

DEPARTMENT ISSUES

Community & Economic Development	Resolution: Adoption of Substantial Amendment to the 2019-2023 HUD Consolidated Housing Plan & 2019 Annual Action Plan	Jessica Tullar
Community Service Center	Resolution: Accept FY21 Legacy Link Grant Contract	Phillippa Lewis Moss
Community Service Center	Resolution: Approval of Hall Area Transit Safety Plan	Phillippa Lewis Moss
Community Service Center	Resolution: Via, Inc. Contract for Microtransit Software Service	Phillippa Lewis Moss
Community & Economic Development	Resolution: Tax Allocation District (TAD) Funding for Enclave Phase II	Rusty Ligon
Community & Economic Development	Resolution: Tax Allocation District (TAD) Funding for G-4 Development Group	Rusty Ligon
Community & Economic Development	Public Hearing Item: July 21, 2020 Council Meeting Request from the City of Gainesville to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a 0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway) and to establish zoning as Planned Unit Development (P-U-D). Ward Number: Three. Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125. Request: Business Park.	Abb Hayes
Community & Economic Development	Public Hearing Item: July 21, 2020 Council Meeting Request from the City of Gainesville to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a 1701 Fulenwider Road, SW) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D). Ward Number: Three. Tax Parcel Number(s): 15-023-000-167 (Part). Request: Business Park.	Abb Hayes
Community & Economic Development	Public Hearing Item: July 21, 2020 Council Meeting Request from Kevin Pethel to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a 2092 Crow Road and 2005 White Sulphur Road) from Residential-I (R-I) to Light Industrial (L-I). Ward Number: Two. Tax Parcel Number(s): 09-124-000-038 (Part). Request: Plumbing and electrical contractor office/warehouse.	Abb Hayes

**Community &
Economic
Development**

Public Hearing Item: July 21, 2020 Council Meeting

Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B). **Ward Number: Four.** Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037. **Request: 20 multi-family apartments.**

Abb Hayes

CITY MANAGER ISSUES

MAYOR/COUNCIL ISSUES

Appointment(s): Convention and Visitors Bureau Advisory Board

Danny Dunagan

Appointment(s): Housing Authority

Danny Dunagan

Appointment(s): Metropolitan Planning Committee - Citizens Advisory Committee

Danny Dunagan

Appointment(s): Gainesville Redevelopment Authority

Danny Dunagan

Ex-Officio Report(s)

CITY ATTORNEY ISSUES

CITY CLERK ISSUES

Resolution: City of Ethics Recertification

Denise Jordan

EXECUTIVE SESSION

ADJOURNMENT

Final: Tuesday, July 14, 2020, 3:30 PM

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 6/4/2019

Presenter: Jessica Tullar

Item of Business: Resolution: Adoption of Substantial Amendment to the 2019-2023 HUD Consolidated Housing Plan & 2019 Annual Action Plan

Meeting Date: 7/16/2020

Purpose of Request:

This resolution authorizes an amendment to the City's 2019-2023 HUD Consolidated Plan and 2019 CDBG Annual Action Plan in order to accept and account for a special allocation (CDBG-CV) authorized by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act). The City has been awarded \$282,736 in CDBG-CV funds that are to be used on eligible activities intended to prevent, prepare for, or respond to COVID-19.

History/Background:

City of Gainesville is designated by the U. S. Department of Housing and Urban Development (HUD) as a Community Development Block Grant (CDBG) entitlement grantee. As such, the City receives an annual CDBG allocation intended to (1) benefit low- and moderate-income persons, (2) eliminate slum and blight, and/or (3) meet a particular urgent need. Under the CARES Act, the City is eligible to receive additional funding to address the impacts of COVID-19, which requires an amendment to the current five-year plan and first-year action plan to include the CDBG-CV funds and identify any new activities.

The amendment includes the \$282,736 in CDBG-CV funds as well as includes new activities of Public Services and Economic Development and homeownership assistance. The CDBG-CV funds are allocated to cover eligible activities under Public Services and Economic Development, while current 2019 CDBG funds are being shifted from Public Facilities & Infrastructure to create a homeownership assistance activity that is intended to address the "Expand Affordable Housing" goal set forth in the five-year plan adopted on June 18, 2019. The homeownership assistance program will be used to provide down-payment assistance and closing costs for income-eligible persons, with priority given to first-time homebuyers.

Facts & Issues for Consideration:

In order to remain in compliance and be eligible to expend the additional CDBG-CV allocation and fund new activities, the City must amend its 2019-2023 HUD Consolidated Plan and 2019 Annual Action Plan. Exhibit A includes a summary of how CDBG and CDBG-CV funds will be expended under the amended plans. Exhibit B is the amended 2019-2023 HUD Consolidated Plan and 2019 Annual Action Plan.

Under the CARES Act flexibility and HUD waiver, a 5-day public review and comment period was held from 6/4/2020 through 6/8/2020, with a staff-run virtual public hearing held on 6/9/2020. Questions and comments received were considered in the final preparation of the amendment.

Department Recommendation:

Approval of the Resolution.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
2019-2023 HUD Consolidated Plan & 2019 Annual Action Plan COVID-19 Amendment	Resolution
Exhibit A: 2019 CDBG & CDBG-CV Budget Summary	Attachments/Exhibits
Exhibit B: Amended 2019-2023 HUD Consolidated Plan & 2019 Annual Action Plan	Attachments/Exhibits

RESOLUTION PR-2020 - ____

**COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
2019-2023 HUD CONSOLIDATED PLAN & 2019 ANNUAL ACTION PLAN
SUBSTANTIAL AMENDMENT TO INCLUDE CDBG-CV FUNDS**

WHEREAS, the City of Gainesville is designated an entitlement grantee by the U.S. Department of Housing and Urban Development (HUD) for the purpose of participating in the *Community Development Block Grant (CDBG)* Program; and

WHEREAS, on June 18, 2019, the governing body for the City of Gainesville adopted the 2019-2023 HUD Consolidated Plan which identified approved activities to carry out using the City's annual allocation of Community Development Block Grant (CDBG) funds over the five-year period as well as adopted the first program year plan "2019 Annual Action Plan"; and

WHEREAS, the City has been awarded a special allocation (CDBG-CV) authorized by the Coronavirus Aid, Relief, and Economic Security Act (CARES Act), Public Law 116-136; and

WHEREAS, the City has been awarded \$282,736 in CDBG-CV funds to be used to prevent, prepare for, and respond to the coronavirus (COVID-19); which involves new activities not authorized under the current 2019-2023 HUD Consolidated Plan and 2019 Annual Action Plan; and

WHEREAS, the U.S. Department of Housing and Urban Development (HUD) permits the amendment of the Consolidated Plan and Annual Action Plans as necessary to accommodate the community's needs in accordance with the local citizen participation plan; and

WHEREAS, the CARES Act has added additional flexibility for the CDBG-CV grant which includes the reduction in the public comment period to not less than five (5) days, use of virtual public hearings, suspension of the public services cap, and reimbursement by States and local governments of costs of eligible activities incurred for pandemic response regardless of the date; and

WHEREAS, public notice announcing the 5-day public comment period from June 4, 2020 through June 8, 2020 was advertised in the local newspaper on May 30, 2020 and June 3, 2020 and posted on the City's website starting June 1, 2020; and

WHEREAS, the required public hearing was held virtually through ZOOM on June 9, 2020 to allow for additional comments and questions which guided the development of the Substantial Amendment; and

WHEREAS, the CDBG-CV activity – Public Services and Economic Development – complies with the objectives of the CARES Act and the goals and objectives outlined in the 2019-2023 HUD Consolidated Plan, and will benefit low- to moderate-income persons in Gainesville.

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby adopts the amendments to the 2019-2023 HUD Consolidated Plan and 2019 Annual Action Plan, and authorizes submittal to HUD.

BE IT FURTHER RESOLVED THAT the governing body for the City of Gainesville hereby authorizes the Mayor, City Manager and City Attorney to sign all necessary resolutions, certifications, applications, subrecipient agreements, and documents directly related to accepting and administering the amendment.

RESOLUTION PR-2020 - ____

**COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
2019-2023 HUD CONSOLIDATED PLAN & 2019 ANNUAL ACTION PLAN
SUBSTANTIAL AMENDMENT TO INCLUDE CDBG-CV FUNDS**

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

EXHIBIT A

CITY OF GAINESVILLE COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG) FIRST PROGRAM YEAR 2019 ANNUAL ACTION PLAN – SUBSTANTIAL AMENDMENT

PROGRAM FUNDING SOURCES

2019 Grant Allocation	\$498,567
Projected Program Income	\$ 30,000
2020 CDBG-CV CARES Act Allocation	<u>\$282,736</u>

TOTAL FUNDING	\$811,303
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PROPOSED ACTIVITIES

BUDGETED AMOUNT

HOUSING REHABILITATION / EMERGENCY REPAIRS

\$ 19,557

Funds will be used to assist income-eligible homeowners with repairs and other housing improvements, including handicap accessibility features and emergency repairs.

PUBLIC FACILITIES OR INFRASTRUCTURE

\$409,297

Acquisition, construction, or rehabilitation of parking lots and parking garages. Acquisition and demolition of vacant, dilapidated properties. Installation or repair of streets, street drains, storm drains, curbs and gutters, tunnels, bridges, and traffic lights/signs. Improvements to sidewalks that include the installation of trash receptacles, lighting, benches, and trees. Activities limited to tree planting (sometimes referred to as "beautification"). Installation or replacement of water lines, sanitary sewers, storm sewers, and fire hydrants. Drainage Improvements and the installation of water lines, sanitary sewer and storm sewers associated with developing affordable housing. Grading and site work on public lands.

HOMEOWNERSHIP ASSISTANCE

\$ 10,000

Financial assistance to low- to moderate-income, first-time homebuyers to assist them with the purchase of a home. Eligible uses of these funds include: up to 50% of down-payment, reasonable closing costs and premium for mortgage insurance required up-front.

PUBLIC SERVICES / ECONOMIC DEVELOPMENT

\$250,000

CDBG-CV / CARES Act funds allocated to nonprofit services provider(s) and/or to for-profit businesses to address growing effects of the COVID-19 pandemic

PROGRAM ADMINISTRATION

\$122,449

CDBG-2019 (\$89,713) and CDBG-CV (\$32,736) funds for the management and oversight of all activities carried out under CDBG and CDBG-CV Programs. Funds cover expenses for salaries, legal fees, advertisements, supplies and equipment, planning and other administrative costs.

TOTAL EXPENDITURES

\$811,303



2019-2023 Consolidated Plan and 2019 Annual Action Plan

Substantial Amendment Draft

June 3, 2020

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FIVE-YEAR CONSOLIDATED PLAN

For Program Years 2019 to 2023

ANNUAL ACTION PLAN

For Program Year 2019

CITY OF GAINESVILLE, GEORGIA

Community & Economic Development Department

Draft Substantial Amendment
June 3, 2020

Prepared for the City of Gainesville by
Mosaic Community Planning, LLC



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2019-2023 Five-Year Consolidated Plan

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EXECUTIVE SUMMARY

ES-05 EXECUTIVE SUMMARY - 24 CFR 91.200(C), 91.220(B)

1. Introduction

The City of Gainesville's 2019-2023 Consolidated Plan is a comprehensive planning document promoting a coordinated approach to housing and community development needs using U.S. Department of Housing and Urban Development (HUD) grant funds. It provides guidance on the investment of HUD dollars, and outlines priorities for using the City's Community Development Block Grant (CDBG) funds over the next five years. Every year the City will produce an Annual Action Plan to detail specific activities to carry out the Five-Year Consolidated Plan's priorities and goal.

On March 27, 2020, the Federal Coronavirus Aid, Relief and Economic Security (CARES) Act was signed into law to assist communities prevent, prepare for, and respond to the COVID-19 pandemic and related health, social, and economic impacts. The CARES Act included supplemental allocations for communities receiving funding through HUD's Community Planning and Development (CPD) programs, including the CDBG program.

The City of Gainesville amended its 2019-2023 Consolidated Plan and 2019 Annual Action Plan in June 2020 to reflect the additional \$282,736 it will receive in 2020 CDBG-CV funds through the CARES Act. Gainesville also amended its Plans to reflect changes related to the use of its 2019 CDBG formula grant funds. Amendments to the 2019-2023 Consolidated Plan and 2019 Annual Action Plan are bolded and underlined throughout this document. A summary is shown below:

ORIGINAL 2019 ANNUAL ACTION PLAN

FUNDING SOURCES

- 2019 Grant Allocation: \$498,567
- TOTAL: \$498,567

PROPOSED ACTIVITIES

- Housing Rehab/Emergency Repair: \$30,000
- Public Facilities or Infrastructure (Tower Heights and Wood Avenue): \$318,854
- Demolition and Acquisition: \$50,000
- Program Administration: \$99,713
- TOTAL: \$498,567

AMENDED 2019 ANNUAL ACTION PLAN

FUNDING SOURCES

- 2019 Grant Allocation: \$498,567
- 2019 Program Income: \$30,000
- 2020 CARES Act Allocation: \$282,736
- TOTAL: \$811,303

PROPOSED ACTIVITIES

- Housing Rehab/Emergency Repair: \$19,557
- Public Facilities or Infrastructure: \$409,297
- Homeownership Assistance: \$10,000
- Public Services/Economic Dev: \$250,000
- Program Administration: \$122,449
- TOTAL: \$811,303

This draft Substantial Amendment will be available for public review and comment over a 5-day period from June 4 through June 8, 2020 and presented to the Gainesville City Council for approval on June 16, 2020. Public comments regarding the activities funded are encouraged and should be submitted to Jessica Tullar, Housing and Specials Projects Manager, at jtullar@gainesville.org or Gainesville Community & Economic Development Department, PO Box 2496, Gainesville, Georgia 30503.

While a 30-day public comment period is typically required for any Substantial Amendments, HUD is allowing communities to waive this requirement to provide for an expedited review process during the pandemic. The CARES Act also eliminates the cap on the amount of funds a grantee can spend on public services to prevent, prepare for, or respond to COVID-19 and removes the requirement to hold in-person public hearings in order to comply with social distancing recommendations.

2. Summary of the Objectives and Outcomes Identified in the Plan Needs Assessment Overview

Priority needs were developed based on citizen participation and stakeholder consultation, and analysis of the city's top housing, homeless, special needs populations, and non-housing community development needs.

Housing Affordability

- Support the development of affordable rental and owned housing, including projects located near employment and transportation.
- Expand the useful life of existing affordable housing through rehabilitation, repair, or weatherization programs.
- Provide homeownership opportunities for households through downpayment or closing cost assistance.

Infrastructure and Public Facility Improvements

- Provide safe neighborhoods, public facilities, recreational and cultural opportunities which meet both safety and health regulations for citizens of all ages and socioeconomic backgrounds.
- Improve public infrastructure, increase public safety, residential desirability and quality of life in low- and moderate-income neighborhoods.
- Assist community service organizations in improving their physical structures to ensure they are sufficient in size, accessible, safe and meet the organization's service goals.
- Infrastructure improvements including but not limited to sidewalks, roadway, park, and water and sewer replacement or expansion.

Neighborhood Revitalization

- Non-housing community development activities that eliminate blight, including code enforcement, demolition, acquisition, and redevelopment.
- Through property acquisition, increase greenspace, improve housing affordability, or encourage economic development.

Economic Development

- Support business development to create new employment opportunities for low- and moderate-income workers.

- Provide job training assistance to help residents access employment opportunities.

Public Services

- Fund community services such as youth-focused activities, programming for seniors, services for people experiencing homelessness, employment training, housing counseling, transportation assistance, fair housing education and enforcement, legal services, and others.

Fair Housing Activities

- Either in-house or through an award to a local organization, provide fair housing education activities to residents, housing providers, and local agencies in English and Spanish.

Program Administration

- Funding for performance of administrative, implementation, and planning requirements of the CDBG program.

3. Evaluation of Past Performance

Each year, the City of Gainesville reports its progress in meeting its five-year and annual goals by preparing a Consolidated Annual Performance Evaluation Report (CAPER). The CAPER is submitted to HUD within 90 days of the start of a new program year. Copies of recent CAPERs are available for review at Gainesville's Community and Economic Development Department or online at: <https://www.gainesville.org/housing-development>.

4. Summary of Citizen Participation Process and Consultation Process

The City conducted significant consultation with residents, city staff, government agencies, nonprofit agencies, housing and homeless service providers, fair housing representatives, and others. The City hosted public meetings and focus groups to identify housing and community development needs in preparation of this Plan. The City also conducted a community survey, which had 38 respondents. Input received through the meeting, focus groups, and survey is summarized in the Citizen Participation and Needs Assessment sections of this document. Community input was also used to determine needs and priorities.

Public comments on the draft Consolidated Plan and Annual Action Plan were received throughout a 30-day comment period from May 13 to June 11, 2019. A public hearing to receive comments was held during the Gainesville City Council meeting on June 18, 2019.

5. Summary of Public Comments

Comments received through the public meetings, public hearings, focus groups, community survey, and one-on-one interviews are summarized in the Citizen Participation section of this Plan and incorporated in individual sections as relevant.

6. Summary of Comments or Views Not Accepted and Reasons for Not Accepting Them

The City took all comments into consideration in preparing this Consolidated Plan and Annual Action Plan. The City reviewed all comments for common and recurring themes to help establish goals and priorities. No comments or views were not accepted.

7. Summary

This five-year plan identifies the community's affordable housing, homeless, community development, and economic development needs, as well as outlines a comprehensive and coordinated strategy for implementation of programs. The City will use its CDBG funding to leverage other public and private investment in order to address its goals and priorities.

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THE PROCESS

PR-05 LEAD & RESPONSIBLE AGENCIES 24 CFR 91.200(B)

1. Describe agency/entity responsible for preparing the Consolidated Plan and those responsible for administration of each grant program and funding source.

The following are the agencies/entities responsible for preparing the Consolidated Plan and those responsible for administration of each grant program and funding source.

TABLE 1 – RESPONSIBLE AGENCIES

Agency Role	Name	Department/Agency
Lead Agency	Gainesville	
CDBG Administrator	Gainesville	Community & Economic Development / Housing & Special Projects Division

Narrative

The City of Gainesville Community & Economic Development Department's Housing & Special Projects Division is responsible for administering the City's Community Development Block Grant Program. Among other City responsibilities, the Division coordinates the planning process, works with other city agencies and nonprofit partners on planning and implementation, and reports on performance to the City Council, city residents, and HUD.

Consolidated Plan Public Contact Information

The primary contact for Gainesville's CDBG Program and the consolidated planning process is:

Jessica Tullar, AICP
Neighborhood Development Manager
Gainesville Community & Economic Development Department
PO Box 2496
Gainesville, Georgia 30503
770-531-6570
jtullar@gainesville.org

PR-10 CONSULTATION - 91.100, 91.200(B), 91.215(L)

1. Introduction

The City of Gainesville conducted a variety of public outreach to garner input from city staff, government agencies, nonprofit agencies, affordable housing developers, local service providers, and Gainesville residents in preparing this plan. The City held three community meetings open to the general public; conducted four focus groups with local agencies or committees; and interviewed key stakeholders in person and by phone. Additionally, local residents and other stakeholders completed surveys regarding community development and housing priorities. A total of 50 people attended a community meeting or focus group, 38 people completed the survey, and 25 people participated in an interview. Results of these outreach efforts are summarized in the Community Participation section of this Plan.

Provide a concise summary of the jurisdiction's activities to enhance coordination between public and assisted housing providers and private and governmental health, mental health and service agencies (91.215(l)).

The City of Gainesville works closely with public and private sector providers to ensure delivery of services to residents and to promote interagency communication and planning. The City has representatives on many non-profit agency boards and/or advisory committees. The Community & Economic Development Department works with various housing, health, mental health, and service agencies to gather data and identify gaps in services.

In developing this Consolidated Plan, the City strove to include input from housing providers and health, mental health, and other service agencies. Over 60 stakeholders were invited to participate in an interview, attend a public meeting, and/or take the Housing and Community Needs Survey. These stakeholders included city elected officials and staff, regional planning agency representatives, housing authority staff, housing developers, nonprofit organizations, homeless housing and service providers, mental health service providers, agencies serving people with disabilities, senior services, transit providers, workforce development organizations, chambers of commerce, mortgage lenders, real estate agents, and others. The public meetings and focus groups included group discussions of the connections between housing and other community needs. This Consolidated Plan is designed to promote enhanced coordination amongst local housing and service organizations over the next five years.

Describe coordination with the Continuum of Care and efforts to address the needs of homeless persons (particularly chronically homeless individuals and families, families with children, veterans, and unaccompanied youth) and persons at risk of homelessness.

Gainesville and Hall County fall within the Georgia Balance of State Continuum of Care (BoS CoC). The Georgia Department of Community Affairs (DCA) staffs the CoC and allocates Emergency Shelter Grant (ESG) funds across 152 counties statewide to assist with emergency shelter, transitional housing, and homelessness prevention, outreach, and supportive services. The City of Gainesville supports local groups

that apply for funding through DCA to coordinate housing and services for its residents experiencing or at risk of homelessness.

For this Consolidated Plan, the City reached out directly to several organizations in Gainesville and Hall County that serve residents who are homeless or at risk residents to better understand the needs of the clients they serve. Representatives from Family Promise, My Sister's Place, United Way, Gateway Domestic Violence Center, and the Gainesville City School System participated in interviews and the City conducted a focus group with One Hall's Housing and Financial Stability Committee.

Describe consultation with the Continuum(s) of Care that serves the jurisdiction's area in determining how to allocate ESG funds, develop performance standards and evaluate outcomes, and develop funding, policies and procedures for the administration of HMIS.

Gainesville and Hall County are parts of the Georgia Balance of State Continuum of Care (BoS CoC), which covers 152 Georgia counties and is staffed by the Georgia Department of Community Affairs. DCA administers ESG funding statewide, and the City of Gainesville provides input regarding local homeless needs and risk of homelessness as requested to assist in determining how to allocate ESG funds, develop performance standards, and evaluate outcomes.

Under CoC guidance, homeless housing and service providers in Hall County are implementing a coordinated entry system that matches households with the most appropriate housing and service intervention based on their needs, with the goals of prioritizing resources and preventing or reducing the time of homelessness. Implementation sites use HMIS to record assessments, manage priorities, track referrals, and enter data.

2. Describe agencies, groups, organizations and others who participated in the process and describe the jurisdictions consultations with housing, social service agencies and other entities.

Agencies, groups, organizations, and others who participated in the Consolidated Plan planning process are shown in the table on the following pages.

Identify any agency types not consulted and provide rationale for not consulting.

Efforts were made to consult as broad a group of community stakeholders as possible. Flyers regarding the planning process were emailed to more than 60 individuals, who had the option of participating by attending a meeting, participating in an interview, completing an anonymous online survey, or providing written comments. Stakeholders were also asked to share the project flyers (available in English and Spanish) with their networks. No agency types were excluded from participation.

