0.0	6.9	0.0	0.0
Prop In Lane	1.00	0.0	0.03	1.00	0.0	0.17	0.44	0.0	0.00	0.70	0.0	0.17
Lane Grp Cap(c), veh/h	199	0	940	446	0	874	543	0	0.00	506	0	0.17
V/C Ratio(X)	0.11	0.00	0.48	0.00	0.00	0.92	0.21	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	288	0.00	996	577	0.00	970	543	0.00	0.00	506	0.00	0.00
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
	14.2		10.4			15.8	18.8	0.0	0.0	20.0	0.0	0.0
Uniform Delay (d), s/veh	0.2	0.0	0.4	9.2	0.0			0.0		20.0	0.0	0.0
Incr Delay (d2), s/veh		0.0		0.0	0.0	13.1	0.9		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	0.1	0.0	3.4	0.0	0.0	12.0	1.4	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh			10.0			00.0	40.7		0.0	00.0	0.0	0.0
LnGrp Delay(d), s/veh	14.4	0.0	10.8	9.2	0.0	28.9	19.7	0.0	0.0	22.2	0.0	0.0
LnGrp LOS	В		В	А		С	В			С		
Approach Vol, veh/h		476			807			115			198	
Approach Delay, s/veh		11.0			28.9			19.7			22.2	
Approach LOS		В			C			В			С	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.4	4.6	39.9		23.4	6.2	38.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.9	5.1	37.5		18.9	5.1	37.5				
Max Q Clear Time (g_c+l1), s		5.2	2.0	12.9		8.9	2.4	30.9				_
Green Ext Time (p_c), s		0.4	0.0	2.6		0.7	0.0	2.9				
Intersection Summary			-			-					-	
HCM 7th Control Delay, s/veh	-		22.0									
HCM 7th LOS			C				-					
			9									

7.2 A

Intersection

Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			4	
Traffic Vol, veh/h	9	14	0	4	22	0	3	8	4	0	11	13
Future Vol, veh/h	9	14	0	4	22	0	3	8	4	0	11	13
Peak Hour Factor	0.66	0.66	0.66	0.55	0.55	0.55	0.58	0.58	0.58	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	21	0	7	40	0	5	14	7	0	16	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	-
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1				1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay, s/veh	7.4			7.4			7.1			_	7	
HCM LOS	А			A			А				А	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	20%	39%	15%	0%	
Vol Thru, %	53%	61%	85%	46%	
Vol Right, %	27%	0%	0%	54%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	15	23	26	24	
LT Vol	3	9	4	0	
Through Vol	8	14	22	11	
RT Vol	4	0	0	13	
Lane Flow Rate	26	35	47	35	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.029	0.04	0.054	0.036	
Departure Headway (Hd)	3.983	4.154	4.097	3.771	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	894	860	873	944	
Service Time	2.028	2.186	2.126	1.817	
HCM Lane V/C Ratio	0.029	0.041	0.054	0.037	
HCM Control Delay, s/veh	7.1	7.4	7.4	7	
HCM Lane LOS	А	А	A	А	
HCM 95th-tile Q	0.1	0.1	0.2	0.1	

7.8 A

Intersection

Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			\$			4	
Traffic Vol, veh/h	0	7	1	10	2	103	1	6	12	107	2	1
Future Vol, veh/h	0	7	1	10	2	103	1	6	12	107	2	1
Peak Hour Factor	0.58	0.58	0.58	0.70	0.70	0.70	0.71	0.71	0.71	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	12	2	14	3	147	1	8	17	120	2	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach		EB		WB			NB			SB		
Opposing Approach		WB		EB			SB			NB		
Opposing Lanes		1		1			1			1		
Conflicting Approach Left		SB		NB			EB			WB		
Conflicting Lanes Left		1		1			1			1		
Conflicting Approach Right		NB		SB	-		WB			EB		
Conflicting Lanes Right		1		1			1			1		
HCM Control Delay, s/veh		7.4		7.5			7.2			8.3		
HCM LOS		А		А			А			А		

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	5%	0%	9%	97%	
Vol Thru, %	32%	88%	2%	2%	
Vol Right, %	63%	13%	90%	1%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	19	8	115	110	
LT Vol	1	0	10	107	
Through Vol	6	7	2	2	
RT Vol	12	1	103	1	
Lane Flow Rate	27	14	164	124	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.03	0.017	0.168	0.153	
Departure Headway (Hd)	3.972	4.368	3.684	4.454	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	886	824	954	800	
Service Time	2.065	2.368	1.783	2.512	
HCM Lane V/C Ratio	0.03	0.017	0.172	0.155	
HCM Control Delay, s/veh	7.2	7.4	7.5	8.3	
HCM Lane LOS	A	А	А	А	
HCM 95th-tile Q	0.1	0.1	0.6	0.5	

no-build p.m.