TABLE 2 – AGENCIES, GROUPS, ORGANIZATIONS WHO PARTICIPATED

	Agency/Group/Organization Name	Type	Section of Plan Addressed	Consultation Method
1	City of Gainesville City Council	• Other government – local	• Housing need assessment • Non-housing community development needs • Market analysis • Non-housing community development strategy	• Focus group • Public meeting
2	City of Gainesville City Management	• Other government – local	• Housing need assessment • Non-housing community development needs • Market analysis • Non-housing community development strategy • Anti-poverty strategy	• Focus group
3	City of Gainesville Code Enforcement Division	• Other government – local • Grantee department	• Housing need assessment • Non-housing community development needs • Market analysis • Non-housing community development strategy • Anti-poverty strategy	• Focus group
4	City of Gainesville Planning Division	• Other government – local • Grantee department	• Housing need assessment • Non-housing community development needs • Market analysis • Non-housing community development strategy • Anti-poverty strategy	• Focus group
5	Community Service Center	• Other government – local • Other – transportation agency	• Housing need assessment • Non-homeless special needs • Non-housing community development needs • Non-housing community development strategy	• Interview
6	Disability Resource Center	• Services – persons with disabilities	• Housing need assessment • Non-homeless special needs • Special needs facilities and services	• Interview
7	Family Promise of Hall County	• Services – homeless • Services – children • Services – employment	• Housing need assessment • Homeless needs – chronically homeless, families with children, veterans, unaccompanied youth • Homelessness strategy	• Interview

TABLE 2 – AGENCIES, GROUPS, ORGANIZATIONS WHO PARTICIPATED (CONTINUED)

Agency/Group/Organization Name	Type	Section of Plan Addressed	Consultation Method
8 Gainesville City School System	• Services – education • Other – local school system	• Housing need assessment • Homeless needs – families with children • Non-housing community development needs • Non-housing community development strategy	• Interview • Public meeting
9 Gainesville-Hall County Senior Life Center Advisory Board	• Services – elderly persons	• Housing need assessment • Non-homeless special needs • Non-housing community development needs • Market analysis • Non-housing community development strategy	• Focus group
10 Gainesville High School	• Services – education • Other – local school system	• Housing need assessment • Non-housing community development needs • Non-housing community development strategy	• Public meeting
11 Gainesville Housing Authority and Gainesville Housing Corporation	• Housing • PHA	• Housing need assessment • Public housing needs • Non-housing community development needs • Market analysis • Non-housing community development strategy • Public housing accessibility and involvement	• Interview • Focus group
12 Gainesville Nonprofit Development Foundation	• Civic leaders • Foundation	• Housing need assessment • Non-housing community development needs • Non-housing community development strategy • Anti-poverty strategy	• Focus group
13 Gateway Domestic Violence Center	• Housing • Services – children, victims of domestic violence, homeless, employment	• Housing need assessment • Homeless needs – families with children • Homelessness strategy • Non-homeless special needs • Non-housing community development needs • Special needs facilities and services	• Interview
14 Georgia Legal Services	• Services – fair housing	• Housing need assessment • Non-housing community development needs	• Interview • Focus group

TABLE 2 – AGENCIES, GROUPS, ORGANIZATIONS WHO PARTICIPATED (CONTINUED)

	Agency/Group/Organization Name	Type	Section of Plan Addressed	Consultation Method
15	Georgia Mountains Regional Commission	- Regional organization - Planning organization	- Housing need assessment - Non-housing community development needs - Non-housing community development strategy	Interview
16	Hispanic Alliance Georgia	- Services – education, health, employment, legal - Other – advocacy organization	- Housing need assessment - Non-homeless special needs - Non-housing community development needs - Non-housing community development strategy - Anti-poverty strategy	Interview
17	Habitat for Humanity for Hall County	Housing	- Housing need assessment - Non-housing community development needs - Market analysis - Anti-poverty strategy	- Interview - Focus group
18	Hall County Grants Division	Other government - county	- Housing need assessment - Non-housing community development needs - Homelessness strategy - Market analysis - Non-housing community development strategy	- Interview - Focus group
19	Keller Williams Realty	- Housing - Other – real estate agents	- Housing need assessment - Non-housing community development needs - Market analysis	Interview
20	My Sister's Place	- Housing - Services – homeless, children, health	- Housing need assessment - Homeless needs – chronically homeless, families with children, unaccompanied youth - Homelessness strategy - Non-housing community development needs - Non-housing community development strategy	- Interview - Focus group
21	The Norton Agency	Housing	- Housing need assessment - Non-housing community development needs - Market analysis	Interview

TABLE 2 – AGENCIES, GROUPS, ORGANIZATIONS WHO PARTICIPATED (CONTINUED)

	Agency/Group/Organization Name	Type	Section of Plan Addressed	Consultation Method
22	One Hall Housing & Financial Stability Committee	• Civic leaders	• Housing need assessment • Non-housing community development needs • Non-housing community development strategy • Anti-poverty strategy	• Interview • Focus group
23	Purdy Real Estate	• Housing • Private sector banking/financing	• Housing need assessment • Non-housing community development needs • Market analysis	• Interview
24	United Way of Hall County	• Civic leaders • Regional organization	• Housing need assessment • Homeless needs – chronically homeless, families with children, veterans, unaccompanied youth • Non-housing community development needs • Non-housing community development strategy	• Interview • Focus group
25	Vision 2030 Wisdom Keepers	• Civic leaders	• Housing need assessment • Non-homeless special needs • Non-housing community development needs • Market analysis • Non-housing community development strategy	• Focus group

Other Local/Regional/State/Federal Planning Efforts Considered when Preparing the Plan

TABLE 3 – OTHER LOCAL / REGIONAL / FEDERAL PLANNING EFFORTS

Name of Plan	Lead Organization	How do the goals of your Strategic Plan overlap with the goals of each plan?
Continuum of Care	Georgia Department of Community Affairs	The DCA provides homeless McKinney Vento Act funds to agencies in Gainesville through the Balance of State Continuum of Care. These funds assist with emergency shelter, transitional housing, homelessness prevention, and outreach and supportive services. Point in time homeless counts prepared by the Continuum of Care are reported in the Needs Assessment.
2040 Comprehensive Plan	City of Gainesville	Goals identified in the Community Work Program that overlap with those on the Strategic Plan include development of infill housing, blight reduction, sidewalk improvements, extension of infrastructure, public facility improvements, and economic development/commercial revitalization.
2017-2022 Comprehensive Economic Development Strategy (CEDS) & Regional Plan	Georgia Mountains Regional Commission	City of Gainesville priorities in the CEDS include airport renovation, continuation of the Midtown Greenway, stormwater planning, and a wireless hot zone project. Infrastructure development, possibly to include things such as stormwater and greenway planning, is reflected in the Strategic Plan.
2015 Downtown Gainesville Renaissance Strategic Vision & Plan	Carl Vinson Institute, University of Georgia	Action items overlap with the Strategic Plan relative to pedestrian and bicycle access, safety, and security; transit; and parks/community space.
Westside TAD Redevelopment Plan, 2018	City of Gainesville	Potential benefits of the TAD that are relevant to Strategic Plan goals include infrastructure improvements, redevelopment of vacant/ blighted properties, and economic development.
Midtown Gainesville Redevelopment Plan & Tax Allocation District, 2010	City of Gainesville, Hall County Commission, Gainesville City Schools	Goals that overlap with the Strategic Plan include economic development, blight removal, and new residential development.
Bradford-Ridgewood NPU Vision, Goals & Objectives Statement, 2010	City of Gainesville	Goals that overlap with the Strategic Plan include pedestrian safety, property maintenance, and housing rehabilitation and new development.
Fair Street Area NPU Vision, Goals & Objectives Statement, 2008	City of Gainesville	Goals that overlap with the Strategic Plan include pedestrian safety, sidewalk improvements/expansion, code enforcement, property maintenance, and addition of parks/greenspace.
Community Game Plan	United Way of Hall County	Goals that overlap with the Strategic Plan include adequate affordable housing, supportive housing/ services, emergency and transitional housing, improved connectivity, financial literacy, employment assistance, and healthy food access.

TABLE 3 – OTHER LOCAL / REGIONAL / FEDERAL PLANNING EFFORTS (CONTINUED)

Name of Plan	Lead Organization	How do the goals of your Strategic Plan overlap with the goals of each plan?
Hall County Hazard Mitigation Plan Update, 2017-2022	Hall County Emergency Management Agency	This plan contains goals and strategies to mitigate environmental and manmade hazards through prevention, emergency services, public education and awareness, structural projects, and property and natural resource protection.

Describe cooperation and coordination with other public entities, including the state and any adjacent units of general local government, in the implementation of the Consolidated Plan (91.215(l)).

As the City of Gainesville implements this 5-Year Consolidated Plan, it will continue to work with other local public and private entities, regional organizations, Hall County, and the state of Georgia. Several public entities provided input during the development of this Plan, including the Gainesville Housing Authority, Gainesville Nonprofit Development Foundation, Gainesville-Hall County Senior Life Center Advisory Board, Community Service Center, Gainesville City School System, Gainesville City Council and City Manager, and divisions within the City's Community & Economic Development Department. Staff members from Hall County and the Georgia Mountains Regional Commission were also interviewed in development of this Plan.

PR-15 CITIZEN PARTICIPATION

1. Summary of Citizen Participation and Efforts to Broaden Citizen Participation

Summarize citizen participation process and how it impacted goal-setting.

City of Gainesville residents were invited to provide input for this Consolidated Plan by attending one of three public meetings or taking a community-wide survey. The public meetings were held at various times and locations around the city from January 26 to January 31. A Housing and Community Needs Survey was available to residents in both English and Spanish via a weblink and in hard copy. Paper copies of the survey were available at the public meetings and focus groups, through several local agencies, and at the Community & Economic Development Department. The survey was available from January 23 through March 1, 2019, and a total of 38 responses were received.

Advertisement for the public meetings and survey targeted the general public, as well as nonprofits, service providers, housing providers, and others working with low and moderate income households and special needs populations. Notice was given to residents through an announcement in English and Spanish in the *Gainesville Times*, through press releases to local news outlets, and through flyers placed in public places. The *Times* ran two stories about the Consolidated Plan public meetings and provided a link to the online survey. English and Spanish flyers were emailed to more than 60 local housing and service providers

and community development practitioners, both as outreach to these stakeholders and for distribution to their clients. Spanish interpretation was available at all meetings and was advertised on the meeting flyers. Meeting advertisements also noted that accommodations (including translation, interpretation, or accessibility needs) were available if needed; no requests for accommodations were received.

In addition to public meetings, focus groups and personal interviews were also conducted with several key stakeholders and groups representing a variety of viewpoints relevant to the development of the Consolidated Plan and Analysis of Impediments to Fair Housing Choice. Invitations were extended to more than 60 representatives, and 25 participated in interviews. Twenty-seven (27) people participated in a focus group.

Dates, times, and locations for the public meetings and focus groups are shown below:

Public Meeting #1

Saturday, January 26, 2019
10 AM
Gainesville-Hall County Senior Life Center
434 Prior Street, Gainesville, GA 30501

Public Meeting #2

Monday, January 28, 2019
6 PM
Gainesville Exploration Academy – Lunchroom
1145 McEver Road, Gainesville GA 30504

Public Meeting #3

Thursday, January 31, 2019
6 PM
Gainesville High School – Lunchroom
830 Century Place, Gainesville, GA 30501

Focus Group #1 – Senior Life Center Advisory Board & Vision 2030 Wisdom Keepers

Wednesday, January 9, 2019
9 AM
Gainesville-Hall County Senior Life Center
434 Prior Street, Gainesville, GA 30501

Focus Group #2 – City Manager and Community & Economic Development Department Staff

Wednesday, January 9, 2019
11:30 AM
Community Development Office
311 Henry Ward Way, SE, Gainesville, GA 30501

Focus Group #3 – Gainesville Nonprofit Development Foundation Board

Wednesday, January 9, 2019
3:30 PM
Community Development Office
311 Henry Ward Way, SE, Gainesville, GA 30501

Focus Group #4 – One Hall Housing/Financial Stability Committee

Wednesday, January 16, 2019
11 AM
United Way of Hall County
527 Oak Street, Gainesville, GA 30501

The City of Gainesville held a 30-day public comment period to receive comments on the draft 2019-2023 Consolidated Plan and 2019-2020 Annual Action Plan from Monday, May 13 to Tuesday, June 11, 2019. During this time, copies of the draft reports were available for public inspection, and residents and stakeholders could provide written comments to the Community & Economic Development Department. Public meetings to present key findings and receive comments were held as follows:

Public Meeting #1

Saturday, June 1, 2019

9:30 AM

Gainesville-Hall County Senior Life Center

434 Prior Street, Gainesville, GA 30501

Public Meeting #2

Thursday, June 6, 2019

5:30 PM

Community Development Office

311 Henry Ward Way, SE, Gainesville, GA 30501

Following a public hearing, the 2019-2023 Consolidated Plan and 2019-2020 Annual Action Plan were adopted by Gainesville City Council on Tuesday, June 18, 2019. A summary of community outreach efforts and responses is shown below, with complete survey results and evidence of outreach materials available as an appendix.

DRAFT

Citizen Participation Outreach

TABLE 4 – CITIZEN PARTICIPATION OUTREACH

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
1	Newspaper ads and articles	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	N/A	Ads in English and Spanish and two articles in <i>The Gainesville Times</i>	N/A
2	Flyers	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners; City Schools students and families	N/A	Flyers in English and Spanish advertising the public meetings and survey	N/A
3	City webpage and social media	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	N/A	Webpage: https://www.gainesville.org/public-invited-to-talk-about-affordable-housing Facebook: https://www.facebook.com/GainesvilleGeorgiaGovernment/	N/A

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
4	Public meetings	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	23 attendees	Needs identified by meeting participants include: • Housing, all types; affordable housing and related property activities are biggest priority • Mix of housing sizes to meet variety of needs & budgets • Homeless shelter, permitting and other assistance for organizations working to house people who are homeless • Emergency housing • Homeownership preparation; mortgage payment could be less than rent but financial stability is needed to buy and maintain a home; past homeownership workshops were not well attended • Sidewalks in the southeast quadrant of the city, Thompson Bridge Road, Atlanta Highway, Athens Street • Safe walks to school, volunteer program to walk neighborhood children to school • Partnership with Hall County for sidewalks along streets in both the city and county • Code enforcement for housing and businesses • Blight cleanup • Parks, including pocket parks • Community center for large groups (200+ people) • Skills training to obtain higher-wage jobs, mentors to encourage people to enroll and complete training • Transportation to and from Lanier Tech's Oakwood Campus, including evenings • Childcare • Healthcare • Grocery stores in southeast Gainesville • Resources for renters in disputes with landlords or being evicted, renting rights and responsibilities information	None

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
5	Senior Life Center and Wisdom Keepers focus group	Seniors	14 participants	Needs identified by focus group participants include: • Affordable rental housing, including one bedroom units and senior housing • Mix of housing types, sizes, and costs • Accessory dwelling units that could be rented • Rent control • Assistance with home repairs and upkeep • Clearinghouse of contractors, programs that may be available to help seniors with home repairs and upkeep • ADA accessibility improvements in public places/stores • Accessible housing units, buildings, properties, neighborhoods • Senior volunteer program • Transportation assistance – there are various programs that help with transportation but cost, schedule, trip times, and service areas can be barriers • Grocery stores – downtown, westside neighborhood, and east of the railroad tracks are food deserts • Crosswalks, safe crossings on Jesse Jewell Pkwy	None
6	City staff focus group	City of Gainesville staff	5 participants	Needs identified by focus group participants include: • Rental housing condition/quality improvements, including single-family rental units • Affordable housing for homeownership • Homeownership counseling / preparation • Small housing units (one bedroom, one baths), cottages, granny flats • Awareness and prevention of potential gentrification • Continued code enforcement efforts on a neighborhood-by-neighborhood basis • Infrastructure, parks, and public space improvements in some areas	None

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
				• Stormwater infrastructure • Partnership to help expand/improve availability of public transportation • Workforce development and fresh food access	None
7	Nonprofit Development Foundation Board focus group	Nonprofit Development Foundation Board members	8 participants	Needs identified by focus group participants include: • Affordable housing – public housing and other affordable units are full and have waiting lists; Low Income Housing Tax Credit (LIHTC) units are not priced low enough to be affordable to very low income households • Mix of incomes and housing types with infrastructure • Housing for people who are homeless, possibly smaller units or single room occupancy housing • Housing rehabilitation, especially rental housing • Credit counseling and homeownership preparation, downpayment assistance • Property cleanup in some neighborhoods • Redevelopment incentives in target areas • Land – very little vacant property in the city • Ward 3 – grocery stores, pharmacies, and shopping are needed • Sewer infrastructure expansion • Transportation from residential to employment area – would benefit residents and employers	None
8	One Hall Financial Stability Committee focus group	One Hall Financial Stability Committee members	20 participants	Needs identified by focus group participants include: • Subsidized rental housing from \$500 to \$999 • Workforce for-sale housing priced up to \$120,000 • Housing of a variety of sizes, especially one-bedroom, income-restricted senior apartments or suite-style apartments that allow co-living • Housing types such as tiny houses, container homes, etc.	None

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
				• Funds for housing repair • Education about buying, renting, and maintaining housing • Tenant rights and responsibilities, fair housing education • Emergency and transitional housing • Homeowner transitional housing like Family Promise • Housing open to renting to felons • Housing is needed near White Sulphur Road, poultry factories, Midtown redevelopment area, and mill villages • Case management • Funding for households impacted by code enforcement • Utilities and infrastructure in redevelopment areas • Crosswalks, pedestrian safety improvements	None
9	Community survey	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	38 respondents (English survey – 32 and Spanish survey – 6)	Top needs identified by survey respondents include: • Street, road, sidewalk improvements • Permanent housing for people who are homeless • Grants to improve affordable rental housing/apartments • Access to homeless shelters • Homelessness prevention • Youth services • Housing counseling • Transitional/supportive housing programs • Energy efficiency improvements to housing • Housing for families • Drug abuse education/crime prevention • Elderly or senior housing • Redevelopment or demolition of abandoned properties • Outreach to people who are homeless • Housing that accepts Section 8 vouchers • Employment training and job search assistance • Construction of affordable rentals and for-sale housing • Transportation assistance	None

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
10	Stakeholder interviews	Housing and service providers, community development practitioners, lending and real estate professionals	25 interviewees	Top needs identified by interviewees include: • More affordable rental and for-sale housing, including for young adults and seniors • Workforce housing, mid-market rental and for-sale • Smaller/cottage/one-bedroom units in walkable areas • Housing with low maintenance costs near jobs/groceries • More landlords who accept Section 8 vouchers • Housing stock maintenance/improvements for longevity • Creative approaches for expanding housing options (mix of incomes, types, sizes) • Accessible housing that is affordable and near transit, there is a 2 year wait list of affordable, accessible units • More resources for housing/accessible housing (CHIP grants, others) • Assistance with first and last months rent, utility deposits for households who are homeless/living in hotels • Infrastructure expansion, increased density • Housing and services for immigrants, including people with limited English proficiency • Improved public transit, creative ways to meet needs of second and third shift workers at major employers • Bike and pedestrian pathways and trails • Better pedestrian crossings on Jesse Jewell • Better access to groceries in food deserts • Large community center with sports facilities (basketball, swimming, etc.) • Education about fair housing rights and resources, better promotion of available resources • Negotiation assistance for households facing eviction • Ways to celebrate neighborhoods and diversity	None

TABLE 4 – CITIZEN PARTICIPATION OUTREACH (CONTINUED)

Sort Order	Mode of Outreach	Target of Outreach	Summary of response/ attendance	Summary of comments received	Comments not accepted and reasons
11	Public comment period	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	No written comments received	No written comments were received	N/A
12	Public meetings on the draft	Residents, including minority residents, people with limited English proficiency, people with disabilities, and assisted housing residents; Housing and service providers; Community development practitioners	10 attendees	Comments/questions received at the public hearings include: • There is need for improved food access, which could include community gardens, small grocer, or space for a farmer's market. • There should be opportunities for seniors living in designed communities to work within that community. • There is a need for neighborhood cleanup, including temporary dumpsters for large items. • Construction program at Lanier Tech may be a potential partner for construction and repair activities. • Hispanic Alliance, Female Hispanic Chamber of Commerce, local churches, and other community leaders would be important partners for reaching residents. • Will relocation be needed for Tower Heights? Housing Authority needs to make sure residents are treated fairly. • Information about home maintenance / upkeep would be important for first time homebuyers and others to stay housed. • Reasonable accommodation ordinance could include on-location services if someone cannot come to City Hall.	N/A

NEEDS ASSESSMENT

NA-05 OVERVIEW

Needs Assessment Overview

To inform development of priorities and goals over the next five years, this section of the Consolidated Plan discusses housing, community development, and economic development needs in Gainesville. It relies on data from the U.S. Census, the 2011-2015 5-Year American Community Survey (ACS), and a special tabulation of ACS data known as Comprehensive Housing Affordability Strategy (CHAS) data that estimates the number of households with one or more housing needs. Local data regarding homelessness and assisted housing is included. Finally, public input gathered through interviews, focus groups, meetings, and the community survey are coupled with data analysis to identify priority needs related to affordable housing, homelessness, assisted housing, community development, and economic development in Gainesville.

NA-10 HOUSING NEEDS ASSESSMENT - 24 CFR 91.205 (A,B,C)

Summary of Housing Needs

According to the 2013-2017 5-Year American Community Survey, Gainesville is home to 37,291 residents and 12,582 households, and is the largest city in Hall County. The city grew by about 46% since 2000, adding 11,713 residents and 4,045 households. This level of growth is somewhat higher than that of the county, whose population grew by 38% from 2000 to the 2013-2017 ACS.

Median household income in Gainesville is estimated at \$41,250, below the county figure of \$55,622 and the state median of \$52,977. Median income grew by about 13% since 2000, a slower growth rate than in Hall County and the state of Georgia (both 25%).

Table 6 segments households by income and household type, including small families (2-4 members), large families (5 or more members), households with seniors, and households with young children. As shown, 6,265 households in Gainesville have low or moderate incomes (under 80% of HUD Adjusted Median Family Income (HAMFI)), and together comprise 51% of city households. Looking at income by household type shows about 45% of small family households and senior households have low or moderate incomes. Two-thirds of households with young children (age 6 or younger) have incomes at or below HAMFI, while large families are most likely to be low- or moderate-income households (75%).

For many low- and moderate-income households in Gainesville, finding and maintaining suitable housing at an affordable cost is a challenge. Tables 7 through 12 identify housing needs by tenure based on Comprehensive Housing Affordability Strategy (CHAS) data. CHAS data is a special tabulation of the U.S. Census Bureau's American Community Survey (ACS) that is largely not available through standard Census products. This special dataset provides counts of the number of households that fit certain combinations

of HUD-specified housing needs, HUD-defined income limits (primarily 30, 50, and 80% of HAMFI), and household types of particular interest to planners and policy makers.

To assess affordability and other types of housing needs, HUD defines four housing problems:

1. Cost burden: A household has a cost burden if its monthly housing costs (including mortgage payments, property taxes, insurance, and utilities for owners and rent and utilities for renters) exceed 30% of monthly income.
2. Overcrowding: A household is overcrowded if there is more than 1 person per room, not including kitchens and bathrooms.
3. Lack of complete kitchen facilities: A household lacks complete kitchen facilities if it lacks one or more of the following: cooking facilities, refrigerator, or a sink with piped water.
4. Lack of complete plumbing facilities: A household lacks complete plumbing facilities if it lacks one or more of the following: hot and cold piped water, a flush toilet, or a bathtub or shower.

HUD also defines four severe housing problems, including a severe cost burden (more than 50% of monthly household income is spent on housing costs), severe overcrowding (more than 1.5 people per room, not including kitchens or bathrooms), lack of complete kitchen facilities (as described above), and lack of complete plumbing facilities (as described above).

Overall, the most common housing problem in Gainesville is cost burdens, which impact 65% of households with incomes below 80% HAMFI, including 3,239 renters and 814 owners. Severe cost burdens affect 1,474 renters and 469 owners, or 31% of households with incomes under 80% HAMFI. For the lowest income households (those with incomes under 30% HAMFI), severe cost burdens are most common, impacting 1,345 of the 2,040 households at that income level; an additional 255 households have a cost burden.

While the primary housing issue facing low- and moderate-income residents is affordability, there are other housing needs in the city, including lack of complete plumbing and kitchen facilities (affecting 65 households); overcrowding (919 households); lead-based paint hazards (1,005 households with risk factors); substandard housing; and homelessness. The remainder of this section characterizes local housing needs in more detail. The Market Analysis component of the Consolidated Plan identifies resources available to respond to these needs (public housing, tax credit and other subsidized properties, housing and services for the homeless, and others).