	1	+	7	*	-	*	1	1	1	4	ŧ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	٦	4		٦	₽ F			\$			\$	
Traffic Volume (veh/h)	45	800	30	3	667	120	52	51	3	170	61	45
Future Volume (veh/h)	45	800	30	3	667	120	52	51	3	170	61	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	851	32	3	725	130	69	68	4	195	70	52
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.75	0.75	0.75	0.87	0.87	0.87
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	189	950	36	162	766	137	255	234	12	328	104	71
Arrive On Green	0.04	0.55	0.55	0.00	0.51	0.51	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1781	1734	65	1781	1495	268	662	804	43	894	358	246
Grp Volume(v), veh/h	48	0	883	3	0	855	141	0	0	317	0	0
Grp Sat Flow(s), veh/h/ln	1781	0	1799	1781	0	1763	1509	0	0	1498	0	0
Q Serve(g_s), s	1.0	0.0	37.3	0.1	0.0	39.4	0.0	0.0	0.0	14.30	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	37.3	0.1	0.0	39.4	5.9	0.0	0.0	16.0	0.0	0.0
Prop In Lane	1.00	0.0	0.04	1.00	0.0	0.15	0.49	0.0	0.03	0.62	0.0	0.16
	189	0	986	162	0	903	501	0	0.03	503	0	0.10
Lane Grp Cap(c), veh/h	0.25	0 0.00	0.90	0.02	0.00	0.95	0.28	0.00	0.00	0.63	0.00	0.00
V/C Ratio(X)	224	0.00	986	261	0.00	957	501	0.00	0.00	503	0.00	0.00
Avail Cap(c_a), veh/h			1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
HCM Platoon Ratio	1.00	1.00					1.00					
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.6	0.0	17.2	16.9	0.0	19.8	23.5	0.0	0.0	27.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	10.7	0.0	0.0	17.2	1.4	0.0	0.0	5.9	0.0	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/In	0.4	0.0	15.4	0.0	0.0	17.7	2.3	0.0	0.0	6.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	0.0	27.9	17.0	0.0	37.0	24.9	0.0	0.0	33.0	0.0	0.0
LnGrp LOS	В		С	В		D	С			C	-	
Approach Vol, veh/h		931			858			141			317	_
Approach Delay, s/veh		27.4			37.0			24.9			33.0	
Approach LOS		С			D			С			С	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		29.4	4.8	51.4		29.4	7.9	48.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		24.9	5.1	46.5		24.9	5.1	46.5				
Max Q Clear Time (g_c+l1), s		7.9	2.1	39.3		18.0	3.0	41.4				
Green Ext Time (p_c), s		0.6	0.0	3.4		1.0	0.0	2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			31.7									-
HCM 7th LOS	-		C									
			U									

Acampora Traffic, LLC

Appendix E

Future Intersection Operational Analysis



Proposed Main Street / Lyle Road Subdivision, Auburn Traffic Impact Study

Intersection		
Intersection Delay, s/veh	7.3	
Intersection LOS	А	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			\$			4	
Traffic Vol, veh/h	14	30	2	11	10	2	2	4	28	0	1	3
Future Vol, veh/h	14	30	2	11	10	2	2	4	28	0	1	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.33	0.33	0.33	0.75	0.75	0.75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	40	3	17	15	3	6	12	85	0	1	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	
Opposing Approach	WB			EB			SB				NB	
Opposing Lanes	1			1			1	-			1	
Conflicting Approach Left	SB			NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB			WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay, s/veh	7.5			7.4			7.1				6.8	
HCM LOS	А			A			А				А	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	6%	30%	48%	0%	
Vol Thru, %	12%	65%	43%	25%	
Vol Right, %	82%	4%	9%	75%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	34	46	23	4	
LT Vol	2	14	11	0	
Through Vol	4	30	10	1	
RT Vol	28	2	2	3	
Lane Flow Rate	103	61	35	5	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.104	0.071	0.041	0.006	
Departure Headway (Hd)	3.623	4.186	4.216	3.731	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	982	854	847	949	
Service Time	1.674	2.22	2.255	1.792	
HCM Lane V/C Ratio	0.105	0.071	0.041	0.005	
HCM Control Delay, s/veh	7.1	7.5	7.4	6.8	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.3	0.2	0.1	0	