TABLE 5 - HOUSING NEEDS ASSESSMENT DEMOGRAPHICS

Demographics	Base Year: 2000	Most Recent Year: 2017	Percent Change
Population	25,578	37,291	46%
Households	8,537	12,582	47%
Median Income	\$36,605	\$41,250	13%

Data Source: 2000 Census (Base Year), 2013-2017 ACS (Most Recent Year)

Number of Households Table

TABLE 6 - TOTAL HOUSEHOLDS TABLE

	0-30% HAMFI	>30-50% HAMFI	>50-80% HAMFI	>80-100% HAMFI	>100% HAMFI
Total Households	2,040	2,000	2,225	1,580	4,560
Small Family Households	850	465	970	730	2,165
Large Family Households	155	495	440	180	180
Household contains at least one person 62-74 years of age	280	254	305	215	1,164
Household contains at least one person age 75 or older	300	345	170	110	465
Households with one or more children 6 years old or younger	625	555	600	220	685

Data Source: 2009-2013 CHAS

Housing Needs Summary Tables

1. Housing Problems (households with one of the listed needs)

TABLE 7 – HOUSING PROBLEMS TABLE

	Renter					Owner				
	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total
NUMBER OF HOUSEHOLDS										
Substandard Housing - Lacking complete plumbing or kitchen facilities	0	0	35	0	35	0	30	0	0	30
Severely Overcrowded - With >1.51 people per room (and complete kitchen and plumbing)	0	80	110	0	190	0	0	10	0	10
Overcrowded - With 1.01-1.5 people per room (and none of the above problems)	105	270	220	4	599	0	0	55	60	115
Housing cost burden greater than 50% of income (and none of the above problems)	1,030	300	10	10	1,350	210	164	75	0	449
Housing cost burden greater than 30% of income (and none of the above problems)	225	555	685	165	1,630	30	95	200	169	494
Zero/negative Income (and none of the above problems)	195	0	0	0	195	15	0	0	0	15

Data Source: 2009-2013 CHAS

2. Housing Problems 2 (households with one or more severe housing problems: lacks kitchen or complete plumbing, severe overcrowding, severe cost burden)

TABLE 8 – HOUSING PROBLEMS 2

	Renter					Owner				
	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total
NUMBER OF HOUSEHOLDS										
Having 1 or more of four severe housing problems	1,135	645	375	20	2,175	210	194	140	60	604
Having none of four severe housing problems	445	840	1,315	890	3,490	45	320	395	615	1,375
Household has negative income, but none of the other severe housing problems	195	0	0	0	195	15	0	0	0	15

Data Source: 2009-2013 CHAS

3. Cost Burden > 30%

TABLE 9 – COST BURDEN > 30%

	RENTER				OWNER			
	0-30% AMI	>30- 50% AMI	>50- 80% AMI	TOTAL	0-30% AMI	>30- 50% AMI	>50- 80% AMI	TOTAL
NUMBER OF HOUSEHOLDS								
Small Related	605	300	395	1,300	55	35	95	185
Large Related	155	275	80	510	0	100	65	165
Elderly	305	199	60	564	155	114	110	379
Other	295	370	200	865	30	40	15	85
Total need by income	1,360	1,144	735	3,239	240	289	285	814

Data Source: 2009-2013 CHAS

4. Cost Burden > 50%

TABLE 10 – COST BURDEN > 50%

	Renter				Owner			
	0-30% AMI	>30- 50% AMI	>50- 80% AMI	Total	0-30% AMI	>30- 50% AMI	>50- 80% AMI	Total
NUMBER OF HOUSEHOLDS								
Small Related	460	110	10	580	55	35	30	120
Large Related	105	40	0	145	0	70	0	70
Elderly	290	79	0	369	125	54	30	209
Other	280	100	0	380	30	25	15	70
Total need by income	1,135	329	10	1,474	210	184	75	469

Data Source: 2009-2013 CHAS

5. Crowding (more than one person per room)

TABLE 11 – CROWDING INFORMATION – 1/2

	Renter					Owner				
	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total	0-30% AMI	>30-50% AMI	>50-80% AMI	>80-100% AMI	Total
NUMBER OF HOUSEHOLDS										
Single family households	105	340	325	4	774	0	0	20	15	35
Multiple, unrelated family households	0	10	10	0	20	0	0	45	45	90
Other, non-family households	0	0	0	0	0	0	0	0	0	0
Total need by income	105	350	335	4	794	0	0	65	60	125

Data Source: 2009-2013 CHAS

TABLE 12 – CROWDING INFORMATION – 2/2

	Renter				Owner			
	0-30% AMI	>30-50% AMI	>50-80% AMI	Total	0-30% AMI	>30-50% AMI	>50-80% AMI	Total
Households with Children Present								

Describe the number and type of single person households in need of housing assistance.

Estimates of the number of non-elderly single person households in need of housing assistance are included in the “other” category of Tables 9 and 10. This category includes multi-person households whose members are unrelated (e.g., roommates, un-married partners, etc.). There are an estimated 950 single-person or multi-person unrelated households with low or moderate incomes who spend more than 30% of their income on housing. The large majority (91%) are owners and the remaining 9% are renters.

Looking at that group of renters, roughly one-third (34%) have very low incomes (i.e., under 30% of HAMFI), 43% have low incomes (between 30 and 50% HAMFI), and the remaining one-quarter (23%) have moderate incomes (between 50 and 80% HAMFI). Need is fairly well distributed among the income bands, with the largest share of households in the low income group.

The same is true for single-person or multi-person unrelated owner households with needs. About one-third (35%) are very low income, 47% are low income, and 18% are moderate income.

Table 10 looks at severe cost burdens by household type and tenure. Of the 950 single-person and multi-person unrelated households with a cost burden, 450 (or 47%) spend more than half of their income on housing. Eighty-four percent (84%) of severe cost burdened households are renters and 16% are owners. Most need is at very low income levels – 74% of renters and 43% of owners with a severe cost burden have incomes under 30% HAMFI. Taken together, Tables 9 and 10 indicate that for single-person and multi-person unrelated households, affordability needs are most acute at incomes under 50% HAMFI.

Estimate the number and type of families in need of housing assistance who are disabled or victims of domestic violence, dating violence, sexual assault and stalking.

CHAS data provides estimates of housing need for Gainesville households in which someone has a disability. According to the 2009-2013 CHAS, there are approximately 2,420 households in Gainesville who have at least one member with a disability. Housing needs by disability type are outlined below:

- Hearing or vision impairment: There are an estimated 515 low- or moderate-income households (80% HAMFI or below) with one or more housing problems (cost burden, overcrowding, lack of complete kitchen or plumbing facilities) where a household member has a hearing or vision impairment. The majority (435 households or 84%) are renters.
- Ambulatory limitation: There are an estimated 685 low-or moderate-income households with housing problems where a household member has an ambulatory limitation. Most are renters (540 households or 79%).
- Cognitive limitation: An estimated 515 low- or moderate-income households have a housing need and a household member with a cognitive limitation. Eighty-three percent (83% or 430 households) are renters.
- Self-care or independent living limitation: An estimated 605 low- or moderate-income households with a member who has a self-care or independent living limitation have a housing problem. As with other disability types, the majority of these households are renters (490 households or 81%).

Of the four disability types, households with an ambulatory-limited member and one or more of the HUD-defined housing problems are most common in Gainesville. Housing needs for people with an ambulatory difficulty may include accessibility improvements such as ramps, widened hallways and doorways, lower counters, and installation of grab bars, along with access to transit and other community services. Note, also, that some households may have members who experience more than one type of disability.

While there are no comprehensive estimates of the number and type of families experiencing domestic violence, dating violence, sexual assault, and stalking in Gainesville, input from local service providers indicate continuing need. In 2017, the Gateway Domestic Violence Center reported serving 225 women and children with emergency shelter and 54 with transitional housing. They assisted clients in securing 144 temporary protective orders, responded to 1,273 crisis calls, and served 275 people through support groups. The Center reports that their emergency shelter is typically full, and they are currently seeking funding to open a new, expanded shelter in 2020.

What are the most common housing problems?

As Table 7 shows, a total of 3,804 renter households and 1,098 owner households with incomes at or below the median family income experience one or more housing problems. Comparing these numbers with the total households with incomes under 100% HAMFI (as provided in Table 6) indicates that 62% have one or more housing needs. At low and moderate incomes, there are 4,494 households with needs, representing 72% of total households with incomes under 80% HAMFI.

By far, the most common housing problems in Gainesville for both owners and renters are cost burdens and severe cost burdens. Table 9 shows that 3,239 low- and moderate-income renters spend more than 30% of their income on housing, as do 814 low- and moderate-income owner households. These households constitute 89% and 94% of renter and owner households with needs, respectively. Taken together, there are 4,053 cost burdened households with incomes under 80% HAMFI, constituting 65% of households in that income band.

Severe cost burdens impact 1,943 low- and moderate-income households in Gainesville (1,474 renters and 469 owners). They constitute 43% of households with needs and 31% of total households at this income levels.

Crowding (more than 1 person per room) affects considerably fewer households than affordability, but is still a common housing issue in Gainesville. There are an estimated 790 renters and 65 owners with low and moderate incomes who are overcrowded. Together they comprise 19% of households with needs and 14% of all households at that income level. Severe overcrowding (more than 1.5 people per room) impacts 190 renters and 10 owners, or 3% of all households with low or moderate incomes.

Substandard housing (lack of complete plumbing or kitchen facilities) impacts an estimated 35 renters and 30 owners with low or moderate incomes in Gainesville. These households make up 1% of households with needs, and less than 1% of all households, in that income band. While these figures are small in comparison to the number of households impacted by affordability, they represent severe deficiencies in housing quality. Stakeholder input indicates that other substandard housing issues, such as deteriorating structures and deferred maintenance, impact Gainesville households, particularly renters with low incomes, criminal or poor rental histories, or immigration status issues.

Are any populations/household types more affected than others by these problems?

Uniformly, renters are more often affected by housing problems than owners. The number of crowded or severely crowded low- or moderate-income renters (790) is 12 times the number of owners (65) (Table 11). Gainesville's cost burdened households are 4 times more likely to be renters (3,329 households) than owners (814 households) (Table 9). Further, about 45% of all Gainesville renters are low- or moderate-income households with needs, compared to 22% of Gainesville owners. Table 8 looks at severe housing problems by income and tenure, and shows that severe needs affect 64% of renters and 77% of owners with very low incomes (under 30% HAMFI). These figures suggest that relief for very low income households facing affordability issues should be a priority for the city.

For renters, cost burdens are concentrated at lower income levels: 42% of those with cost burdens have incomes at or below 30% HAMFI, 35% have incomes from 30 to 50% HAMFI, and 23% have incomes from 50 to 80% HAMFI. This trend is consistent with the understanding of housing as a basic necessity that must be obtained, no matter what share of one's income it consumes. Those with lower incomes spend a greater share of their resources on housing costs. Cost burdens are more evenly distributed by income band. About 29% of cost burdened owners have incomes from 0 to 30% HAMFI, 36% have incomes from 30 to 50% HAMFI, and 35% have incomes from 50 to 80% HAMFI.

Looking at needs by household types, small family households (2 to 4 people) make up the largest share of low- and moderate-income renters with a cost burden (40%). Of low- and moderate-income owners with needs, elderly households comprise the largest share (47%). The high share of cost burdened elderly owner households likely reflects the difficulty many seniors face in continuing to pay housing costs such as utilities and taxes while living on fixed incomes, even if they no longer have mortgages.

Comparing data from Table 9 with total households by type from Table 6 shows that 65% of low- and moderate-income small families are cost burdened. Large families (5 or more people) make up smaller shares of the needs population, but they also make up smaller shares of the population as a whole. Of the 1,090 low- and moderate-income large families, 62% have a cost burden. These figures indicate need for affordable housing in a range of unit sizes to serve families of all sizes.

Finally, overcrowded renters are more likely to be single family households than multiple, unrelated families (97% versus 3%). The opposite is true for overcrowded owners, who are more likely to be multiple families doubling up together than single family households (72% versus 28%).

Describe the characteristics and needs of low-income individuals and families with children (especially extremely low-income) who are currently housed but are at imminent risk of either residing in shelters or becoming unsheltered 91.205(c)/91.305(c)). Also discuss the needs of formerly homeless families and individuals who are receiving rapid re-housing assistance and are nearing the termination of that assistance.

Individuals with an imminent risk of residing in shelters or becoming unsheltered typically have a combination of financial factors present in their lives: lack of living wage jobs, rents that are more than 30 or 50% of their incomes, and unaffordable childcare, medical, or transportation costs. In addition to these factors, individuals at risk of homelessness may have additional issues present such as family conflicts, domestic violence, housing with code or safety violations, household members with a disability, criminal histories, histories of mental health issues or substance abuse, difficulty navigating systems to access public benefits or community services, temporary housing situations (couch surfing or doubling up), and prior experiences with homelessness.

For formerly homeless families and individuals nearing the termination of assistance, a top need is to secure safe, affordable permanent housing. Other needs may include access to job training, employment and education programs, including supportive employment agencies; access to Social Security disability and other benefits; linkages to health, mental health, and legal services; access to affordable transportation, childcare, and food; and other case management and supportive services.

If a jurisdiction provides estimates of the at-risk population(s), it should also include a description of the operational definition of the at-risk group and the methodology used to generate the estimates.

Neither the City of Gainesville nor Hall County develop local estimates of the population at-risk for homelessness. The Georgia Department of Community Affairs manages the Balance of State Continuum of Care, and offers the following definition of households that are “imminently homeless”:

- **Imminently homeless:** People who are facing loss of housing within two weeks, have no subsequent residence identified, and lack the resources or support networks needed to obtain other permanent housing.

Every two years, DCA conducts a Point-In-Time count of the homeless population living in the 152 counties included in the Balance of State Continuum of Care. The latest count for which data is available was conducted in January 2017, which included estimates based on overnight canvassing, numbers reported from homeless service providers, and a regression model to predict the rate of homelessness in counties for which no count was completed. The prediction model was also used to estimate the imminently homeless population by county. Estimates indicated 12 imminently homeless residents in Hall County as of the 2017 county; however, in its methodology description, DCA notes that there are significant limitations to their predictions given that there is no way to obtain a complete census of the imminently homeless population. Thus, predictions underestimate the true number of residents at imminent risk of homelessness.

Specify particular housing characteristics that have been linked with instability and an increased risk of homelessness.

The most fundamental risk factor for homelessness is extreme poverty, leading to unaffordable rents or homeowner costs. Renters with incomes under 30% HAMFI and housing cost burdens over 50% are at risk of homelessness, especially if they experience a destabilizing event such as a job loss, reduction in work hours, or medical emergency/condition. Such factors may also put low income homeowners at risk of foreclosure and subsequent homelessness.

Broadband Access Needs

Reliable access to the internet is increasingly imperative for job searches, primary and secondary education, college and continuing education programs, and applying for and obtaining assistance from various social service agencies and housing providers. Low- and moderate-income households often face difficulties accessing the internet due to prohibitive costs (of internet access or of devices upon which to access the internet) or limited availability, particularly in rural areas. Stakeholder interviews and other community input did not specifically identify internet access as an unmet need for low- and moderate-income households in Gainesville. However, several agencies that participated in the community engagement process do provide internet access and/or computers on which to access the internet for their clients.

Family Promise of Hall County has a day center open weekdays from 7:30 AM to 5 PM where client families can use computers and access the internet. Both the Gainesville Housing Authority and the Gainesville-Hall County Senior Life Center have computer rooms with internet access and offer regular computer classes for their residents/clients. Internet access is also available for students through the Gainesville school system and the general public at Hall County libraries. Additionally, using local funds and a grant from the Appalachian Regional Commission, the City of Gainesville installed free public wireless internet in downtown, Roosevelt Square, and the Midtown Greenway.

The Market Analysis (Section MA-20) provides an overview of the extent of broadband availability in Gainesville, including the number of providers and download/upload speeds.

Environmental Resiliency

The degree to which low- and moderate-income households are vulnerable to increased natural hazards associated with climate change is an important consideration for jurisdictions and regions as they prepare environmental resiliency and other plans. With its location on Lake Lanier, flood risk is an important consideration for Gainesville. However, a review of the Georgia Department of Natural Resources Flood Map Program indicates low- and moderate- income block groups in Gainesville are generally not located near enough to the lake to put them at risk for flooding. Flat Creek does run through some of these areas; while there is generally not residential development within its flood risk zone, there are some housing units within its 100-year flood plain.

Environmental hazards and natural disasters were not mentioned by stakeholders or survey participants as a key issue in Gainesville during the community engagement process. The planning team interviewed representatives from the Georgia Mountains Regional Commission, which is responsible for regional environmental planning, and reviewed Hall County's Hazard Mitigation Update, which Gainesville signed on to in 2017. The Market Analysis (Section MA-20) provides an overview of recent activities designed to increase environmental resiliency in Gainesville and Hall County.

NA-15 DISPROPORTIONATELY GREATER NEED: HOUSING PROBLEMS – 91.205 (B)(2)

Introduction

This section assesses the housing needs of racial and ethnic groups at various income levels in comparison to needs at that income level as a whole to identify any disproportionately greater needs.

According to HUD, a disproportionately greater need exists when members of a racial or ethnic group at a given income level experience housing problems at a greater rate (10 percentage points or more) than the income level as a whole. Tables 13 through 16 identify the number of households experiencing one or more of the four housing problems by householder race, ethnicity, and income level. The four housing problems include: (1) cost burdens (paying more than 30% of income for housing costs); (2) overcrowding (more than 1 person per room); (3) lacking complete kitchen facilities; and (4) lacking complete plumbing facilities.

Income classifications include:

- Very low income – up to 30% of area median income (AMI) or \$25,750 for a family of four;
- Low income – 30 to 50% AMI or \$25,751 to \$33,400 for a family of four;
- Moderate income – 50 to 80% AMI or \$33,401 to \$53,450 for a family of four; and
- Middle income – 80 to 100% AMI or \$53,451 to \$66,800 for a family of four.

0% to 30% of Area Median Income

At very low incomes, 78% of households in Gainesville have one or more housing problems (1,590 households), as shown in Table 13. Two groups – Asians and Latinos – have disproportionately greater need. Ninety-five percent (95%) of very low income Latino households have a housing need, as do 100% of the 30 very low income Asian households.

TABLE 13 - DISPROPORTIONALLY GREATER NEED 0 TO 30% AMI

Housing Problems	Has one or more of four housing problems	Has none of the four housing problems	Household has no/negative income, but none of the other housing problems
Jurisdiction as a whole	1,590	235	210
White	580	115	85
Black / African American	355	95	100
Asian	30	0	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	630	15	20

Note: The four housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than one person per room; and (4) Cost burden greater than 30%.

Data Source: 2009-2013 CHAS

30% to 50% of Area Median Income

About three-quarters of households with incomes from 30 to 50% AMI have a housing problem (74% or 1,489 households). One group – Asian households – have a disproportionate housing need. All of the 55 Asian households in this income band have a housing need.

TABLE 14 - DISPROPORTIONALLY GREATER NEED 30 TO 50% AMI

Housing Problems	Has one or more of four housing problems	Has none of the four housing problems	Household has no/negative income, but none of the other housing problems
Jurisdiction as a whole	1,489	510	0
White	554	235	0
Black / African American	405	100	0
Asian	55	0	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	480	185	0

Note: The four housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than one person per room; and (4) Cost burden greater than 30%.

Data Source: 2009-2013 CHAS

50% to 80% of Area Median Income

Of the 2,230 Gainesville households with moderate incomes, about two-thirds (63%) have a housing problem. Latino households have a disproportionately high rate of needs – 80% of moderate income Hispanic households face a housing need.

TABLE 15 - DISPROPORTIONALLY GREATER NEED 50 TO 80% AMI

Housing Problems	Has one or more of four housing problems	Has none of the four housing problems	Household has no/negative income, but none of the other housing problems
Jurisdiction as a whole	1,400	830	0
White	420	495	0
Black / African American	185	135	0
Asian	25	10	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	775	190	0

Note: The four housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than one person per room; and (4) Cost burden greater than 30%.

Data Source: 2009-2013 CHAS

80% to 100% of Area Median Income

One-quarter (26%) of middle income households in Gainesville have a housing need (414 households). No racial or ethnic groups have disproportionate needs at this income level.

TABLE 16 - DISPROPORTIONALLY GREATER NEED 80 TO 100% AMI

Housing Problems	Has one or more of four housing problems	Has none of the four housing problems	Household has no/negative income, but none of the other housing problems
Jurisdiction as a whole	414	1,165	0
White	264	540	0
Black / African American	50	105	0
Asian	0	95	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	100	430	0

Note: The four housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than one person per room; and (4) Cost burden greater than 30%.

Data Source: 2009-2013 CHAS

Discussion

Overall, CHAS data regarding housing problems by income level, race, and ethnicity show that need is more common at lower income levels – about 78% of very low income households and 74% of low income households have one or more housing needs. At moderate incomes, that rate is 63%, and at middle incomes it falls to 26%.

Tables 13 through 16 show that Asian and Latino households each experience a disproportionately greater rate of housing needs than the city as a whole at two income levels. They include:

- Very low income (under 30% AMI) Asian households, who have a 100% rate of housing needs versus 78% citywide;
- Low income (30 to 50% AMI) Asian households, who have a 100% rate of housing needs versus 74% citywide;
- Very low income (under 30% AMI) Hispanic households, who have a 95% rate of housing needs versus 78% citywide; and
- Moderate income (50 to 80% AMI) Hispanic households, who have an 80% rate of housing needs versus 63% citywide.

NA-20 DISPROPORTIONATELY GREATER NEED: SEVERE HOUSING PROBLEMS – 91.205 (B)(2)

Introduction

This section assesses the severe housing needs of racial and ethnic groups at various income levels in comparison to severe needs at that income level as a whole to identify any disproportionately greater needs. Like the preceding analysis, this section uses HUD’s definition of disproportionately greater need, which occurs when one racial or ethnic group at a given income level experiences housing problems at a rate that is at least 10 percentage points greater than the income level as a whole.

Tables 17 through 20 identify the number of households with one or more of the severe housing needs by householder race and ethnicity. The four severe housing problems include: (1) severe cost burden (paying more than 50% of income for housing and utilities); (2) severe crowding (more than 1.5 people per room); (3) lack of complete kitchen facilities; and (4) lack of complete plumbing facilities.

Income classifications include:

- Very low income – up to 30% of area median income (AMI) or \$25,750 for a family of four;
- Low income – 30 to 50% AMI or \$25,751 to \$33,400 for a family of four;
- Moderate income – 50 to 80% AMI or \$33,401 to \$53,450 for a family of four; and
- Middle income – 80 to 100% AMI or \$53,451 to \$66,800 for a family of four.

0% to 30% of Area Median Income

At very low incomes, two-thirds of Gainesville households experience a severe housing need (1,345 households or 66%). Two groups – Asians and Hispanics – have a disproportionately greater level of severe housing need. All of the 30 Asian households in this income category have a severe housing problem, as do 82% of Latino households.

TABLE 17 – SEVERE HOUSING PROBLEMS 0 TO 30% AMI

Severe Housing Problems	Has one or more of four severe housing problems	Has none of the four severe housing problems	Household has no/negative income, but none of the other severe housing problems
Jurisdiction as a whole	1,345	490	210
White	510	180	85
Black / African American	250	200	100
Asian	30	0	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	545	100	20

Note: The four severe housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than 1.5 persons per room; and (4) Cost burden greater than 50%.

Data Source: 2009-2013 CHAS

30% to 50% of Area Median Income

At low incomes, 42% of Gainesville households have a severe housing problem (839 households). Again, Asian and Hispanic households have disproportionate severe needs. Ninety-two percent (92%) of Asian households and 52% of Hispanic households have a severe housing problem.

TABLE 18 – SEVERE HOUSING PROBLEMS 30 TO 50% AMI

Severe Housing Problems	Has one or more of four severe housing problems	Has none of the four severe housing problems	Household has no/negative income, but none of the other severe housing problems
Jurisdiction as a whole	839	1,160	0
White	304	480	0
Black / African American	145	360	0
Asian	45	4	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	345	315	0

Note: The four severe housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than 1.5 persons per room; and (4) Cost burden greater than 50%.

Data Source: 2009-2013 CHAS

50% to 80% of Area Median Income

About one-quarter of moderate income Gainesville households have a severe housing problem (515 households or 23%). As in other income categories, moderate income Asian and Hispanic households have disproportionate severe needs. One-third (33%) of Asian households and 37% of Hispanic households have a severe housing problem.

TABLE 19 – SEVERE HOUSING PROBLEMS 50 TO 80% AMI

Severe Housing Problems	Has one or more of four severe housing problems	Has none of the four severe housing problems	Household has no/negative income, but none of the other severe housing problems
Jurisdiction as a whole	515	1,710	0
White	90	825	0
Black / African American	70	254	0
Asian	10	20	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	350	605	0

Note: The four severe housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than 1.5 persons per room; and (4) Cost burden greater than 50%.

Data Source: 2009-2013 CHAS

80% to 100% of Area Median Income

In the middle income range, about one-in-twenty Gainesville households have a severe housing problem (80 households or 5%). No racial or ethnic group faces a disproportionate rate of severe needs at this income level.

TABLE 20 – SEVERE HOUSING PROBLEMS 80 TO 100% AMI

Severe Housing Problems	Has one or more of four severe housing problems	Has none of the four severe housing problems	Household has no/negative income, but none of the other severe housing problems
Jurisdiction as a whole	80	1,505	0
White	10	795	0
Black / African American	4	150	0
Asian	0	95	0
American Indian, Alaska Native	0	0	0
Pacific Islander	0	0	0
Hispanic	60	465	0

Note: The four severe housing problems are: (1) Lacks complete kitchen facilities; (2) Lacks complete plumbing facilities; (3) More than 1.5 persons per room; and (4) Cost burden greater than 50%.

Data Source: 2009-2013 CHAS

Discussion

Overall, severe housing problems are most common at lower income levels. Two-thirds (66%) of Gainesville households with incomes below 30% AMI face a severe need, as do 42% of low income households. As income increases, rates of severe housing problems decline, dropping to 23% at moderate incomes and 5% for the middle income group.

Two racial or ethnic groups experience disproportionate severe housing needs at each of the three lower income levels:

- At very low incomes (under 30% AMI), 100% of Asian households and 82% of Hispanic households have a severe housing problem, versus 66% of households citywide.
- At low incomes (30 to 50% AMI), 92% of Asian households and 52% of Hispanic households have a severe housing problem, versus 42% of households citywide.
- At moderate incomes (50 to 80% AMI), 33% of Asian households and 37% of Hispanic households have a severe housing problem, versus 23% of households citywide.

NA-25 DISPROPORTIONATELY GREATER NEED: HOUSING COST BURDENS – 91.205 (B)(2)

Introduction

This section assesses the need of any racial or ethnic group that has disproportionately greater need in comparison to the needs of that category of need as a whole. While the preceding sections assessed all housing and severe housing problems, Table 21 focuses only on what share of their income households

spend on housing. Data is broken down into groups spending less than 30% of income on housing costs, those paying between 30 and 50% (i.e., with a cost burden), and those paying over 50% (i.e., with a severe cost burden). The final column, “no/negative income,” identifies households without an income, for whom housing as a share of income was not calculated. Note that no racial or ethnic group has more than 5% of households with no or negative income.

Housing Cost Burden

TABLE 21 – HOUSING COST BURDENS BY RACE AND ETHNICITY

Housing Cost Burden	Less than 30%	30-50%	More than 50%	No / negative income (not computed)
Jurisdiction as a whole	7,590	2,569	2,039	210
White	4,315	1,029	884	85
Black / African American	1,010	645	340	100
Asian	220	30	105	0
American Indian, Alaska Native	20	0	0	0
Pacific Islander	0	0	0	0
Hispanic	1,970	860	705	20
Share of Total Households by Race and Ethnicity				
Jurisdiction as a whole	61%	21%	16%	2%
White	68%	16%	14%	1%
Black / African American	48%	31%	16%	5%
Asian	62%	8%	30%	0%
American Indian, Alaska Native	100%	0%	0%	0%
Pacific Islander	N/A	N/A	N/A	N/A
Hispanic	55%	24%	20%	1%

Data Source: 2009-2013 CHAS

Discussion

As Table 21 shows, 21% of all households in Gainesville spend between 30 and 50% of their income on housing costs. Percentage within that housing cost bracket range from 0% for American Indians or Alaska Natives to 31% for Black households. HUD defines a disproportionate need when members of one racial or ethnic group experience a cost burden at a rate at least 10 percentage points higher than the citywide rate. Using this definition, Black households have a disproportionate cost burden.

Citywide, 16% of households spend more than 50% of their income on housing. Rates of severe cost burdens by race and ethnicity range from 0% for American Indians or Alaska Natives to 30% for Asians.

The former group faces a disproportionate rate of severe cost burdens, with 105 out of 355 Asian households spending more than 50% of their income on housing.

Combining the 30 to 50% and over 50% cost ranges shows that there is a total of 4,068 cost burdened households in Gainesville, which together make up 37% of the city's total. By race and ethnicity, rates of cost burdens range from 0% for American Indians or Alaska Natives to 47% for Black households. Black households are the only group that has a disproportionate rate of cost burdens. While CHAS data indicates that no American Indian and Alaska Native households in Gainesville have a housing cost burden, note that the low numbers of these households citywide (20) make it difficult to develop reliable estimates.

The data in Table 21 also allows for a comparison between housing cost burdens among white households and households of other races and ethnicities. Thirty percent (30%) of white households spend more than 30% of their income on housing. Black households are 1.6 times as likely as white households to have a housing burden and Hispanic households are 1.5 times as likely to do so.

NA-30 DISPROPORTIONATELY GREATER NEED: DISCUSSION – 91.205(B)(2)

Are there any income categories in which a racial or ethnic group has disproportionately greater need than the needs of that income category as a whole?

Tables 13 through 21 identified several instances of disproportionately greater need, which are summarized below:

- Of the ten income and need categories examined, Hispanic households are disproportionately affected by housing needs in five of them. At very low incomes, they face disproportionate rates of both housing problems (95% versus 78% citywide) and severe housing problems (82% versus 66% citywide). At low incomes, 52% of Hispanic households have a severe need compared to 42% citywide. Finally, at moderate incomes, Hispanics again have disproportionate rates of both housing problems (80% versus 63% citywide) and severe housing problems (37% versus 23% citywide).
- Asians are disproportionately impacted by housing problems in six instances. At very low incomes, they face disproportionate rates of both housing problems (100% versus 78% citywide) and severe housing problems (100% versus 66%). Similarly, at low incomes, they again experience disproportionate rates of both housing problems (100% versus 74% citywide) and severe housing problems (92% versus 42% citywide). At moderate incomes, Asian households have disproportionate severe housing problems (33% versus 23% citywide). Note, however that the low number of observations in these categories make it difficult to develop reliable estimates.

The last instance in which Asians are disproportionately affected are severe cost burden. Thirty percent (30%) of Asian households in Gainesville spend more than one-half of their income on housing, compared to 16% of households citywide.

- Black households are disproportionately likely to have a cost burden (i.e., spend between 30 and 50% of their income on housing). Thirty-one percent (31%) of Black households have a cost burden compared to 21% of all households throughout the city.

If they have needs not identified above, what are those needs?

Input collected during the community engagement process identified housing affordability for low- and moderate-income households as the priority housing need in Gainesville. Community members also discussed issues related to housing quality/condition for both rental and owned units. Stakeholders explained that low-income renters are often only able to afford units that are substandard and in need of repair. Further, housing options for people with criminal histories, poor credit, past evictions, or other issues may be limited to substandard units with absentee or neglectful landlords. Additionally, residents with limited English proficiency may not fully understand their rights as renters or what to do in the face of a violation by or dispute with a landlord.

On the homeownership side, stakeholders expressed a need for housing rehabilitation programs to assist low/moderate income homeowners with repairs. They also identified homeownership preparation, financial counseling, and downpayment assistance as potential needs.

In addition to assisting people who are currently housed, stakeholders noted the need to assist individuals and families who are homeless. Emergency shelter, transitional housing, and case management were discussed as priorities.

Community members also discussed difficulties affording childcare and transportation. For low income households without a car, transit access may impact the ability to obtain and keep employment. Transportation cost and availability can also influence a household's ability to access groceries, particularly for people living in Gainesville neighborhoods without a grocery store.

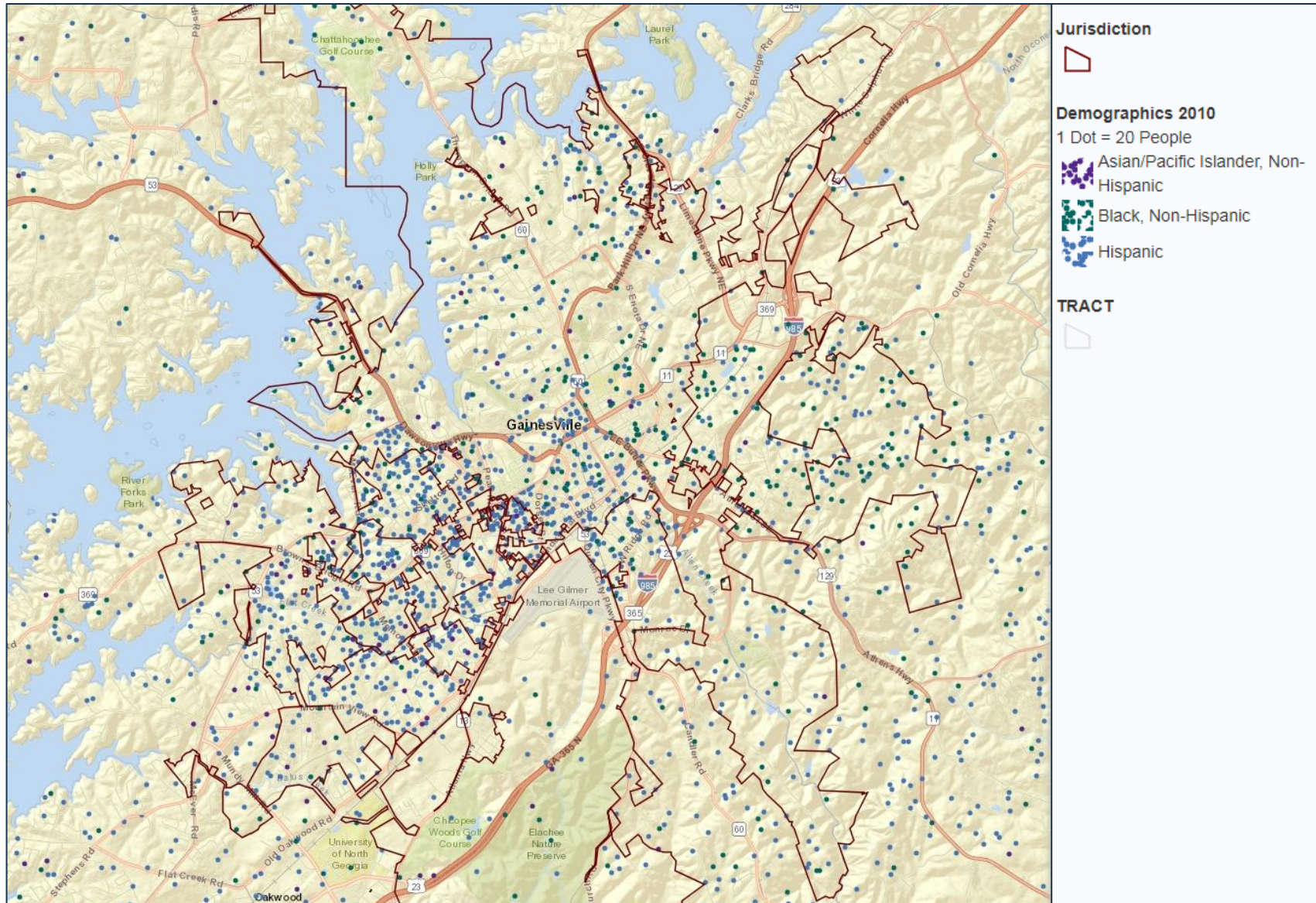
Are any of those racial or ethnic groups located in specific areas or neighborhoods in your community?

As of the 2009-2013 CHAS data, just over one-half of householders in Gainesville were white (51%). Hispanic householders made up 29%, African Americans, 17%, and Asians, 3%. Hispanic residents lived predominately in the southern part of the city, south of E.E. Butler Parkway and east of McEver Road. Two-thirds or more of residents in these census tracts are Hispanic.

Gainesville's African American population does not show strong concentrations; however, the largest shares of Black residents live in the northern part of the city, north of E.E. Butler Parkway and east of Park Hill Drive. About 40% of residents in these census tracts are Black.

Asian residents in Gainesville live predominately south of Dawsonville Highway and Queen City Parkway and east of McEver Road. Population shares in these areas range from around 3% to 9%, depending on the census tract and block group. The map that follows shows Gainesville's Hispanic, African American, and Asian populations by block group as of 2010.

FIGURE 1 – POPULATION BY BLOCK GROUP FOR AFRICAN AMERICAN, ASIAN, AND HISPANIC RESIDENTS IN GAINESVILLE, 2010



NA-35 PUBLIC HOUSING – 91.205(B)

Introduction

Public housing in the city of Gainesville is managed by the GHA. The quasi-governmental authority is governed by its board of commissioners which are appointed by the City. According to HUD's PIC (the HUD Office of Public & Indian Housing Information Center) data, there are 468 public housing units and no housing choice vouchers in Gainesville. The GHA receives federal funds to modernize and repair those units. The City of Gainesville Community & Economic Development Department works closely with the GHA to offer financial literacy classes to public housing residents and other citizens. Efforts have also been made to identify residents that may be ready for homeownership and direct them toward those opportunities. Grant funds from the City of Gainesville downpayment assistance program have been made available to assist residents with purchasing a new home. Such actions will help housing authority residents become more independent and make units available for families with greater needs.

Totals in Use

TABLE 22 - PUBLIC HOUSING BY PROGRAM TYPE

	Program Type								
	Certificate	Mod-Rehab	Public Housing	Vouchers					
				Total	Project - based	Tenant - based	Special Purpose Voucher		
							Veterans Affairs Supportive Housing	Family Unification Program	Disabled*
# of units vouchers in use	0	0	468	0	0	0	0	0	0

***Note:** Includes Non-Elderly Disabled, Mainstream One-Year, Mainstream Five-Year, and Nursing Home Transition

Data Source: PIC (PIH Information Center)

Characteristics of Residents

TABLE 23 – CHARACTERISTICS OF PUBLIC HOUSING RESIDENTS BY PROGRAM TYPE

	Program Type							
	Certificate	Mod-Rehab	Public Housing	Vouchers				
				Total	Project - based	Tenant - based	Special Purpose Voucher	
							Veterans Affairs Supportive Housing	Family Unification Program
Average annual income	0	0	11,695	0	0	0	0	0
Average length of stay	0	0	5	0	0	0	0	0
Average household size	0	0	2	0	0	0	0	0
# homeless at admission	0	0	5	0	0	0	0	0
# of elderly program participants (>62)	0	0	79	0	0	0	0	0
# of disabled families	0	0	49	0	0	0	0	0
# of families requesting accessibility features	0	0	468	0	0	0	0	0
# of HIV/AIDS program participants	0	0	0	0	0	0	0	0
# of domestic violence victims	0	0	0	0	0	0	0	0

Data Source: PIC (PIH Information Center)

Race of Residents

TABLE 24 – RACE OF PUBLIC HOUSING RESIDENTS BY PROGRAM TYPE

	Program Type								
	Certificate	Mod-Rehab	Public Housing	Vouchers					
				Total	Project - based	Tenant - based	Special Purpose Voucher		
							Veterans Affairs Supportive Housing	Family Unification Program	Disabled*
White	0	0	286	0	0	0	0	0	0
Black/African American	0	0	180	0	0	0	0	0	0
Asian	0	0	1	0	0	0	0	0	0
American Indian/Alaska Native	0	0	1	0	0	0	0	0	0
Pacific Islander	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0

***Note:** Includes Non-Elderly Disabled, Mainstream One-Year, Mainstream Five-Year, and Nursing Home Transition

Data Source: PIC (PIH Information Center)

Ethnicity of Residents

TABLE 25 – ETHNICITY OF PUBLIC HOUSING RESIDENTS BY PROGRAM TYPE

	Program Type								
	Certificate	Mod-Rehab	Public Housing	Vouchers					
				Total	Project -based	Tenant -based	Special Purpose Voucher		
							Veterans Affairs Supportive Housing	Family Unification Program	Disabled*
Hispanic	0	0	236	0	0	0	0	0	0
Not Hispanic	0	0	232	0	0	0	0	0	0

***Note:** Includes Non-Elderly Disabled, Mainstream One-Year, Mainstream Five-Year, and Nursing Home Transition

Data Source: PIC (PIH Information Center)

Section 504 Needs Assessment: Describe the needs of public housing tenants and applicants on the waiting list for accessible units.

The data from HUD PIH Information Center shows the GHA as having 468 public housing units in use within the city, 49 (10%) of which are held by a family containing one or more people with a disability. According to the HUD data, all 468 of the public housing residents captured in this reporting had requested units with accessibility features. Stakeholder input suggests a general need for more affordable housing options for the disabled population. As many people with disabilities live on limited incomes, often just a modest \$771/month SSI payment, there are effectively no options for them other than public housing. Availability of additional units with accessibility features is the greatest need of this population.

Describe the most immediate needs of residents of public housing and housing choice voucher holders.

Current residents in GHA public housing units are in need of opportunities and supports to grow and attain a level of self-sufficiency. The GHA's Resident Opportunity and Supportive Services Program (ROSS) supports public housing residents by linking them with valuable community resources to obtain economic self-sufficiency, independence, improved quality of life, and in some cases, help individuals maintain stable housing as they age.

How do these needs compare to the housing needs of the population at large?

The needs of the GHA's residents are different from those of the city's overall low- and moderate-income population only in that the GHA's residents are housed in stable and decent housing. With this need met, GHA residents are able to work on other needs that families typically face in addition to housing insecurity. These needs frequently include childcare, healthcare, employment, transportation, and food.

Discussion

The GHA was a lead partner in creation of the Midtown Community Transformation Plan which is focused on the transformation of the community surrounding Walton Summit, a new Low Income Housing Tax Credit development that opened in 2018. The planning team surveyed the community regarding several different types of community needs. The figure below, excerpted from the Midtown Community Transformation Plan, outlines specific needs related to affordable housing. Combined with the needs discovered through the Consolidated Planning process, it is clear that affordable housing is a key need in Gainesville. The GHA is uniquely positioned within the community to continue its leadership, through LIHTC partnerships and other innovative tools, in bringing new affordable housing opportunities to the area.

FIGURE 2 – AFFORDABLE HOUSING NEEDS FROM THE MIDTOWN COMMUNITY TRANSFORMATION PLAN, 2018

Partner Engagement Needs	Public Engagement Needs / Obstacles
HOUSING	
Affordable Housing	Lack of Affordable Housing Cost of non-subsidized housing too high
Emergency Housing - Crisis Housing - Rent Assistance - Housing after shelter - Deposit start-up assistance - Housing for convicted felons - Housing for those with addiction issues	Public Housing Waiting List Too Long Average of 6 could be years on p.h. waiting list
Foster Care Providers	Living in Substandard and Overcrowded Conditions Families are afraid to speak out against land lords
Improved Communication Between Agencies	Good Communication Between Drug Tx Court and Gateway to Housing Options
Transportation	Section 8 Waiting List Too Long
Connecting Housing to Other Needs - Dental - Mental Health - Psychiatrists - Childcare - Christmas Help	Lost Homes Because Couldn't Afford Mortgage

Data Source: Midtown Community Transformation Plan

NA-40 HOMELESS NEEDS ASSESSMENT – 91.205(C)

Introduction

This section provides an assessment of Gainesville's homeless population and its needs. While the City of Gainesville does not conduct a count of homeless persons, a statewide Point-In-Time count is conducted by the Georgia Department of Community Affairs (DCA) for the 152 counties outside major metropolitan areas. The most recent count was conducted in January 2019 but the results were not available as of the drafting of this plan. Consequently, PIT count data presented here is sourced from DCA's 2017 count.

Nature and Extent of Homelessness

TABLE 26 – HALL COUNTY 2017 POINT-IN-TIME HOMELESS COUNT

	Sheltered	Unsheltered	Total
Homeless persons	78	45	123
Homeless Subpopulations			
Unsheltered veterans		5	5
Unsheltered chronically homeless persons		16	16
Imminently homeless persons			12

Data Source: Georgia DCA, 2017 Report on Homelessness: Balance of State Continuum of Care Point in Time Homeless Count Report

If data is not available for the categories "number of persons becoming and exiting homelessness each year," and "number of days that persons experience homelessness," describe these categories for each homeless population type (including chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth).

Gainesville is covered by the Balance of State Continuum of Care, a network of homeless service providers covering all but the most populous Georgia counties and coordinated by Georgia DCA. The state conducts a biennial homeless count and the most recent data released as of the date this plan was drafted was from January 2017. Some of this data is listed by county; however, the majority of the data is provided at a state-wide level with extrapolations used to estimate county-level figures.

On the night of the count, there were a total of 123 homeless persons enumerated in Hall County, including 78 residing in shelters and 45 unsheltered. Homeless subpopulations in Hall County are not specifically counted, however, DCA uses a regression model to estimate various subpopulations. Applying this method, Hall County is estimated to have had five unsheltered veterans and 16 unsheltered chronically homeless persons. Further, DCA estimates the county to have 12 people who are “imminently homeless”, that is, people who face the likely loss of housing within two weeks, have no subsequent residence identified, and lack the resources or support networks needed to obtain other permanent housing.

Other statewide estimates of homeless subpopulations determined that:

- 55% of the homeless population is male, but men make up 69% of the unsheltered homeless
- 53% identify as Black or African American and 41% as white; 6% identify as Hispanic or Latino
- 23% are under 18; 8% are between the ages of 18 and 24
- 10% reported having a mental illness
- 13% reported having a substance abuse disorder
- 19% are domestic violence victims
- 4% are veterans
- 7% are chronically homeless

Estimate the number and type of families in need of housing assistance for families with children and the families of veterans.

The DCA estimates find that homeless veterans are a very small portion of Hall County's homeless population: of the 123 homeless persons counted, DCA's models suggest that just five would likely be veterans. Families and children experiencing homelessness are a more substantial portion of the population. With 23% of the statewide homeless population being under the age of 18, this would translate to approximately 28 homeless children living in Hall County at the time of the count. DCA's definition of homelessness does not include people who are "doubled-up", living with friends, "couch surfing" or in other unstable situations. Using a broader definition that includes these situations, Hall County Schools estimates that it serves approximately 230 homeless students.

Describe the nature and extent of homelessness by racial and ethnic group.

Using statewide figures, the majority of homeless persons (53%) identify as Black or African American and 41% identify as white. Homeless persons identifying as Hispanic or Latino comprise 6% of the homeless population.

Describe the nature and extent of unsheltered and sheltered homelessness.

On the night of the count, there were a total of 123 homeless persons enumerated in Hall County, including 78 residing in shelters and 45 unsheltered. Statewide, 31% of the unsheltered homeless population were women and 11% were households with children.