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Intersection

Intersection Delay, s/veh Intersection LOS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			\$	
Traffic Vol, veh/h	0	1	0	7	1	87	0	59	15	38	17	1
Future Vol, veh/h	0	1	0	7	1	87	0	59	15	38	17	1
Peak Hour Factor	0.25	0.25	0.25	0.75	0.75	0.75	0.55	0.55	0.55	0.73	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	0	9	1	116	0	107	27	52	23	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach		EB		WB				NB		SB	-	
Opposing Approach		WB		EB				SB		NB		
Opposing Lanes		1		1				1		1		
Conflicting Approach Left		SB		NB				EB	-	WB		
Conflicting Lanes Left		1		1				1		1		
Conflicting Approach Right		NB		SB				WB		EB		
Conflicting Lanes Right		1		1				1		1		
HCM Control Delay, s/veh		7.6		7.5				7.9		7.9		
HCM LOS		А		А				А		А		

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	0%	0%	7%	68%	
Vol Thru, %	80%	100%	1%	30%	
Vol Right, %	20%	0%	92%	2%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	74	1	95	56	
LT Vol	0	0	7	38	
Through Vol	59	1	1	17	
RT Vol	15	0	87	1	
Lane Flow Rate	135	4	127	77	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.153	0.005	0.136	0.094	
Departure Headway (Hd)	4.101	4.534	3.876	4.395	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	865	793	931	806	
Service Time	2.172	2.538	1.876	2.472	
HCM Lane V/C Ratio	0.156	0.005	0.136	0.096	
HCM Control Delay, s/veh	7.9	7.6	7.5	7.9	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.5	0	0.5	0.3	

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	٠	-	7	*	+	*	1	1	1	5	ţ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	٦	Þ	1.00	٦	¢		108	4			\$	
Traffic Volume (veh/h)	22	433	15	7	613	129	50	77	18	128	32	32
Future Volume (veh/h)	22	433	15	7	613	129	50	77	18	128	32	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	C
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	442	15	8	666	140	62	95	22	138	34	34
Peak Hour Factor	0.98	0.98	0.98	0.92	0.92	0.92	0.81	0.81	0.81	0.93	0.93	0.93
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	199	892	30	448	722	152	200	285	58	348	86	68
Arrive On Green	0.03	0.51	0.51	0.01	0.50	0.50	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1781	1741	59	1781	1451	305	462	1023	208	931	308	245
Grp Volume(v), veh/h	22	0	457	8	0	806	179	0	0	206	0	0
Grp Sat Flow(s), veh/h/ln	1781	0	1800	1781	0	1756	1693	0	0	1485	0	0
Q Serve(g_s), s	0.4	0.0	11.3	0.2	0.0	28.9	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	0.4	0.0	11.3	0.2	0.0	28.9	5.3	0.0	0.0	7.0	0.0	0.0
Prop In Lane	1.00	0.0	0.03	1.00	0.0	0.17	0.35	0.0	0.12	0.67	0.0	0.17
Lane Grp Cap(c), veh/h	199	0	922	448	0	874	543	0	0.12	502	0	0.17
V/C Ratio(X)	0.11	0.00	0.50	0.02	0.00	0.92	0.33	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	288	0.00	995	564	0.00	970	543	0.00	0.00	502	0.00	0.00
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
	14.2		10.8	9.0	0.00	15.8	19.6	0.0	0.0	20.1	0.0	0.00
Uniform Delay (d), s/veh	0.2	0.0	0.4	0.0	0.0		19.0	0.0	0.0	20.1	0.0	0.0
Incr Delay (d2), s/veh		0.0				13.1			1. N. N. N.			
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 2.8	0.0	0.0
%ile BackOfQ(50%),veh/In	0.1	0.0	3.6	0.0	0.0	12.0	2.3	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh		0.0	44.0	0.4	0.0	00.0	04.0	0.0	0.0	00.0	0.0	0.0
LnGrp Delay(d), s/veh	14.4	0.0	11.2	9.1	0.0	28.9	21.2	0.0	0.0	22.6	0.0	0.0
LnGrp LOS	В	170	В	A	011	С	С	170		С		
Approach Vol, veh/h		479			814			179	_		206	
Approach Delay, s/veh		11.4			28.7			21.2			22.6	
Approach LOS		В			С			С			С	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		23.4	5.2	39.3		23.4	6.2	38.3				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		18.9	5.1	37.5		18.9	5.1	37.5				
Max Q Clear Time (g_c+l1), s	ù	7.3	2.2	13.3		9.0	2.4	30.9	-			
Green Ext Time (p_c), s		0.7	0.0	2.6		0.8	0.0	2.9				
Intersection Summary										_		
HCM 7th Control Delay, s/veh			22.2									
HCM 7th LOS			С	-								-