Discussion

Local homeless service providers generally agree that the point-in-time count underestimates the true number of homeless people in the community, yet no more reliable source of data is available. Hall County has 87 emergency shelter and transitional housing beds, down from 98 beds five years ago. Compared with what is likely a low-end estimate of 123 homeless people in Hall County, the 87 available beds indicate a shortage of at least 36 beds within the community.

NA-45 NON-HOMELESS SPECIAL NEEDS ASSESSMENT - 91.205 (B,D)

Introduction

This section discusses the characteristics and needs of persons in various subpopulations of Gainesville who are not homeless but may require supportive services, including the elderly, frail elderly, persons with disabilities (mental, physical, developmental) persons with HIV/AIDS and their families, persons with alcohol or drug addiction, victims of domestic violence, and persons with a criminal record and their families.

Describe the characteristics of special needs populations in your community.

According to the 2013-2017 ACS 5-year estimates, 6.0% of Gainesville's population is elderly, aged 65 to 74, while 5.6% is considered frail elderly, age 75 and over. A significant number of residents over the age of 65, (37.2%) have a disability. Within the City, 10.0% of all residents had one or more disabilities, including:

- Hearing difficulty 3.0%
- Vision difficulty 2.6%
- Cognitive difficulty 4.2%
- Ambulatory difficulty 5.9%
- Self-care difficulty 2.9%
- Independent living difficulty 5.2%

According to AIDSVu, a public health information and mapping tool backed by Emory University's Rollins School of Public Health, there are approximately 49,463 people in Georgia living with HIV.¹ In Hall County, the incidence of HIV is estimated at 127 cases per 100,000 people, equating to 253 Hall County residents living with the disease.

An annual survey sponsored by the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA) provides the primary source of information on the use of illicit drugs and alcohol among non-institutionalized persons aged 12 years old or older.² In 2011, an estimated 20.6 million persons in the U.S. were classified with substance dependence or abuse in the past year (8.0 percent of the population aged 12 or older). Of these, 2.6 million were classified with dependence or abuse of both alcohol and illicit drugs, 3.9 million had dependence or abuse of illicit drugs but not alcohol, and 14.1 million had dependence or abuse of alcohol but not illicit drugs. Extrapolating these figures to the city of Gainesville's population, approximately 2,400 Gainesville residents age 12 or older may have a substance dependence or abuse disorder.

What are the housing and supportive service needs of these populations and how are these needs determined?

The primary housing and supportive needs of these subpopulations (the elderly, frail elderly, persons with disabilities, persons with HIV/AIDS and their families, persons with alcohol or drug addiction, victims of domestic violence, and persons with a criminal record and their families) were determined by input from both service providers and the public through the survey, public meetings, and stakeholder interviews. These needs include affordable, safe housing opportunities in areas with access to transportation, commercial and job centers, and social services including counseling and case management.

¹ *AIDSVu*, Emory University's Rollins School of Public Health in partnership with Gilead Sciences, Inc. and the Center for AIDS Research at Emory University (CFAR). <https://aidsvu.org/state/georgia/>.

² Substance Abuse and Mental Health Services Administration, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-44, HHS Publication No. (SMA) 12-4713. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

Persons with disabilities often require accessible features and ground floor housing units and use of supportive/therapeutic animals. Victims of domestic violence need safe housing, removal of barriers to relocation, and protection from perpetrators. Persons with criminal records and their families may be disqualified from public housing or Housing Choice Voucher assistance, and accordingly, assistance with housing for low-income members of this subpopulation must be provided by other nongovernmental organizations.

Discuss the size and characteristics of the population with HIV/AIDS and their families within the eligible Metropolitan Statistical Area.

As described previously in this section, there are approximately 49,463 people in Georgia living with HIV. Of these, an estimated 253 are Hall County residents. Statewide data finds that men are far more likely to be living with the disease, making up more than three in four cases. More than 68% of Georgians living with HIV are Black, 19% are white, and nearly 7% are Latinx. HOPWA funds for the eligible Metropolitan Statistical Area including Gainesville are administered by the City of Atlanta.

NA-50 NON-HOUSING COMMUNITY DEVELOPMENT NEEDS – 91.215 (F)

Describe the jurisdiction's need for public facilities.

Buildings and infrastructure open to the general public, whether owned by the government or by nonprofits, may be considered public facilities under the CDBG program. Gainesville's needs in this area commonly identified through community input include:

- Parks and pocket parks
- Community centers, specifically a large community center with sports facilities
- Emergency housing for people experiencing homelessness
- ADA improvements to existing facilities and public space

Public facility needs identified in the City's *2040 Comprehensive Plan* and other local plans include:

- Improvements to the Community Service Center Administrative Building to address energy efficiency, traffic congestion, ADA accessibility, and linkages to the Senior Life Center
- Park improvements, including amenity upgrades, restroom renovations, playground equipment replacement, trail maintenance, parking lot repavement, and development of new park facilities
- New regional park and recreation center
- Development of pocket parks and Downtown parklets
- Construction of two new fire stations in northwest and southeast Gainesville
- Construction of the second phase of a police training facility

How were these needs determined?

The public facility needs listed above were generated based on input from multiple stakeholders consulted through interviews, focus groups, public meetings, and a survey. These stakeholders included City staff and elected officials, Gainesville Housing Authority staff, Hall County and Georgia Mountains Regional Commission staff, Gainesville City School System staff, nonprofit organizations, homeless housing and service providers, organizations serving people with disabilities, real estate agents, housing developers, civic organizations, and Gainesville residents.

Needs were also determined based on a review of previous local and regional plans, such as Gainesville's *2040 Comprehensive Plan*, the *Downtown Gainesville Renaissance Strategic Vision & Plan*, United Way of Hall County's *Community Game Plan*, and recent neighborhood redevelopment plans prepared by the City.

Describe the jurisdiction's need for public improvements.

During the community engagement process, public improvements were frequently mentioned not only as a stand-alone need but also as a crucial component to the development of additional affordable housing. The public improvement needs most commonly identified by local stakeholders include:

- Sidewalk improvements and expansion (particularly in the southeast quadrant of the city)
- Improved pedestrian facilities such as crosswalks (particularly on Jesse Jewell Parkway), trails, and safe walks to school
- Continued code enforcement and blight clean-up efforts
- Expanded bike paths/trails
- Water and sewer expansion
- Stormwater infrastructure improvements
- Extension of infrastructure (sidewalks, water/sewer, etc.) for affordable housing development

Public improvement needs identified in the City's *2040 Comprehensive Plan* and other local plans include:

- Sidewalk and crosswalk improvements
- Water and sewer expansion
- Stormwater planning and storm drainage improvement
- Streetscaping in Downtown and Midtown
- Redevelopment of key properties in Downtown and Midtown
- Completion of additional phases of the Midtown Greenway
- Development a Community Improvement District (CID) on Browns Bridge Road
- Development of a community-wide greenspace plan for pedestrian connectivity
- Downtown connectivity improvements
- Traffic calming and intersection and signal improvements
- Continued code enforcement
- Neighborhood beautification and signage

How were these needs determined?

The public improvement needs listed above were generated based on input from multiple stakeholders consulted through interviews, focus groups, public meetings, and a survey. These stakeholders included City staff and elected officials, Gainesville Housing Authority staff, Hall County and Georgia Mountains Regional Commission staff, Gainesville City School System staff, nonprofit organizations, homeless housing and service providers, organizations serving people with disabilities, real estate agents, housing developers, civic organizations, and Gainesville residents.

Needs were also determined based on a review of previous local and regional plans, such as Gainesville's *2040 Comprehensive Plan*, the *Downtown Gainesville Renaissance Strategic Vision & Plan*, United Way of Hall County's *Community Game Plan*, and recent neighborhood redevelopment plans prepared by the City.

Describe the jurisdiction's need for public services.

Public services, such as case management, childcare, transportation assistance, job training, and programming for youth and senior centers, are important of a community development strategy; however, CDBG funds that can be allocated to such activities are limited to a cap of 15% of a grantee's annual award. The public service needs most commonly identified by local stakeholders include:

- Employment skills training, job search assistance, and mentoring
- Financial counseling and homeownership preparation
- Fair housing education and enforcement, tenant's rights education
- Homelessness outreach and case management
- Transportation assistance, including evening/weekend service to major employers and Lanier Tech
- Senior volunteer program
- Youth services and childcare
- Healthcare

Public service needs identified in United Way of Hall County's *Community Game Plan* and other local plans include:

- College/career preparation and job training programs to fulfill workforce needs
- Financial literacy programs to help achieve financial stability, education about predatory lending
- Youth literacy and enrichment programs
- Programs to assist at-risk students complete high school and reduce incidence of homelessness
- Hall Area Transit service enhancements, improved employer/employee connectivity
- Programs that improve access to healthy food, primary and specialty care, mental and behavioral health services, and medication
- Programs that address effects of abuse and neglect, programs that prevent abuse and neglect
- Emergency assistance for food, shelter, clothing and safety

How were these needs determined?

The public service needs listed above were generated based on input from multiple stakeholders consulted through interviews, focus groups, public meetings, and a survey. These stakeholders included City staff and elected officials, Gainesville Housing Authority staff, Hall County and Georgia Mountains Regional Commission staff, Gainesville City School System staff, nonprofit organizations, homeless housing and service providers, organizations serving people with disabilities, real estate agents, housing developers, civic organizations, and Gainesville residents.

Needs were also determined based on a review of previous local and regional plans, such as Gainesville's *2040 Comprehensive Plan*, the *Downtown Gainesville Renaissance Strategic Vision & Plan*, United Way of Hall County's *Community Game Plan*, and recent neighborhood redevelopment plans prepared by the City.

HOUSING MARKET ANALYSIS

MA-05 OVERVIEW

Housing Market Analysis Overview

While housing choices can be fundamentally limited by household income and purchasing power, the lack of affordable housing can be a significant hardship for low- and moderate-income households, preventing them from meeting other basic needs. Stakeholders and residents reported that affordable housing for families and individuals is a significant issue in Gainesville, and according to the 2013-2017 ACS, housing costs have increased substantially for renters since 2000.

In addition to reviewing the current housing market conditions, this section analyzes the availability of assisted and public housing and facilities to serve homeless individuals and families. It also analyzes local economic conditions, and summarizes existing economic development resources and programs that may be used to address community and economic development needs identified in the Needs Assessment.

MA-10 NUMBER OF HOUSING UNITS – 91.210(A)&(B)(2)

Introduction

The 2013-2017 Five-Year American Community Survey estimated that there are 13,692 housing units in Gainesville, with an occupancy rate of 90% (Table 27). Unit types are nearly evenly split between single-family (48%) and multifamily (49%). The largest share of units are single-family detached structures (43%), and attached single units (townhomes) make up a much smaller share of the stock (5%). The largest share of multifamily units (28%) is found in medium-sized complexes (5-19 units). Large complexes account for 14% of Gainesville homes, while units in small buildings – duplexes, triplexes, and fourplexes – account for only 7%.

There are an estimated 224 units of other types of housing in Gainesville, including mobile homes, RVs, and vans, making up 2% of residences citywide. This figure has increased from an estimate of around 153 five years ago. While some manufactured housing/mobile homes are scattered throughout the city, there are also mobile home parks such as Suburban and Downtowner Mobile Home Parks in the southwest part of the city.

As Table 28 shows, just over a third of Gainesville households own their homes (36%), and nearly two-thirds rent (64%). This is much lower than the statewide homeownership rate of 63%. Nearly all owned-housing in Gainesville has at least two bedrooms: 17% has two bedrooms and 82% has three or more bedrooms. Rental units tend to be smaller: nearly a quarter of units are studios or one-bedroom units (24%). The most common rental unit contains two bedrooms (45%), while less than a third (31%) of renters live in homes with three or more bedrooms.

Input from stakeholders indicates that new construction or rehabilitation of affordable rental units is the greatest housing need in the community.

Residential Properties by Number of Units

TABLE 27 – RESIDENTIAL PROPERTIES BY UNIT NUMBER

Property Type	Number	Percent
1-unit detached structure	6,069	43%
1-unit, attached structure	751	5%
2-4 units	1,036	7%
5-19 units	3,953	28%
20 or more units	1,929	14%
Mobile Home, boat, RV, van, etc	224	2%
Total	13,962	100%

Data Source: 2013-2017 ACS

Unit Size by Tenure

TABLE 28 – UNIT SIZE BY TENURE

Unit Size	Owners		Renters	
	Number	Percent	Number	Percent
No bedroom	34	1%	325	4%
1 bedroom	21	0%	1,583	20%
2 bedrooms	770	17%	3,590	45%
3 or more bedrooms	3,741	82%	2,518	31%
Total	4,566	100%	8,016	100%

Data Source: 2013-2017 ACS

Describe the number and targeting (income level/type of family served) of units assisted with federal, state, and local programs.

The Gainesville Housing Authority (GHA) has 486 public housing units in three developments including Melrose Homes, Harrison Square, and various scattered sites. The average household income for GHA's public housing residents is \$15,237, which is considerably less than the median household income in Gainesville which is currently \$41,250.

Additional assisted housing in the city of Gainesville includes Low Income Housing Tax Credit (LIHTC) properties, properties supported by Project-Based Section 8 subsidies, and Housing Choice Vouchers.

There are eight developments funded by tax credits and 385 Project Based Section 8 units in three developments. The Georgia Department of Community Affairs administers Housing Choice Vouchers for Gainesville, and there are currently 93 vouchers in use within the city.

The City has a rehabilitation loan program that is available to anyone with income limits at or below 80 percent of AMI. There is also an Emergency Repair grant program, for the elderly or disabled that provides funds up to \$10,000 for emergency repairs and/or accessibility improvements.

Provide an assessment of units expected to be lost from the affordable housing inventory for any reason, such as expiration of Section 8 contracts.

No units are expected to be lost from the publicly-assisted affordable housing inventory over the next five years. The next projects facing decision points regarding expiring affordability periods are under contract until 2026.

Does the availability of housing units meet the needs of the population?

Cost burden data shows that affordability needs are particularly severe for renters with incomes under 30% of HUD Area Median Family Income (HAMFI), affecting over a thousand households. Input collected from stakeholders and public meeting attendees strongly suggests that a scarcity of available rental units in Gainesville is driving up housing costs and leading to a decline in housing conditions.

On the ownership side, income and home value data indicate starter home prices in Gainesville that are out of reach for many moderate and middle income households. Affordability data in the Needs Assessment supports this, with cost burdens impacting considerable shares of households up to 100% HAMFI.

In terms of unit size, overcrowding impacts a significant number of households, particularly renters. The Needs Assessment identified 919 overcrowded households, most of whom were renters (794 households). The vast majority of these are single-family households (774). Considering that the majority of rental units contain two bedrooms or fewer (69%), future affordable housing development should reflect continued need for 3+ bedroom rental units for larger families.

Describe the need for specific types of housing.

The community survey indicates a high need for family housing, senior housing, housing that accepts Section 8 vouchers, new affordable rental units, and new housing for homeownership. Community members also noted the need for affordable senior housing, including one-bedroom rental units. Data discussed in the following section indicates the need for rental housing for very low income households and for-sale housing that is affordable based at median income levels.

MA-15 HOUSING MARKET ANALYSIS: COST OF HOUSING - 91.210(A)

Introduction

This section reviews housing costs and affordability in Gainesville. As a general rule, Gainesville has tended to have slightly higher housing costs than Georgia as a whole based upon the access to the lake and the volume of historic homes within the city. This continues to be true for for-sale housing. As Table 29 shows, median home value in Gainesville is estimated at \$172,300 according to 2013-2017 ACS data. The median value throughout Georgia is \$158,400. The median household income in Gainesville, \$41,250, is significantly below the statewide median of \$52,977. This higher cost, combined with lower median wages, indicate a likely shortage of affordable for-sale housing. This could be a cause of the city's below-average home ownership rates as residents are unable to purchase homes and remain in rental housing.

Based on 2013-2017 ACS data, median rent in Gainesville is \$702, which is below the statewide median of \$733. About 68% of Gainesville rental units cost between \$500 and \$999 a month, and 17% have rents under \$500 a month. Rental rates are \$1,000 or more for 15% of rental housing units. Public engagement conducted as part of the Consolidated Plan process indicates that this data on housing costs may be outdated, as stakeholders believed rents of \$1,000 or more were becoming increasingly common and that a unit with a rent under \$700 was almost nonexistent.

The need for improvement or construction of affordable rental units is the most commonly identified housing issue in Gainesville, with data and local perceptions both indicating affordability issues, particularly for households with incomes below 80% of the area median.

Ability to afford housing is tied to other needs identified in the community, including homelessness, housing and services for people with disabilities, senior housing, and availability of housing for people re-entering the community from long-term care facilities or other institutions.

Cost of Housing

TABLE 29 – COST OF HOUSING

Cost of Housing	Base Year: 2000	Most Recent Year: 2017	% Change
Median Home Value	\$129,500	\$172,300	33%
Median Contract Rent	\$522	\$702	34%

Data Source: 2000 Census (Base Year), 2013-2017 ACS (Most Recent Year)

TABLE 30 - RENT PAID

Rent Paid	Number	Percent
Less than \$500	1,353	17%
\$500-999	5,295	68%
\$1,000-1,499	915	12%
\$1,500-1,999	94	1%
\$2,000 or more	169	2%
Total	7,826	100%

Data Source: 2013-2017 ACS

Housing Affordability

TABLE 31 – HOUSING AFFORDABILITY

Units Affordable to Households Earning	Renter	Owner
30% HAMFI	760	No Data
50% HAMFI	1,300	1,740
80% HAMFI	4,685	1,150
100% HAMFI	No Data	575
Total	6,745	3,465

Data Source: 2011-2015 CHAS

Monthly Rent

TABLE 32 – FISCAL YEAR 2018 HOME AND FAIR MARKET RENTS FOR HALL COUNTY

Monthly Rent (\$)	Efficiency (no bedroom)	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom
Fair Market Rent	\$682	\$725	\$847	\$1,108	\$1,190
High HOME Rent	\$682	\$725	\$847	\$1,092	\$1,190
Low HOME Rent	\$562	\$602	\$722	\$835	\$931

Data Source: HUD FMR and HOME Rents

Is there sufficient housing for households at all income levels?

Table 31 estimates the number of units in Gainesville affordable to renters and owners at a variety of income levels, which can be compared to the number of households at each income level, as provided in Table 8 of the Needs Assessment.

According to CHAS estimates, there are 1,775 renters with incomes under 30% HAMFI, but only 565 rental units affordable at that income level are reported in Table 31. Thus, there is insufficient rental housing for

households with very low incomes. At other income levels, there appear to be a sufficient number of renter units affordable to renter households at that income level. However, these figures do not take into account unit condition or size; nor do they reflect the possibility that a unit that would be affordable to a low or moderate income household may be unavailable to them because it is occupied by a higher income household.

Turning to owners, there are an estimated 784 owner households with incomes at or below 50% HAMFI in Gainesville, but Table 31 reports only 490 owner-occupied housing units affordable at that income level. This leaves a deficit of 294 affordable owner-occupied units. At the next income levels there appear to be adequate affordable units. As with rental housing, these figures do not take into account housing size or condition, or the possibility that higher income households will choose to occupy lower cost units.

The National Low Income Housing Coalition's Out of Reach data examines rental housing rates relative to income levels for counties and metro areas throughout the U.S. To afford a two-bedroom rental unit at Hall County's Fair Market Rent (FMR) of \$725 without being cost burdened would require an annual wage of \$29,000. This amount translates to a 40-hour work week at an hourly wage of \$14, a 77-hour work week at minimum wage, or a 37-hour work week at the county's average renter wage of \$16.28. To afford a three-bedroom unit at the FMR of \$1,108 would require an annual wage of \$44,320.

How is affordability of housing likely to change considering changes to home values and/or rents?

Table 29 shows that median home value increased by 33% from the 2000 Census to the 2013-2017 ACS, and median rent increased by 34%. While home values may have fallen and rents stagnated within that period during the Great Recession, they have since recovered, and affordability has, in turn, decreased. A tight rental market and a lack of affordable for-sale housing and slow wage growth all indicate that housing affordability is likely to continue as an issue in Gainesville.

How do HOME rents / Fair Market Rent compare to Area Median Rent? How might this impact your strategy to produce or preserve affordable housing?

Table 32 above shows HUD Fair Market Rents and HOME rents for Hall County. The median contract rent of \$702 is roughly between the fair market rent an efficiency housing unit and a one bedroom. With about 85% of rents in Gainesville under \$1,000 per month, rental housing should be available at fair market rents for nearly all unit sizes.

Note that this data does not reflect housing condition, which is an important consideration. While the rent may be affordable, substandard housing conditions may make a unit unsafe or lead to exceptionally high utility costs, negating any savings in rent as compared to a more expensive unit.

Discussion

Based on 2013-2017 ACS data provided by HUD, it appears that there is a need for additional housing for those at or below 30% HAMFI. There are only 565 rental units identified that meet, resulting in a shortage

of 1,210 units compared to households in this group. This also supports the need for Section 202 and Section 8 developments. There is also a need for owner housing for those at or below 50% HAMFI.

MA-20 HOUSING MARKET ANALYSIS: CONDITION OF HOUSING – 91.210(A)

Introduction

This section examines the condition of housing in Gainesville, including the presence of selected housing conditions: (1) lack of complete plumbing facilities, (2) lack of complete kitchen facilities, (3) more than one person per room, and (4) cost burden greater than 30%. This section also examines the age of housing stock, vacancy rate and suitability of vacant housing for rehabilitation, and the risk of lead-based paint hazards.

According to 2013-2017 ACS estimates, about 40% of rental units and one-quarter of owner units have one of the selected housing conditions. CHAS data discussed in the Needs Assessment indicates that cost burdens are by far the most common housing condition. Less than 1% of owner units have two or more selected conditions (14 units). For renters, 8% of units have two conditions (651 units), and none have three or more conditions. These figures indicate that rental units are more likely to be physically substandard (i.e., lack a complete kitchen or plumbing).

Age of housing reflects periods of development in Gainesville. The city contains a significant supply of housing built prior to 1980, which is split fairly evenly between renters and owners. A much larger percentage of renter units (39%) were built from 1980-1999 than owner units (27%). The newest units, built after 2000, contain a higher percentage of owners (30%) than renters (20%). It is important to note that the absolute number of rental households outnumber owner households in each category because of the greater overall number of rental units. While some older homes may be well-maintained, the considerable share of housing built prior to 1980 indicates potential need for rehabilitation assistance.

Describe the jurisdiction’s definition for “substandard condition” and “standard condition but suitable for rehabilitation.”

For the purpose of this Consolidated Plan, the City of Gainesville defines units to be in “standard condition” if they meet HUD Section 8 housing quality standards. A unit is defined as “substandard” if it lacks complete plumbing, a complete kitchen, or heating fuel (or uses heating fuel that is wood, kerosene, or coal). A unit is “substandard but suitable for rehabilitation” if it lacks complete plumbing, a complete kitchen or a reliable and safe heating system but has some limited infrastructure that can be improved upon. These units are likely to have deferred maintenance and may have some structural damage such as leaking roofs, deteriorated interior surfaces, and inadequate insulation. They may not be part of public water or sewer systems, but will have sufficient systems to allow for clean water and adequate waste disposal.

There are an estimated 1,380 vacant housing units in Gainesville. The City does not have counts of units that are substandard, substandard but suitable for rehabilitation, abandoned, or real estate owned (REO

properties), as this would require evaluating units on a house-by-house basis. In general, however, units with more than one substandard condition and older units are more difficult to rehabilitate. A rough assessment of conditions can be made by considering housing age and absence of basic amenities.

Condition of Units

TABLE 33 - CONDITION OF UNITS

Condition	Owners		Renters	
	Number	Percent	Number	Percent
With one selected condition	1,106	24%	3,477	43%
With two selected conditions	0	0%	651	8%
With three selected conditions	14	0%	40	0%
With four selected conditions	0	0%	26	0%
No selected conditions	3,446	75%	3,822	48%
Total	4,566	100%	8,016	100%

Data Source: 2013-2017 ACS

Year Unit Built

TABLE 34 – YEAR UNIT BUILT

Year Unit Built	Owners		Renters	
	Number	Percent	Number	Percent
2000 or later	1,375	30%	1,636	20%
1980-1999	1,236	27%	3,153	39%
1950-1979	1,592	35%	2,534	32%
Before 1950	363	8%	693	9%
Total	4,566	99%	8,016	100%

Data Source: 2013-2017 ACS

Risk of Lead-Based Paint Hazard

TABLE 35 – RISK OF LEAD-BASED PAINT

Risk of Lead-Based Paint Hazard	Owners		Renters	
	Number	Percent	Number	Percent
Total units built before 1980	1,955	43%	3,227	40%
Housing units built before 1980 with young children (age 6 or younger) present	165	4%	840	11%

Data Source: 2013-2017 ACS (Total Units) 2011-2015 CHAS (Units with Children present)

Vacant Units

TABLE 36 - VACANT UNITS

Vacant Units	Number	Percent
For rent	593	43%
For sale	84	6%
Rented or sold but not occupied	84	6%
For seasonal, recreational, or occasional use	120	9%
Other vacancies	499	36%
Total	1,380	100%

Data Source: 2013-2017 ACS

Describe the need for owner and rental rehabilitation based on the condition of the jurisdictions' housing.

Community input from local stakeholders and residents indicates substantial need for rental housing rehabilitation. Survey respondents ranked “grants to improve affordable rental housing,” as the highest need among those listed. Data regarding housing conditions indicates that 465 rental units in Gainesville have at least two housing conditions, which are likely to include cost burdens and one other condition (overcrowding, lack of complete kitchen, or lack of complete plumbing). CHAS data from the Needs Assessment indicates that there are 30 renter households with incomes below the area median who lack complete kitchens or plumbing. Additionally, one in ten rental housing units was built before 1950, indicating the highest risk for deferred maintenance and rehabilitation need. Additionally, a third of rental housing was built between 1950 and 1980, and as this housing ages, maintenance needs will continue to grow.

Rehabilitation for owner-occupied units was not mentioned as frequently by stakeholders, although just under half of survey respondents indicated that there is a high need for “help for homeowners to make housing improvements.” Owners are less likely to lack complete kitchens or plumbing, and therefore are less likely to live in substandard housing. However, housing age indicates that some owner-occupied units are at risk of deferred maintenance and may currently or in the near future be in need of some rehabilitation, given that nearly half of units were built prior to 1980. Additionally, seniors living on Social Security or retirement income may have paid off their mortgages but are now unable to afford necessary repairs and maintenance as their homes age.

Estimate the number of housing units within the jurisdiction that are occupied by low or moderate income families that contain lead-based paint hazards.

Exposure to lead-based paint represents one of the most significant environmental threats from a housing perspective. Housing conditions can significantly affect public health, and exposure to lead may cause a range of health problems for adults and children. The major source of lead exposure comes from lead-contaminated dust found in deteriorating buildings, including residential properties built before 1978 that contain lead-based paint.

Unfortunately, measuring the exact number of housing units with lead-based paint hazards is difficult. However, risk factors for exposure to lead include housing old enough to have been initially painted with lead-based paint (i.e., pre-1978), households that include young children, and households in poverty. Table 34 identifies the total number of housing units built before 1980, and the total number of renter and owner units built before 1980 that house children under age 6. As shown, this includes 165 owner-occupied units (or 4% of total owner-occupied housing) and 840 renter-occupied units (or 11% of total renter-occupied housing) with at least two risk factors for exposure to lead-based paint.

Broadband Access Availability

As discussed in NA-10, broadband internet is increasingly necessary for adults to access job ads and applications, online continuing education and college programs, and social service and housing resources. For children and teens, online education resources are also important. There are three considerations to be taken into account in assessing internet access: (1) need for broadband wiring and for connections to broadband service; (2) competitive pricing and service resulting from having more than one internet service provider within an area; and (3) affordability of broadband service for low- and moderate-income households.

According to the Federal Communication Commission's database and maps of broadband availability, 99.3% of Gainesville's population lives in areas with access to three or more service providers offering internet service at download speeds of 25 megabits per second (Mbps) or higher and upload speeds of 3 Mbps, which would be sufficient for most use. The remaining 0.7% of the population has access to two providers with these speeds. The FCC's data indicates that the availability of broadband connections through a variety of providers should not be an issue in Gainesville.

Despite the availability of several internet access providers, affordability may still be a challenge for many low- and moderate-income households, including homeless individuals and families. As discussed in the Needs Assessment, several organizations providing housing or otherwise serving the Gainesville community do provide computer and internet access, including the Gainesville Housing Authority, Gainesville City Schools, Gainesville-Hall County Senior Life Center, Hall County Public Libraries, and others. Additionally, the City of Gainesville provides free public wireless internet at several areas in the city.

Environmental Resiliency

The impacts of environmental hazards on low- and moderate-income households is an important consideration for regional planners, city staff, and housing and service providers in Gainesville. The Hall County Emergency Management Agency (EMA) provides emergency preparedness and management for residents living in Gainesville. In 2017, the County adopted a Hazard Mitigate Update covering 2016 through 2021, and Gainesville and other cities in the county signed onto the plan. The Update identified hazards most likely to impact the County and each of its cities. According to this assessment, Gainesville is most vulnerable severe weather (such as lightning, thunderstorms, and hailstorms), high wind, tornadoes, and drought. Each of these hazards have a high probability of occurring, may occur frequently, and may be extremely severe.

To mitigate environmental hazards in the County, EMA identified a variety of techniques focused primarily on prevention, emergency services, and public education and awareness. High priority hazards mitigation techniques include:

- Utilize planning and zoning regulations to deter development in flood plains
- Enforce building design standards related to flooding
- Maintain National Flood Insurance Program (NFIP) compliance
- Purchase and install outdoor warning sirens
- Create a community outreach program regarding winter storms, particularly roof damage and regulation
- Create a community education campaign regarding safe sheltering during tornadoes/severe thunderstorms
- Utilize Firewise Communities program to inform public about threat of wildfires and encourage planning initiatives
- Institute water use ordinances and enforce water use ordinances currently in place
- Update inventory of generators at critical facilities
- Maintain generators at all critical facilities
- Maintain safety procedures/policies/plans in accordance with state and federal regulations
- Maintain an active and viable Local Emergency Planning Committee (LEPC)
- Continue to train and equip first responders in hazardous materials operations

Over the next few years, Hall County EMA, Hall County Public Works, Hall County and municipal fire departments, municipal planning departments, and other partners will work to implement these and other strategies to prevent and mitigate natural and manmade hazards.

MA-25 PUBLIC AND ASSISTED HOUSING – 91.210(B)

Introduction

Public housing in the city of Gainesville is managed by the Gainesville Housing Authority. The quasi-governmental authority is governed by a five-member board of commissioners appointed by the mayor of Gainesville. GHA manages a total of 486 public housing units in Gainesville and receives federal funds to modernize and repair those units. The City of Gainesville Community Development Department works closely with the Housing Authority to offer financial literacy classes to public housing residents and other citizens. Efforts are also being made to identify Housing Authority residents that may be ready for homeownership and then directing them to the City's down payment assistance program which is available to assist residents with purchasing a new home. Such actions will help housing authority residents become more independent and make units available for other families with affordable housing needs.

The City of Gainesville does not manage or oversee GHA funds. The questions in this section are answered only from the perspective of the PHA.

Totals Number of Units

TABLE 37 – TOTAL NUMBER OF UNITS BY PROGRAM TYPE

	Program Type								
	Certificate	Mod-Rehab	Public Housing	Vouchers					
				Total	Project - based	Tenant - based	Special Purpose Voucher		
							Veterans Affairs Supportive Housing	Family Unification Program	Disabled*
# of units vouchers available			495						
# of accessible units									

***Note:** Includes Non-Elderly Disabled, Mainstream One-Year, Mainstream Five-Year, and Nursing Home Transition

Data Source: PIC (PIH Information Center)

Describe the supply of public housing developments. Describe the number and physical condition of public housing units in the jurisdiction, including those that are participating in an approved Public Housing Agency Plan.

The GHA manages two large complexes and a number of scattered sites. Melrose Homes contains 114 units, Harrison Square contains 75, and there are 168 scattered site units. The units range from efficiencies to five bedroom units. In 2018, a Low Income Housing Tax Credit development known as Walton Summit opened replacing 131 GHA-owned units of functionally obsolete public housing. When all three phases of Walton Summit are complete, the development will contain over 250 units, a mixture of public housing, income-restricted, and market rate units.

The GHA operates a total of 486 units of public housing. Melrose Homes contains 114 units, Harrison Square contains 75, there are 168 scattered site units, and additional public housing units in the new Walton Summit development. Inspection scores for the two public housing properties are provided in Table 38. These have decreased by an average of about nine points from the scores five years ago, indicating a decline in property conditions.

Public Housing Condition

TABLE 38 - PUBLIC HOUSING CONDITION

Public Housing Development	Average Inspection Score
Harrison Square	76
Melrose Homes	73

Data Source: HUD Physical Inspection Scores

Describe the restoration and revitalization needs of public housing units in the jurisdiction.

The GHA is pursuing programs and tools to update the community's public housing inventory. Green Hunter Homes, a 131-unit public housing property, was demolished to make way for the Walton Summit; approximately 40 of the new units will be public housing once all phases of the project are completed. Melrose and Harrison Square are both older properties that carry significant ongoing maintenance costs. The GHA is applying to HUD for the ability to convert these remaining public housing units under the Rental Assistance Demonstration (RAD) program. If approved, this would give the GHA opportunities to leverage its real estate assets to replace and/or rehabilitate these units.

Describe the public housing agency's strategy for improving the living environment of low- and moderate-income families residing in public housing.

In addition to routine maintenance and lawn care the GHA offers 24/7 emergency services for residents. The Authority also partners with area organizations to offer additional opportunities for residents including the following:

- English classes
- Income tax assistance
- Case management
- Adult Computer Classes
- Childcare
- Credit Issues
- Community Services
- Educational Goals
- Employment Readiness
- Financial Literacy
- Housing
- Home-ownership Counseling
- Disability Counseling
- Support Services
- Nutrition
- Healthcare
- Accessible Resources
- Senior Employment Volunteer Opportunities

Additionally, the Resident Opportunity and Supportive Services Program (ROSS) supports public housing residents by linking them with valuable community resources to obtain economic self-sufficiency, independence, improved quality of life, and in some cases, helping individuals maintain stable housing as they age.

MA-30 HOMELESS FACILITIES AND SERVICES – 91.210(C)

Introduction

Survey results indicate high levels of need for all homelessness services, especially access to homeless shelters, homelessness prevention, and permanent housing.

There are approximately 98 total beds offered for the homeless by seven agencies in the City of Gainesville. These include both emergency and transitional beds for individuals and for families. The majority of the funding for homeless services is provided by the Georgia Department of Community Affairs through the “Balance of State Continuum of Care”. Funding is the greatest obstacle to addressing this goal.

Several organizations operating in Gainesville provide facilities and/or housing targeted to the homeless. These are described in detail below. The table below summarizes the number of beds and units that are available within Hall County.

Facilities and Housing Targeted to Homeless Households

TABLE 39 - FACILITIES AND HOUSING TARGETED TO HOMELESS HOUSEHOLDS

	Emergency Shelter Beds		Transitional Housing Beds	Permanent Supportive Housing Beds	
	Year Round Beds (Current & New)	Voucher / Seasonal / Overflow Beds	Current & New	Current & New	Under Development
Households with adult(s) and child(ren)	32	66			
Households with only adults					
Chronically homeless households					
Veterans					
Unaccompanied youth					

Data Source: Review of local providers by Mosaic Community Planning

Describe mainstream services, such as health, mental health, and employment services to the extent those services are used to complement services targeted to homeless persons.

A variety of mainstream services are available to complement the other more targeted services offered to people who are homeless, however, their availability is often constrained due to funding. These mainstream services, while not specifically designed for or targeted to people who are homeless, are available and accessible to them and can support their access to healthcare and employment opportunities.

The City of Gainesville is home to the main campus for the Northeast Georgia Health System (NGHS), a regional not-for-profit community health system in northeast Georgia. NGHS offers a full range of healthcare services. The flagship Gainesville Hospital features capacity for 557 inpatients, including 261-skilled nursing beds, a Level II Trauma Center, 23 operating rooms, emergency services, a 32-bed Intensive Care Unit (ICU), the Ronnie Green Heart Center (18-bed Cardiovascular ICU and 17-Bed Critical Care Unit), and Women & Children's Pavilion with Level III Neonatal Intensive Care Unit (NICU). Additional facilities in Hall County include: seven urgent care centers, a mental health and substance abuse treatment center, a satellite cancer treatment center, long-term care centers, six outpatient physical, occupational and speech therapy locations, and in-home services such as hospice.

The Hall County Library provides resources and services for the purpose of information, education, business, and recreational needs. The Hall County Library provides the public with access to the internet and computers provided for adults and children library cardholders, a computer lab for computer classes is offered, public meeting rooms are available for non-profit organizations, reference assistance and referrals are provided, consumer reports and legal forms are available, reader's advisory assistance is offered, reading, literacy, and educational programs are offered for children and adults.

The Atlanta Office of Consumer Credit Counseling Service has a local branch and provides credit counseling to the public and teaches the credit sessions of the local home buyer education classes. These services include budget counseling, debt management plans, and community outreach activities. The Georgia Department of Labor provides job placement, unemployment insurance, vocational rehabilitation, job search assistance, and job training services at the Gainesville Career Center, which serves five counties (Dawson, Forsyth, Hall, Lumpkin, and White).

List and describe services and facilities that meet the needs of homeless persons, particularly chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth. If the services and facilities are listed on screen SP-40 Institutional Delivery Structure or screen MA-35 Special Needs Facilities and Services, describe how these facilities and services specifically address the needs of these populations.

Gainesville Action Ministries

The primary function of Gainesville Action Ministries is to assist individuals and families struggling with the issues of homelessness. The ministry combines programs of emergency financial assistance, food and clothing assistance, and other in-kind relief with case management and referrals to other local resources

available to people in crisis. They also provide educational programs. The primary groups served are the working poor struggling with homelessness and the elderly.

The Salvation Army

The Salvation Army provides food, shelter, and clothing. Most of their services target the temporary homeless population; they do however also serve several chronically homeless. They offer adult rehabilitation, emergency disaster services, emergency financial assistance, housing and homeless services, hunger relief, and youth services.

Gateway Domestic Violence Center

The Gateway Domestic Violence Center provides services to women and children who are victims of domestic violence. They provide a crisis hotline, food, shelter, clothing, toiletries, medicine, transportation, support groups, life skills training, occupational therapy, legal advocacy, community outreach, and case management.

Gainesville City Baptist Rescue Mission

The Gainesville City Baptist Rescue Mission provides food, shelter, and clothes to homeless men in the City of Gainesville.

Avita Community Partners

Avita Community Partners promotes safe, stable, and meaningful lives for citizens within a 13-county area of northeast Georgia. They provide services and programs such as mental health services, addictive diseases services, and child and adolescent services. They also provide crisis apartments for clients.

Ninth District Opportunity

NDO's housing programs are designed to assist households that are currently homeless or in imminent danger of becoming homeless with the establishment of long-term housing stability through limited financial assistance and intense case management services. Enrollment in the agency's housing programs are limited to applicants that are either literally homeless or are in imminent risk of eviction that meet the program income requirements (50% AMI for ReHousing and 30% AMI for Prevention) and have demonstrated a lack of resources that would allow them to resolve the crisis without program intervention.

Ninth District Opportunity's Community Services Department works directly with low-income families to reduce the impact of poverty in the local communities of North Georgia. Each participant is evaluated in ten dimensions to determine the barriers to self-sufficiency and establish an achievable work plan customized to the individual household needs.

Services offered through the Community Services department:

- Community Resource Coordination
- Crisis Rent and Utility Assistance
- Emergency Food Assistance
- Family Development Counseling
- Income Management Counseling
- Employment Counseling
- Work Experience Placement
- SSI Advocacy (SOAR Certified)

- Education Counseling and Referral Services
- Transportation Assistance
- Indigent Medication Assistance
- SNAP (Food Stamp) Applications

Family Promise of Hall County

After a 90 day case management program, families may participate in the Next Step Affordable Housing Program, which uses houses donated to be used as rental properties. Families pay monthly rent based on their income. Their utilities are covered by that rent payment and the remainder is deposited into a savings account for the family.

My Sister's Place, Inc.

My Sister's Place provides homeless shelter for women and their children. The organization also provides for immediate needs like food, shelter, transportation and clothing.

MA-35 SPECIAL NEEDS FACILITIES AND SERVICES – 91.210(D)

Introduction

This section describes the housing and social service needs of Gainesville's special populations including the elderly, frail elderly, domestic violence victims, residents with diagnosis of HIV/AIDS, and residents with substance abuse, mental health, or disability diagnosis.

Including the elderly, frail elderly, persons with disabilities (mental, physical, developmental), persons with alcohol or other drug addictions, persons with HIV/AIDS and their families, public housing residents and any other categories the jurisdiction may specify, describe their supportive housing needs.

The primary housing and supportive needs of these subpopulations (the elderly, frail elderly, persons with disabilities, persons with HIV/AIDS and their families, persons with alcohol or drug addiction, victims of domestic violence, and persons with a criminal record and their families) were determined by input from both service providers and the public through the survey, public meetings, and stakeholder interviews. These needs include affordable, safe housing opportunities in areas with access to transportation, commercial and job centers, and social services including counseling and case management.

Persons with disabilities often require accessible features and ground floor housing units and use of supportive/therapeutic animals. Victims of domestic violence need safe housing, removal of barriers to relocation, and protection from perpetrators. Persons with criminal records and their families may be disqualified from public housing or Housing Choice Voucher assistance, and accordingly, assistance with housing for low-income members of this subpopulation must be provided by other nongovernmental organizations.

Describe programs for ensuring that persons returning from mental and physical health institutions receive appropriate supportive housing.

Supportive housing is frequently a need for people with mental health and substance abuse disorders after being discharged from inpatient treatment in order to prevent homelessness. Local service providers are well-networked and often make referrals to one another to provide shelter, temporary food, clothing, and other immediate services.

Specify the activities that the jurisdiction plans to undertake during the next year to address the housing and supportive services needs identified in accordance with 91.215(e) with respect to persons who are not homeless but have other special needs. Link to one-year goals. 91.315(e)

Gainesville's first year Annual Action Plan specifies the activities the jurisdiction plans to undertake in the coming program year. While the plan does not include activities specifically targeted to these non-homeless special needs populations, several activities are expected to provide a community-wide benefit which will support some of the unique needs of people within these subpopulations.

MA-40 BARRIERS TO AFFORDABLE HOUSING – 91.210(E)

Describe any negative effects of public policies on affordable housing and residential investment.

Market data and stakeholder input both suggest a tight housing market in Gainesville, with low vacancy rates and increasing housing costs. While the market depends largely on the private sector to provide housing, there are roles the City and others can play through policy and regulation that may encourage greater private investment in new housing development in Gainesville.

Several aspects of the City's zoning code could potentially have a negative effect on housing development. For example, the City may want to consider adopting means to allow more flexibility in density and affordable housing development by carving out additional residential zoning districts or subdistricts that allow for a greater mix of housing types, lower minimum lot sizes, and higher multifamily density, and other alternatives such as relaxing the infill residential development standards, providing for cluster developments, density blending, and transfer of development rights in appropriate locations. Permitting or incentivizing conversion of single-family dwellings in high opportunity intown neighborhoods to two-family, 3-family, or multifamily dwellings on large lots also is a strategic way to address the need for more density and infill development in established neighborhoods.

Moreover, the City's land use regulations could go beyond just meeting the minimum FHA standards and affirmatively further and incentivize the development of affordable housing with inclusionary zoning policies. Gainesville has not adopted specific development incentives like density bonuses, reduced parking, or design waivers, reduced or waiver of development impact fees, administrative variances, or expedited permitting for the development of affordable or low-income housing or housing for protected classes.

Taken together, these zoning tools could potentially allow for more supply of housing, which helps put downward pressure on rental and sale prices, so that moderate and low-income families have access to those neighborhoods and all the congruent benefits that come with higher opportunity areas such as access to jobs, better schools, access to transportation, and access to cultural amenities and public accommodations.

MA-45 NON-HOUSING COMMUNITY DEVELOPMENT ASSETS – 91.215 (F)

Introduction

Gainesville and Hall County benefit from a growing and diverse economic base. From 2010 to 2015, the number of jobs in the city increased by 9,807 or 31%. Within Gainesville, largest employment sectors are: (1) education and health care services and (2) manufacturing. According to the Georgia Mountains Regional Commission's *Georgia Mountains Comprehensive Economic Development Strategy & Regional Plan* (CEDS), manufacturing is the most prominent form of employment in the region, with a significant number of those employees working in the food processing industry (particularly poultry processing) around Gainesville.

Following manufacturing, the region's most common employment sectors are retail trade, health care, and accommodation/food services. Recent trends indicate a decline in goods production sectors and an increase in commercial and medical services sectors.

This section examines Gainesville's economic development assets and needs aside from housing, including business activity, workforce, economic activities, and educational attainment.

Business Activity

TABLE 40 - BUSINESS ACTIVITY

Business by Sector	Number of Workers	Number of Jobs	Share of Workers	Share of Jobs	Jobs less Workers
Agriculture, Mining, Oil & Gas Extraction	357	50	2%	0%	(2%)
Arts, Entertainment, Accommodations	1,507	2,893	9%	7%	(2%)
Construction	1,475	969	9%	2%	(7%)
Education and Health Care Services	2,718	13,348	16%	32%	16%
Finance, Insurance, and Real Estate	534	1,633	3%	4%	1%
Information	242	408	1%	1%	0%
Manufacturing	4,256	8,747	25%	21%	(4%)
Other Services	789	590	5%	1%	(4%)
Professional, Scientific, Management Services	1,539	4,226	9%	10%	1%
Public Administration	425	2,367	3%	6%	3%
Retail Trade	1,829	4,064	11%	10%	(1%)
Transportation, Warehousing, Utilities	541	759	3%	2%	(1%)
Wholesale Trade	505	1,353	3%	3%	0%
Total	16,717	41,407	100%	100%	--

Data Source: 2011-2015 ACS (Workers), 2015 Longitudinal Employer-Household Dynamics (Jobs)

Labor Force

TABLE 41 - LABOR FORCE

Total population in the civilian labor force	17,655
Civilian employed population 16 years and over	16,999
Unemployment rate	3.7%
Unemployment rate for ages 16-24	5.1%
Unemployment rate for ages 25-65	3.6%

Data Source: 2013-2017 ACS

TABLE 42 – OCCUPATIONS BY SECTOR

Occupations by Sector	Number	Percent
Management, business, and financial	1,510	9%
Science and arts	2,419	14%
Farming, fisheries, and forestry	157	1%
Service	2,934	17%
Sales and office	3,719	22%
Construction, extraction, maintenance, and repair	1,604	9%
Production, transportation, and material moving	4,656	27%
Total	16,999	100%

Data Source: 2013-2017 ACS

Travel Time

TABLE 43 – TRAVEL TIME

Travel Time	Number	Percentage
< 30 Minutes	11,725	72%
30-59 Minutes	3,506	22%
60 or More Minutes	1,041	6%
Total	16,272	100%

Data Source: 2013-2017 ACS

Education

TABLE 44 - EDUCATIONAL ATTAINMENT BY EMPLOYMENT STATUS (POPULATION AGE 25 TO 64)

Educational Attainment	In Labor Force		Not in Labor Force
	Civilian Employed	Unemployed	
Less than high school graduate	3,713	139	1,219
High school graduate (includes equivalency)	3,060	75	1,512
Some college or Associate's degree	3,257	115	867
Bachelor's degree or higher	3,199	164	491

Data Source: 2013-2017 ACS

TABLE 45 - EDUCATIONAL ATTAINMENT BY AGE

Educational Attainment	Age				
	18–24 yrs	25–34 yrs	35–44 yrs	45–64 yrs	65+ yrs
Less than 9th grade	70	710	1,175	1,217	457
9th to 12th grade, no diploma	735	572	894	503	370
High school graduate, GED, or alternative	1,193	1,781	1,135	1,731	1,249
Some college, no degree	2,032	1,193	677	1,277	846
Associate's degree	182	448	240	404	225
Bachelor's degree	200	714	382	1,302	925
Graduate or professional degree	0	246	450	760	479

Data Source: 2013-2017 ACS

TABLE 46 – MEDIAN EARNINGS IN THE PAST 12 MONTHS BY EDUCATIONAL ATTAINMENT

Educational Attainment	Median Earnings in the Past 12 Months
Less than high school graduate	\$21,365
High school graduate (includes equivalency)	\$26,693
Some college or Associate's degree	\$29,695
Bachelor's degree	\$50,487
Graduate or professional degree	\$52,439

Data Source: 2013-2017 ACS

Based on the business activity table above, what are the major employment sectors within your jurisdiction?