A

Intersection Intersection Delay, s/veh Intersection LOS 7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			4	
Traffic Vol, veh/h	9	14	0	34	22	0	3	10	22	0	14	13
Future Vol, veh/h	9	14	0	34	22	0	3	10	22	0	14	13
Peak Hour Factor	0.66	0.66	0.66	0.55	0.55	0.55	0.58	0.58	0.58	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	21	0	62	40	0	5	17	38	0	20	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB				SB	
Opposing Approach	WB			EB			SB			20.00	NB	
Opposing Lanes	1			1			1				1	
Conflicting Approach Left	SB	_		NB			EB				WB	
Conflicting Lanes Left	1			1			1				1	
Conflicting Approach Right	NB			SB		_	WB				EB	
Conflicting Lanes Right	1			1			1				1	
HCM Control Delay, s/veh	7.5			7.9			7.2				7.2	-
HCM LOS	А			А			А				А	

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	9%	39%	61%	0%	
Vol Thru, %	29%	61%	39%	52%	
Vol Right, %	63%	0%	0%	48%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	35	23	56	27	
LT Vol	3	9	34	0	
Through Vol	10	14	22	14	
RT Vol	22	0	0	13	
Lane Flow Rate	60	35	102	39	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.064	0.041	0.12	0.043	
Departure Headway (Hd)	3.841	4.265	4.256	3.93	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	918	833	839	897	
Service Time	1.924	2.326	2.3	2.014	
HCM Lane V/C Ratio	0.065	0.042	0.122	0.043	
HCM Control Delay, s/veh	7.2	7.5	7.9	7.2	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.2	0.1	0.4	0.1	

A

future p.m.

Intersection Intersection Delay, s/veh Intersection LOS 8.5

EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	4			4			\$			4	
0	7	1	20	2	103	1	41	18	107	60	1
0	7	1	20	2	103	1	41	18	107	60	1
0.58	0.58	0.58	0.70	0.70	0.70	0.71	0.71	0.71	0.89	0.89	0.89
2	2	2	2	2	2	2	2	2	2	2	2
0	12	2	29	3	147	1	58	25	120	67	1
0	1	0	0	1	0	0	1	0	0	1	0
	EB		WB			NB			SB		
	WB		EB			SB			NB		
	1		1			1			1		
	SB		NB			EB			WB		
	1		1			1			1		
	NB		SB			WB			EB		-
	1		1			1			1		
	7.8		8.2			7.9			9		
	А		А			А			А		
	0 0 0.58 2 0	0 7 0 7 0.58 0.58 2 2 0 12 0 1 EB WB 1 SB 1 SB 1 NB 1 7.8	0 7 1 0 7 1 0.58 0.58 0.58 2 2 2 0 12 2 0 1 0 EB WB 1 SB 1 SB 1 NB 1 7.8 1 7.8	0 7 1 20 0 7 1 20 0.58 0.58 0.58 0.70 2 2 2 2 0 12 2 29 0 1 0 0 EB WB EB 1 1 1 SB NB 1 1 NB SB SB 1 1 1 1 1 7.8 8.2 8.2 1	Image: height display="black symbol Image: height display="black symbol Image: height display="black symbol 0 7 1 20 2 0 7 1 20 2 0 7 1 20 2 0 0.58 0.58 0.70 0.70 2 2 2 2 2 0 12 2 29 3 0 1 0 0 1 EB WB EB WB EB 1 1 SB NB 1 1 NB SB 1 1 1 7.8 8.2	Image: height display="black; color: black; color: blac	Image: height display="black; color: black; color: blac	Image: height display="black; color: black; color: blac	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Image: height symbol 1 I	Image: Constraint of the system of the sy