As shown in the Business Activity table, Gainesville's largest employment sectors are education and health care services (13,348 jobs or 32%), manufacturing (8,747 jobs or 21%), professional, scientific, and management services (4,226 jobs or 10%), and retail trade (4,064 jobs or 10%).

According to the Greater Hall Chamber of Commerce, the five largest employers in Hall County include Northeast Georgia Medical Center (8,331 employees), Hall County School System (3,500 employees), Fieldale Farms Corporation (2,550 employees), Victory Processing (1,730 employees), and Hall County Government (1,706 employees). Fieldale Farms Corporation and Victory Processing are both poultry processing companies; combined with three other poultry processing plants in Hall County, the industry employs 8,240 workers countywide.

Looking at employed Gainesville residents (i.e., "number of workers" in Table 40), the largest shares are employed in manufacturing (4,256 workers or 25%), education and health care services (2,718 workers or 16%), and retail trade (1,829 workers or 11%). The biggest mismatch between workers and available jobs in Gainesville is in the education and health care services industry. Nearly one-third (32%) of the city's jobs are in that industry, but it employs only 16% of city residents who work.

Describe the workforce and infrastructure needs of the business community.

The City of Gainesville's *2040 Comprehensive Plan* identifies economic development needs and opportunities, including:

- Need for knowledge workers to serve expanding hospital and medical facilities
- Need to attract businesses that would employ local graduates
- Balanced economic development strategies to include professional/service-oriented sectors and the manufacturing industry
- Industrial development opportunities available within the city's industrial parks and Midtown area
- Repositioning or redevelopment of Lakeshore Mall and adjacent strip retail to improve competitiveness
- Repositioning or redevelopment of small, partially-vacant Class C medical office space to reduce blight
- Continued use of business investment incentives such as opportunity zones and tax allocation districts
- Expanded incentives for economic development, particularly related to redevelopment of grayfields

The Georgia Mountains Regional Commission's Comprehensive Economic Development Strategy planning process also identified needs related to workforce and business infrastructure. Research has shown that regions with a highly educated workforce experience economic growth both in terms of business attraction and higher income levels. Obtaining a college degree or advanced education and training is important to ensure that the workforce's skills match the needs of desired employers. Further, to ensure that workers do not leave the region, jobs that support a well-educated and skilled workforce are important.

Regional issues related to workforce development identified in the CEDS include:

- Lack of labor skills to support a diverse group of industries
- Need for soft skills/workplace skills training to meet industry needs
- Increasing demand for high quality education facilities and programs
- Perception of low educational attainment by local residents

Community stakeholders also noted the need for workforce training and job search assistance for low and moderate income households. Some stakeholders commented that while training and adult education opportunities may be available in Gainesville, people often have difficulty accessing them due to transportation limitations or lack of childcare. They also indicated that a mentoring program may assist people interested in adult education/job training to complete these programs.

Describe any major changes that may have an economic impact, such as planned local or regional public or private sector investments or initiatives that have affected or may affect job and business growth opportunities during the planning period. Describe any needs for workforce development, business support or infrastructure these changes may create.

There are no major changes anticipated that would impact the workforce development, business support, or infrastructure needs identified in this Consolidated Plan. According to the Greater Hall Chamber of Commerce, recent business growth in Gainesville and Hall County includes expansion of several major employers. In 2018, Kubota completed a new 500,000 square foot facility and added 580 jobs; in 2019, Mincey Marble will complete a 350,000 square foot office and manufacturing center in the Gainesville Business Park. The City of Gainesville is working towards a new 1,300-acre business park and Hall County's Gateway Industrial Centre has proposed a 520-acre expansion.

In addition to expansion at industrial sites, economic development and infrastructure improvements in Downtown Gainesville are expected to continue, including new retail, office, and residential space. Public investment will include streetscaping and additional phases of the Midtown Greenway.

Lanier Technical College opened a Hall County campus in Gainesville January 2019 and will include workforce development and adult/continuing education opportunities.

How do the skills and education of the current workforce correspond to employment opportunities in the jurisdiction?

Gainesville's Comprehensive Plan and the region's CEDS both identified the need for skilled labor and knowledge workers in Gainesville and the region. According to the CEDS, the fastest growing occupations in the region through 2022 are anticipated to be physician assistants, health specialties teachers, nursing instructors and teachers, nurse practitioners, physical therapists, and interpreters and translators. Personal care aide, computer hardware engineer, and insulation worker occupations are also predicted to see growth. Of the 15 fastest growing occupations identified in the CEDS, half are in healthcare, computers, and business operations. One-third generally do not require a bachelor's degree.

WorkSource Georgia Mountains manages Workforce Innovation Opportunity Act (WIOA) funds allocated to the Georgia Mountain Region through the Georgia Department of Economic Development. To identify private sector workforce needs, WorkSource Georgia Mountains partners with economic developers and

industry leaders in the region. Their research (as reported in the CEDS) shows that life sciences and healthcare workers are in high demand in the region, with skilled employees needed by the over 27,000 establishments in these sectors. Additionally, employers are looking for workers with soft skills/workplace skills.

Describe any current workforce training initiatives, including those supported by Workforce Investment Boards, community colleges and other organizations. Describe how these efforts will support the jurisdiction's Consolidated Plan.

WorkSource Georgia Mountains funds education and training to ensure individuals have skills necessary to find jobs with family-sustaining wages and meet the workforce needs of regional employers. Workforce training initiatives include:

- Funding for adults to attend a technical school or college for up to 24 months to receive specialized training in a high-demand field
- Training for inmates readying to return to the workforce
- Incumbent training to assist employers with expenses for new/upgraded skills training for existing employees
- Partial employee salary reimbursement for employers participating in on-the-job training program
- Career coaches providing individualized help such as with job searches, applications, and resumes
- GED training and learning coaches in the Gainesville Regional Youth Detention Center
- Youth apprenticeship program
- Youth conference covering topics such as financial health and resume building

Lanier Technical College also offers adult education, including free GED and English literacy classes, and continuing education programs and certifications, in addition to its career-technical education programs available on-campus and online. Several of its academic programs align with the fastest growing occupations in the region, including nursing, physical therapy, dental hygiene, and other health care occupations.

Programs offered by WorkSource Georgia Mountains and Lanier Technical College closely align with workforce development needs identified in the Consolidated Plan, including job skills training, job search assistance, and assistance for residents with limited English proficiency.

Does your jurisdiction participate in a Comprehensive Economic Development Strategy (CEDS)? If so, what economic development initiatives are you undertaking that may be coordinated with the Consolidated Plan? If not, describe other local/regional plans or initiatives that impact economic growth.

The City of Gainesville participates in the CEDS process with the Georgia Mountains Regional Commission. The *2017-2022 Comprehensive Economic Development Strategy and Regional Plan* (CEDS) covers a 13-county region in northeast Georgia. The CEDS culminated with a list of priority projects, each of which addresses specific goals within the CEDS. Priority projects for the City of Gainesville include airport terminal renovations, an additional phase of the Midtown Greenway, stormwater planning, and

development of a wireless hot zone. The Midtown Greenway and stormwater planning align with priorities identified in the Consolidated Plan related to infrastructure development and improved/expanded bike and pedestrian facilities. The wireless hot zone project expands the availability of free wireless internet access in downtown Gainesville.

The CEDS also identified the availability and accessibility of affordable housing as a key component of long-term sustainability and economic development for the region. The development and preservation of affordable housing in Gainesville is a top priority identified in this Consolidated Plan.

MA-50 NEEDS AND MARKET ANALYSIS DISCUSSION

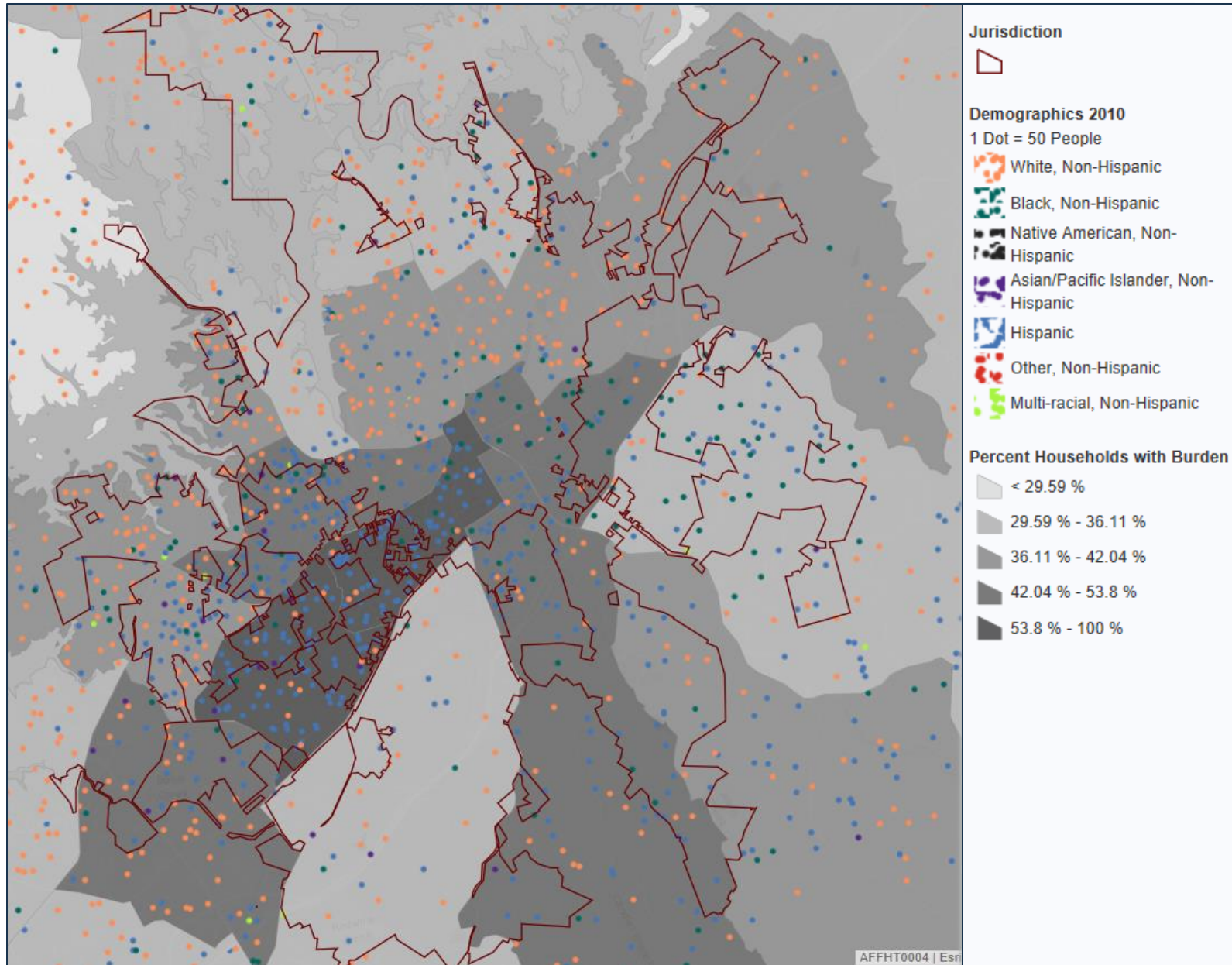
Are there areas where households with multiple housing problems are concentrated? (include a definition of "concentration")

HUD defines four types of housing problems: (1) cost burden of more than 30%, (2) more than 1 person per room, (3) lack of complete kitchen facilities, and (4) lack of complete plumbing facilities. The HUD-provided map on the following page shows the share of households within each census tract that have a least one of these housing problems.

A concentration of households with housing needs is defined as a census tract where more than 40% of households have at least one housing need. Using this definition, there are six census tracts with a concentration of housing problems. Housing problems are most common in two contiguous tracts that include downtown Gainesville and the Westside neighborhood, and extend southeast covering areas in both the city of Gainesville and Hall County (Tracts 11.01 and 11.02). These tracts are roughly bounded by E.E. Butler Parkway to the north, SW Industrial Boulevard and Atlanta Highway to the east, Mountain View Road to the south, and Old Flowery Branch Road / Browns Bridge Road / SW Jesse Jewell Parkway on the west. In the northern tract, including Downtown and Westside, about 71% of households have a housing problem; in the southern tract, about 56% do. In each of these tracts, the majority of the population (75% or more) is Latino.

Five other Gainesville tracts have concentrations of housing problems (Tracts, 7.01, 8, 10.03, 12.01, and 14.03). They are all contiguous with the two tracts discussed above and are generally located on the southern and eastern sides of the city, with extensions into unincorporated Hall County. In these areas, between 47% and 56% of households have one or more housing problems. The Fair Street Area NPU falls within a census tract where just over one-half of households (54%) have one or more housing problems. The racial composition of these tracts vary but they are generally more diverse than the city overall, with higher shares of Hispanic and African American residents than other parts of Gainesville.

FIGURE 3 – HOUSING PROBLEMS IN THE CITY OF GAINESVILLE



Data Source: HUD Affirmatively Furthering Fair Housing Data and Mapping Tool, <https://egis.hud.gov/affht/>

Are there any areas in the jurisdiction where racial or ethnic minorities or low-income families are concentrated? (include a definition of "concentration")

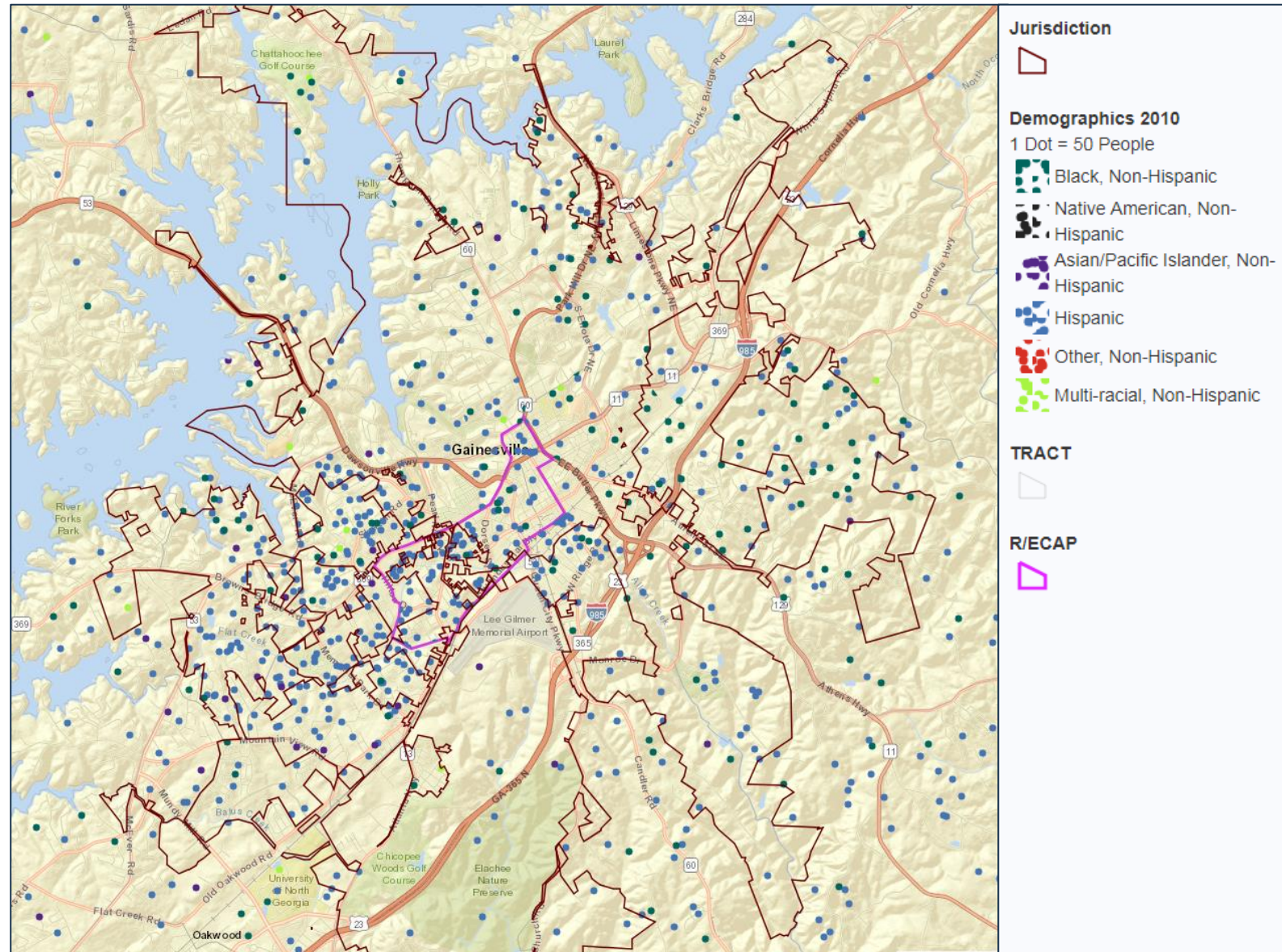
Geographic patterns for people of color living in Gainesville are shown in Figure 4. For this research, a concentration is defined as a census tract in which more than 50% of residents are people of color. There are eight census tracts in Gainesville that meet this definition. Six of these (Tracts 10.02, 10.03, 11.01, 11.02, 12.01, and 12.02) are contiguous tracts all located south of E.E. Butler Parkway extending roughly from Athens Highway on the east to Dawsonville Highway, McEver Road, and Lake Lanier on the west. These tracts cover the Downtown, Midtown, and Westside neighborhoods. Note that the area that includes the airport, Elachee Nature Preserve, and Chicopee Woods golf course is not included. In five of these six tracts, the majority of the population is Latino, ranging from 51 to 84%. In the sixth tract, white residents comprise 49% of the population and Latinos make up 41%. Black population shares range from 2 to 12%.

The remaining two tracts where people of color comprise more than 50% of the population are immediately north of downtown and E.E. Butler Parkway, and include the Fair Street Area NPU and neighborhoods to its east (Tracts 7.01 and 8). In each of these tracts, Latinos and African Americans each make up considerable shares of the population (between 31 and 47%). White residents make up less than one-fifth of people in these tracts.

In its fair housing planning guidance, HUD defines racially or ethnically concentrated areas of poverty where more than one-half of the population are people of color and the individual poverty rate is over 40%. There is one tract in Gainesville that meets this definition (Tract 11.01), which is outlined in pink in Figure 4. This tract includes Downtown, Midtown, and parts of the Westside neighborhood.

HUD also identifies CDBG-eligible block groups where there are concentrations of low- and moderate-income families. In this case, HUD defines a concentration as a block group where low- and moderate-income households make up more than 51% of total households in the block group. As of the 2018 program year, there are 19 such block groups in Gainesville. Notably, 18 of these block groups are located in census tracts that have high rates of housing need and/or populations that are majority people of color.

FIGURE 4 – POPULATION BY BLOCK GROUP FOR PEOPLE OF COLOR IN CITY OF GAINESVILLE, 2010



Data Source: HUD Affirmatively Furthering Fair Housing Data and Mapping Tool, <https://egis.hud.gov/affht/>

What are the characteristics of the market in these areas/neighborhoods?

There are nine census tracts where people of color make up the majority of the population and/or more than 40% of households have one or more housing problems (Tracts 7.01, 8, 10.02, 10.03, 11.01, 11.02, 12.01, 12.02, and 14.03). These tracts also include the majority of Gainesville's low and moderate income block groups. Given the nature of the city's boundaries, several of these tracts also cover portions of unincorporated Hall County as well. Data presented here for these tracts and the city of Gainesville is from the 2013-2017 5-Year American Community Survey.

Most housing units in these areas are renter occupied (51%), which is somewhat lower than the share in the city (64%). It is likely that many of the owned housing units in these tracts lie in unincorporated Hall County rather than within Gainesville city limits. About one-tenth (11%) of housing units in the selected census tracts are vacant, roughly equivalent with the city's 10% vacancy rate.

Looking at structure type, about two-thirds of units in these neighborhoods are single-family. Small multifamily housing (2 to 19 units) makes up 11% and large multifamily properties (20 or more units) constitute 13%. These areas have significantly lower shares of multifamily housing than the city of Gainesville, where one-half of units are in small or large multifamily structures. These census tracts, however, have more mobile homes – about 13% of units there are mobile homes, compared to 2% in the city overall. Again, these shares are likely impacted by the fact that the census tracts of interest span the city and county, picking up several neighborhoods in unincorporated Hall County.

Age of housing in these neighborhoods is similar to the city of Gainesville. About two-fifths of housing units in both areas were built before 1980. Another two-fifths were built from 1980 to 1999, and the remaining one-fifth were constructed since 2000.

Rental rates show lower rents in these neighborhoods. About one-third (34%) of rents in the selected census tracts are under \$750 a month, compared to 28% of rents citywide. More expensive units (rents over \$1,000 a month) comprise 19% of units in the selected tracts, compared to 33% throughout Gainesville.

Home values indicate a similar pattern. About one-third of owned units in the selected neighborhoods are valued below \$100,000 compared to one-fifth of housing units throughout Gainesville. Higher valued housing (\$200,000 or above) makes up 19% of owner-occupied units in the selected tracts versus 40% of units citywide.

Are there any community assets in these areas/neighborhoods?

There are many community assets in these neighborhoods. Downtown Gainesville falls within Tract 11.01, as does the Midtown neighborhood, which includes an Opportunity Zone and Tax Allocation District. Further south in that tract is the Westside Tax Allocation District Redevelopment Area.

North of Downtown, Tract 8 includes Brenau University, the Northeast Georgia Medical Center, and the Gainesville-Hall County Senior Center, along with the Fair Street Area NPU and Newtown Community.

Further south, Lakeshore Mall is located in Tract 10.03. With the Mall identified as a potential redevelopment area, there is potential opportunity for commercial and residential revitalization here. Although outside of the city limits, the University of North Georgia's campus is within Tract 14.03 at the Mundy Mill Road exit off I-985.

Additionally, there are several schools and parks within these neighborhoods, including Fair Street Park, the Midtown Greenway, Myrtle Street Park, Hall County Memorial Park, Allen Creek Soccer Complex, River Forks Park, Fair Street World School, New Holland Knowledge Academy, Lyman Hall Elementary, McEver Arts Academy, and the Gainesville Exploration Academy.

Are there other strategic opportunities in any of these areas?