Lane	NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	2%	0%	16%	64%	
Vol Thru, %	68%	88%	2%	36%	
Vol Right, %	30%	13%	82%	1%	
Sign Control	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	60	8	125	168	
LT Vol	1	0	20	107	
Through Vol	41	7	2	60	
RT Vol	18	1	103	1	
Lane Flow Rate	85	14	179	189	
Geometry Grp	1	1	1	1	
Degree of Util (X)	0.103	0.018	0.205	0.239	
Departure Headway (Hd)	4.389	4.693	4.125	4.567	
Convergence, Y/N	Yes	Yes	Yes	Yes	
Сар	817	763	871	787	
Service Time	2.414	2.718	2.14	2.589	
HCM Lane V/C Ratio	0.104	0.018	0.206	0.24	
HCM Control Delay, s/veh	7.9	7.8	8.2	9	
HCM Lane LOS	А	А	А	А	
HCM 95th-tile Q	0.3	0.1	0.8	0.9	

future p.m.

	٠	+	7	*	+	*	1	1	1	4	ŧ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	¢î		1	¢Î	1		4			4	
Traffic Volume (veh/h)	45	800	40	23	667	120	58	68	15	170	89	45
Future Volume (veh/h)	45	800	40	23	667	120	58	68	15	170	89	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1811	1870	1870	1811	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	851	43	25	725	130	77	91	20	195	102	52
Peak Hour Factor	0.94	0.94	0.94	0.92	0.92	0.92	0.75	0.75	0.75	0.87	0.87	0.87
Percent Heavy Veh, %	2	6	2	2	6	2	2	2	2	2	2	2
Cap, veh/h	184	893	45	160	761	136	215	239	47	295	132	63
Arrive On Green	0.04	0.52	0.52	0.03	0.51	0.51	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1781	1709	86	1781	1495	268	528	810	159	780	447	215
Grp Volume(v), veh/h	48	0	894	25	0	855	188	0	0	349	0	0
Grp Sat Flow(s), veh/h/ln	1781	0	1796	1781	0	1763	1498	0	0	1442	0	0
Q Serve(g_s), s	1.1	0.0	40.9	0.6	0.0	40.0	0.0	0.0	0.0	1442	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	40.9	0.6	0.0	40.0	8.3	0.0	0.0	19.5	0.0	0.0
Prop In Lane	1.00	0.0	0.05	1.00	0.0	0.15		0.0			0.0	
	184	0	938	160	0	897	0.41 501	0	0.11	0.56 491	0	0.15
Lane Grp Cap(c), veh/h V/C Ratio(X)	0.26	0	0.95	0.16		0.95					0	0
		0.00			0.00		0.38	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	219	0	954	219	0	937	501	0	0	491	0	0
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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.0	0.0	19.6	19.0	0.0	20.2	24.2	0.0	0.0	28.4	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	18.6	0.4	0.0	18.6	2.1	0.0	0.0	8.5	0.0	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/In	0.4	0.0	18.9	0.2	0.0	18.3	3.2	0.0	0.0	7.5	0.0	0.0
Unsig. Movement Delay, s/veh									-			
LnGrp Delay(d), s/veh	19.8	0.0	38.3	19.4	0.0	38.9	26.3	0.0	0.0	36.9	0.0	0.0
LnGrp LOS	В	THE SECOND	D	В		D	С			D		
Approach Vol, veh/h		942			880			188			349	
Approach Delay, s/veh		37.3			38.3			26.3			36.9	
Approach LOS		D			D			С			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.0	6.8	49.6		30.0	7.9	48.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	5.1	45.9		25.5	5.1	45.9				
Max Q Clear Time (g_c+l1), s		10.3	2.6	42.9		21.5	3.1	42.0		-		
Green Ext Time (p_c), s		0.9	0.0	1.7		0.8	0.0	2.0				
Intersection Summary			-			-		_				
HCM 7th Control Delay, s/veh			36.7									
HCM 7th LOS			D									
											-	