Several of the community assets identified above represent strategic opportunities for these neighborhoods. The Midtown and Westside Tax Allocation Districts are two significant opportunities for development / redevelopment in the neighborhoods. The Midtown Greenway is designed to increase greenspace and improve connectivity within these areas. The 2015 Downtown Gainesville Strategic Plan outlined key efforts planned for the next several years there, including streetscaping, transit, expanded bike and pedestrian facilities, and infill development. The need to reposition or redevelop the Lakeshore Mall area was identified in the City's *2040 Comprehensive Plan* and represents an opportunity to attract new investment and more competitive commercial space. As new development occurs in these areas, there is an opportunity to attract stores desired by the community such as a grocery store. A potential concern, however, is the increased home prices and rents that may accompany economic development and revitalization.

STRATEGIC PLAN

SP-05 OVERVIEW

Strategic Plan Overview

The Strategic Plan will guide the allocation of Community Development Block Grant funding during the 2019-2023 planning period. The City's goals for the 2019-2023 period focus on a number of high priority needs identified through data analysis, community member input, consultation with City staff and other public agencies, and reviews of relevant recently-completed plans and studies. Available resources are targeted toward several specific goals designed to address those priority needs. These goals include:

- Expanded affordable housing supply
- Homeowners housing rehabilitation
- Homebuyer assistance
- Improved public facilities
- Demolition and acquisition
- Code enforcement and neighborhood revitalization
- Public services and economic opportunities
- General program administration

Projects selected for funding during the five-year period will be managed as efficiently as possible in order to address the wide range of issues that exist. The above-mentioned goals will be used to guide funding decisions for the Annual Action Plans. All funded activities will address at least one goal. Individual strategies identified in this Strategic Plan are potential means to achieve these goals. Not all strategies for achieving a certain goal are listed and not all listed strategies will necessarily be funded.

Guiding principles for the selection of projects include:

- All activities supported by the Consolidated Plan and Annual Action Plans strive to improve the quality of life for Gainesville's low- to-moderate income residents (i.e., residents with incomes under 80% AMI).
- The City of Gainesville encourages agency collaboration and cooperation to improve program outcomes.

SP-10 GEOGRAPHIC PRIORITIES – 91.215 (A)(1)

Geographic Area

TABLE 47 - GEOGRAPHIC PRIORITY AREAS

1	Area name	Hillcrest Avenue
	Area type	Local target area
	Other target area description	Bradford-Ridgewood NPU
	Revitalization type	Comprehensive
	Neighborhood boundaries	Hillcrest Avenue is located within the boundaries of the Bradford-Ridgewood NPU. Bradford-Ridgewood is a historic residential district and contains modest Craftsman bungalows and Tudor/English Vernacular Revival houses from the 1920's through the 1950's, along with scattered townhouse clusters and small apartment buildings.
	Housing and commercial characteristics	Single family, minimal multi-family, no commercial. Housing deterioration, sidewalks, and infrastructure improvements continue to be a concern in this area.
	Consultation and citizen participation	Local residence/citizens helped bring the needs to the attention of staff for this area.
	Target area needs	Housing rehabilitation, demolition of dilapidated buildings, and infrastructure improvements.
	Opportunities for improvement	The NPU vision statement affirms the traditional single-family character of the neighborhood through goals of historic preservation and compatible infill development, enhanced walkability, increased safety and beautification.
2	Barriers to improvement	No.
	Area name	Midtown – Greenway
	Area type	Local target area
	Other target area description	N/A
	Revitalization type	Comprehensive
	Neighborhood boundaries	
	Housing and commercial characteristics	Midtown as the industrial district and rail corridor for the Norfolk Southern Railroad. Midtown also has preserved some of its early manufacturing near the rail lines, but small commercial uses and warehouse retail have replaced most of the scattered housing between MLK Jr. Boulevard and College Avenue.
	Consultation and citizen participation	This area goals and objectives were determined through public meetings as a result of strategic planning and the City of Gainesville's Comprehensive Plan Community Participation Process.
	Target area needs	

TABLE 47 - GEOGRAPHIC PRIORITY AREAS (CONTINUED)

2	Area name	Midtown – Greenway (continued)
	Opportunities for improvement	Recent public improvements to Midtown including the Greenway and the Jesse Jewell pedestrian bridge have begun a long-term transition to more diverse land uses including a mixed-use core along Main and Bradford streets; flanking multifamily (ideally mixed-income) housing; a multimodal transportation node at the Amtrak station; and an office / conference / hospitality extension of Downtown across Jesse Jewell Parkway.
	Barriers to improvement	There are brownfield issues that will need to be addressed.
3	Area name	Newtown Community
	Area type	Local target area
	Other target area description	Fair Street NPU
	Revitalization type	Comprehensive
	Neighborhood boundaries	Newtown is located within Fair Street Neighborhood Planning Unit (NPU). The two neighborhoods are divided by M.L. King Jr. Boulevard. The Norfolk-Southern railroad and the city limit creates the remaining boundary for Newton area.
	Housing and commercial characteristics	Newtown is a traditional neighborhood of Craftsman bungalows, small vernacular cottages and ranch houses from the 1920s through the 1960s. It has a rich African American heritage and strong sense of community. However, the proximity to Downtown and the peripheral highways have contributed to commercial encroachment.
	Consultation and citizen participation	A Public Workshop was held on August 11, 2011 where people from various neighborhoods expressed their thoughts on future land uses, transportation/streetscape improvements, and potential character of the focus area.
	Target area needs	To rehabilitate existing housing stock, neighborhood beautification, parks, greenspace, public infrastructure and economic development opportunities.
	Opportunities for improvement	Continued efforts to maintain the single-family characteristics of the neighborhood through goals of historic preservation, architectural standards, code enforcement, and increased safety and beautification.
4	Barriers to improvement	The commercial encroachment and the railroad limit the amount of available land in this neighborhood as well as Heir properties.
	Area name	Fair Street Neighborhood
	Area type	Local target area
	Other target area description	N/A
	Revitalization type	Comprehensive

TABLE 47 - GEOGRAPHIC PRIORITY AREAS (CONTINUED)

	Area name	Fair Street Neighborhood (continued)
4	Neighborhood boundaries	The Fair Street Area lies between the M.L. King Jr. Boulevard and Jesse Jewell Parkway.
	Housing and commercial characteristics	Fair Street is traditional neighborhoods of Craftsman bungalows, small vernacular cottages and ranch houses from the 1920s through the 1960s. It has a rich African American heritage and strong sense of community. However, the proximity to Downtown and the peripheral highways have contributed to commercial encroachment.
	Consultation and citizen participation	Ongoing efforts through community outreach, monthly public meetings, public workshops, and locally published information through newspaper and Government TV channel.
	Target area needs	To rehabilitate existing housing stock, neighborhood beautification, parks, greenspace, public infrastructure and economic development opportunities.
	Opportunities for improvement	Preserve the integrity of the single-family, historical characteristics of the area, increase homeownership, infrastructure improvements, and community beautification to aid revitalization efforts.
	Barriers to improvement	The cost of historic preservation efforts makes some projects unfeasible and limit the amount of assistance that can be provided as well as heir property issues.
5	Area name	Citywide
	Area type	Local target area
	Other target area description	N/A
	Revitalization type	Comprehensive
	Neighborhood boundaries	The boundaries are the city limits for Gainesville.
	Housing and commercial characteristics	
	Consultation and citizen participation	There is need for code enforcement in the rest of the city of Gainesville, outside of our four major target areas where we are concentrating our efforts.
	Target area needs	Code enforcement, economic development opportunities, non-housing community development, public services, and public facility improvements.
	Opportunities for improvement	Removal of slum and blight.
	Barriers to improvement	Heir property issues.

General Allocation Priorities

Describe the basis for allocating investments geographically within the jurisdiction.

The City will focus its funding in neighborhoods that have concentrations of low- and moderate-income households and substantial needs related to housing quality and affordability, public facilities and infrastructure, and economic development. Specific target areas are listed in Table 47, however, individual low- and moderate-income persons residing anywhere in the City may be eligible beneficiaries of CDBG funds. CDBG funding may also be spend in eligible block groups / census tracts where at least 51% of households have low- or moderate-incomes (i.e., incomes under 80% of the area median, adjusted for household size).

SP-25 PRIORITY NEEDS - 91.215(A)(2)

Priority Needs

TABLE 48 – PRIORITY NEEDS SUMMARY

	Priority need	Housing Affordability
1	Priority level	High
	Population(s) served	Extremely low income Low income Moderate income Families with children Elderly Public housing residents
	Geographic area(s) affected	Citywide
	Associated goal(s)	Expanded Affordable Housing Supply Homeowner Housing Rehabilitation Homebuyer Assistance Improved Public Facilities and Infrastructure
	Description	• Support the development of affordable rental and owned housing, including projects located near employment and transportation • Expand the useful life of existing affordable housing through rehabilitation, repair, or weatherization programs • Provide homeownership opportunities for households through downpayment or closing cost assistance
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies

2	Priority need	Infrastructure and Public Facility Improvements
	Priority level	High
	Population(s) served	Extremely low income Low income Moderate income Families with children Elderly People with disabilities Non-housing community development
	Geographic area(s) affected	Low and moderate income areas citywide
	Associated goal(s)	Improved Public Facilities and Infrastructure Expanded Affordable Housing Supply
	Description	• Provide safe neighborhoods, public facilities, recreational and cultural opportunities which meet both safety and health regulations for citizens of all ages and socioeconomic backgrounds • Improve public infrastructure, increase public safety, residential desirability and quality of life in low and moderate income neighborhoods • Assist community service organizations in improving their physical structures to ensure that they are sufficient in size, accessible, safe and meet the organization's service goals • Infrastructure improvements including but not limited to sidewalks, roadway, park, and water and sewer replacement or expansion
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies
3	Priority need	Neighborhood Revitalization
	Priority level	High
	Population(s) served	Extremely low income Low income Moderate income Non-housing community development
	Geographic area(s) affected	Low and moderate income areas citywide
	Associated goal(s)	Improved Public Facilities and Infrastructure Demolition and Acquisition
	Description	• Non-housing community development activities that eliminate blight, including code enforcement, demolition, acquisition, and redevelopment • Through property acquisition, increase greenspace, improve housing affordability, or encourage economic development
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies

4	Priority need	Economic Development
	Priority level	Low
	Population(s) served	Extremely low income Low income Moderate income Non-housing community development
	Geographic area(s) affected	Citywide
	Associated goal(s)	Demolition and Acquisition Public Services and Economic Opportunities
	Description	• Support business development to create new employment opportunities for LMI workers • Seek opportunities to expand residents' access to groceries and fresh food • Provide job training assistance to help residents access employment opportunities
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies
5	Priority need	Public Services
	Priority level	Low
	Population(s) served	Extremely low income Low income Moderate income Families with children Elderly and frail elderly People who are homeless People with disabilities
	Geographic area(s) affected	Citywide
	Associated goal(s)	Public Services and Economic Opportunity
	Description	• Fund community services such as youth-focused activities, programming for seniors, services for people experiencing homelessness, employment training, housing counseling, transportation assistance, fair housing education and enforcement, legal services, and others
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies

6	Priority need	Fair Housing Activities
	Priority level	High
	Population(s) served	All
	Geographic area(s) affected	Citywide
	Associated goal(s)	Public Services and Economic Opportunity Program Administration
	Description	• Either in-house or through an award to a local organization, provide fair housing education activities to residents, housing providers, and local agencies in English and Spanish
	Basis for priority	Interviews with key community stakeholders, public meeting and focus group input, community survey responses, CHAS and other data, review of recent plans and studies
7	Priority need	Program Administration
	Priority level	High
	Population(s) served	All
	Geographic area(s) affected	Citywide
	Associated goal(s)	General Program Administration
	Description	• Funding for performance of administrative, implementation, and planning requirements of the CDBG program
	Basis for priority	Consultation with City staff

SP-30 INFLUENCE OF MARKET CONDITIONS – 91.215 (B)

Influence of Market Conditions

TABLE 49 – INFLUENCE OF MARKET CONDITIONS

Affordable Housing Type	Market Characteristics that Will Influence Use of Funds Available
Tenant Based Rental Assistance (TBRA)	High level of cost burdens among low-income households; waiting lists for assisted housing units; and need for short-term rental assistance for homeless individuals and families transitioning to permanent housing. Low vacancy rates and limited number of landlords who accept vouchers suggest support for new affordable housing construction instead of TBRA. Currently, TBRA is only provided through Georgia DCA's Housing Choice Voucher program (about 93 vouchers in use in Gainesville) and homeless housing providers; the City does not plan to use CDBG funds for TBRA over the next five years.
TBRA for Non-Homeless Special Needs	High level of cost burdens among low-income households, including non-homeless special needs populations; waiting lists for assisted housing units for seniors and people with disabilities. Low vacancy rates, limited number of landlords who accept vouchers, and limited availability of accessible units suggest support for new affordable housing construction instead of TBRA. The City does not plan to use CDBG funds for TBRA for special needs populations over the next five years.
New Unit Production	Age and condition of housing; waiting lists at existing assisted housing developments; high occupancy rates and rental rates; sales prices unaffordable to low/moderate income households. The City of Gainesville intends to use CDBG funding to encourage new affordable housing development over the next five years.
Rehabilitation	Age and condition of housing; issues related to substandard housing, especially for low-income renters; need for home repairs for seniors and other homeowners, including lead-based paint remediation. The City of Gainesville intends to continue using CDBG funds to assist low income homeowners with housing rehabilitation over the next five years.
Acquisition, including preservation	Subsidized housing developments anticipated to age out of their affordability period; age, condition, and availability of multifamily properties suitable for acquisition/rehabilitation; vacant/hazardous buildings identified through code enforcement. The City of Gainesville intends to use CDBG funds for acquisition and/or clearance and demolition of vacant, hazardous lots or buildings. Properties may subsequently be sold or renter to low/moderate income households to create affordable housing opportunities.

SP-35 ANTICIPATED RESOURCES - 91.215(A)(4), 91.220(C)(1,2)

Introduction

Due to its size, the City of Gainesville only qualifies for a formula grant under HUD's CDBG program. The table below shows the City's CDBG allocation for the 2019-2020 program year (as announced by HUD), along with an estimate of anticipated grant funding for the remaining four years covered by this Consolidated Plan. This estimate assumes that funding over those four years will average to be about the same as the 2019 allocation.

Gainesville residents are also eligible for housing assistance through the Section 8 Housing Choice Voucher program and Continuum of Care programs operated by the Georgia Department of Community Affairs. However, the City of Gainesville does not receive direct allocations under either program.

All federal funds will be used in a manner which supports decent affordable housing, a suitable living environment, and expanded economic opportunities to principally benefit low- and moderate-income Gainesville residents.

In addition to its annual formula grant, the City of Gainesville will receive \$282,736 in CDBG-CV funding through the federal CARES Act in PY2020 to prevent, prepare for, and respond to the COVID-19 pandemic and related health, social, and economic impacts.

Anticipated Resources

TABLE 50 - ANTICIPATED RESOURCES

Program	Source of Funds	Uses of Funds	Expected Amount Available Year 1				Expected Amount Available Remainder of ConPlan \$	Narrative Description
			Annual Allocation: \$	Program Income: \$	Prior Year Resources: \$	Total: \$		
CDBG	Federal	Acquisition Admin and Planning Economic Development Housing Public Improvements Public Services	\$498,567	<u>\$30,000</u>	\$273,179	<u>\$801,746</u>	\$1,994,268	CDBG funds will be used to carry out activities related to acquisition, administration and planning, housing, economic development, public facility improvements, and public services.
<u>CDBG-CV</u>	<u>Federal</u>	<u>Prevention of, preparation for, and response to COVID-19 pandemic</u>	<u>\$282,736</u>	<u>\$0</u>	<u>\$0</u>	<u>\$282,736</u>	<u>\$0</u>	<u>CDBG-CV funds will be used to carry out activities related to preventing, preparing for, and responding to the COVID-19 pandemic.</u>

Explain how federal funds will leverage additional resources (private, state and local funds), including a description of how matching requirements will be satisfied.

While CDBG funds do not require a match, the City anticipates leveraging local, federal, and private funds as they address the priorities and goals outlined in the Consolidated Plan. The City will leverage local funds (i.e., City general funds) to complete public improvements and code enforcement activities in neighborhoods and business districts with low- and moderate-income households. Private funds and other federal funds will be leveraged for housing rehabilitation and new construction projects. Additionally, the Gainesville Nonprofit Development Foundation (GNPDF) has been a vital part of revitalization the city for the past 40 years and provides annual financial support to enhance opportunities provided by the CDBG program.

If appropriate, describe publicly owned land or property located within the jurisdiction that may be used to address the needs identified in the plan.

CDBG funding will be used to develop and improve public facilities for the benefit of low- and moderate-income residents using existing publicly owned land. If CDBG funds are used to acquire private land for public purpose, the City will follow CDBG acquisition requirements and procedures.

SP-40 INSTITUTIONAL DELIVERY STRUCTURE – 91.215(K)

Explain the institutional structure through which the jurisdiction will carry out its consolidated plan including private industry, non-profit organizations, and public institutions.

TABLE 51 - INSTITUTIONAL DELIVERY STRUCTURE

Responsible Entity	Responsible Entity Type	Role	Geography Served
City of Gainesville	Government	• Affordable Housing – Ownership • Affordable Housing – Rental • Homelessness • Non-Homeless Special Needs • Public Facilities • Neighborhood Improvements • Public Services • Economic Development • Planning	Jurisdiction
Gainesville Housing Authority	PHA	• Affordable Housing – Ownership • Affordable Housing – Rental • Public Housing	Jurisdiction
Salvation Army	Nonprofit Organization	• Homelessness • Non-Homeless Special Needs	Jurisdiction
Christian Education Centers	Nonprofit Organization	• Non-Homeless Special Needs • Public Services	Jurisdiction

TABLE 51 - INSTITUTIONAL DELIVERY STRUCTURE (CONTINUED)

Responsible Entity	Responsible Entity Type	Role	Geography Served
Disability Resource Center	Nonprofit Organization	• Affordable Housing – Ownership • Affordable Housing – Rental • Non-Homeless Special Needs • Public Services	Region
Family Promise of Hall County	Nonprofit Organization	• Affordable Housing – Ownership • Affordable Housing – Rental • Public Services • Economic Development	Jurisdiction
Gainesville Action Ministries	Faith-Based Organization	• Affordable Housing – Rental • Homelessness • Non-Homeless Special Needs • Public Services	Jurisdiction
Gainesville City Schools	Government	• Non-Homeless Special Needs • Public Services	Jurisdiction
Gateway House	Faith-Based Organization	• Non-Homeless Special Needs • Public Services	Jurisdiction
HDRI	Nonprofit Organization	• Affordable Housing – Ownership • Planning	Jurisdiction
Metro Fair Housing Services	Nonprofit Organization	• Non-Homeless Special Needs • Neighborhood Improvements	Region
New Town Florist Club	Faith-Based Organization	• Non-Homeless Special Needs	Jurisdiction
Ninth District Opportunity	Nonprofit Organization	• Affordable Housing – Ownership • Affordable Housing – Rental • Public Services • Economic Development	Region
Our Neighbor	Nonprofit Organization	• Affordable Housing – Rental • Non-Homeless Special Needs • Public Services • Economic Development	Jurisdiction
The Guest House	Nonprofit Organization	• Non-Homeless Special Needs • Public Services	Jurisdiction
United Way of Hall County	Philanthropic Org	• Homelessness • Non-Homeless Special Needs • Neighborhood Improvements • Public Services • Economic Development • Planning	Jurisdiction
Veterans Community Outreach Foundation	Nonprofit Organization	• Affordable Housing – Ownership • Affordable Housing – Rental • Non-Homeless Special Needs • Public Services • Economic Development	Jurisdiction

Assess of Strengths and Gaps in the Institutional Delivery System

The City of Gainesville works collaboratively with partners throughout the community and maintains strong communication and partnerships with many local organizations including the United Way, Gainesville Housing Authority, state and local agencies and governments, and other service providers to coordinate the delivery of services to City residents. The City has representatives on most of the non-profit boards and advisory committees. The Community Development Department Housing Division consulted with various housing, social services, elderly and disability agencies to both gather data and identify service gaps. While the Housing Division meets periodically with partners to share ideas, problem-solve, and strategize, there needs to be improved communication and coordination with internal and external customers for programs administrated through these different agencies. The City needs to form partnerships to save at-risk affordable housing stock. The Housing Division and Gainesville's non-profit organizations need to increase the capacity and sustainability of their programs. It is also important to note that presently there is a gap in services provided to the Hispanic population due to the language barrier.

Availability of Services Targeted to Homeless Persons and Persons with HIV and Mainstream Services

TABLE 52 - HOMELESS PREVENTION SERVICES SUMMARY

Homelessness Prevention Services	Available in the Community	Targeted to Homeless	Targeted to People with HIV
Homelessness Prevention Services			
Counseling/Advocacy	X	X	X
Legal Assistance	X	X	
Mortgage Assistance	X		
Rental Assistance	X		
Utilities Assistance	X	X	
Street Outreach Services			
Law Enforcement	X	X	
Mobile Clinics			
Other Street Outreach Services			
Supportive Services			
Alcohol & Drug Abuse	X	X	
Child Care	X	X	
Education	X	X	X
Employment & Employment Training	X	X	
Healthcare	X	X	
HIV/AIDS	X	X	X
Life Skills	X	X	X

TABLE 52 - HOMELESS PREVENTION SERVICES SUMMARY (CONTINUED)

Homelessness Prevention Services	Available in the Community	Targeted to Homeless	Targeted to People with HIV
Supportive Services (continued)			
Mental Health Counseling	X	X	X
Transportation	X		

Describe how the service delivery system, including, but not limited to, the services listed above, meets the needs of homeless persons (particularly chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth).

The Gainesville Action Ministries assists individuals and families struggling with the issues of homelessness. The ministry combines programs of emergency financial assistance, food and clothing assistance, and other in-kind relief with case management and referrals to other local resources available. They also provide utility and rental assistance, fans, heaters, clothing, food, school supplies, English as a Second Language (ESL) classes, computer classes, budgeting assistance, and assistance for individuals to obtain their GED. The primary groups served are the working poor struggling with homelessness and the elderly.

The Salvation Army provides food, shelter, and clothing to residents in need as well as rent, utility, propane heat, and medication assistance. Most of these services target the temporarily homeless population, although they also serve several chronically homeless persons. The organization provides emergency and transitional housing, hot meals, and laundry facilities to those who are homeless or transient. The Thrift Store provides clothing, furniture, and household items which are sold at a reduced cost. Vouchers for free clothing are provided to qualifying social service clients.

The Gateway House provides services to women and children who are victims of domestic violence. They provide food, shelter, clothing, toiletries, medicine, transportation, support groups, life skills training, occupational therapy, and case management.

My Sister's Place provides homeless shelter for women and their children and helps its residents overcome the obstacles that originally led to their homelessness. They provide for immediate needs like food, shelter, transportation and clothing; as well as addressing urgent medical needs.

Avita Community Partners' Supported Apartments Program serves chronically homeless individuals that also have a qualifying disability. Housing consists of 18 beds with on-site staff in two apartment complexes. Supportive services include mental health, addictive diseases, developmental disability, and child and adolescent services.

There are a number of subpopulations within the homeless population: single men, families, the disabled, mentally ill, or substance abusers, and victims of domestic violence. While several organizations provide services for multiple demographic groups (e.g. Salvation Army and Action Ministries), others target specific demographic groups (Avita Community Partners, with disabled persons and families; Baptist

Ministries, with adult men only; and The Gateway House, with victims of domestic violence). The integrated network of service providers ensures that many different homeless subpopulations are served.

Describe the strengths and gaps of the service delivery system for special needs population and persons experiencing homelessness, including, but not limited to, the services listed above.

The City of Gainesville's current institutional structure includes the many service agencies listed above. These agencies provide services for a wide variety of needs and subpopulations. The City believes the current structure for persons experiencing homelessness is strong and sufficient for most of the community's needs. However, there is a need for greater services for persons suffering mental illness and experiencing domestic violence. The gap in the service delivery system for the special needs population is a lack of funding needed to create the addition of needed beds and services that have not been provided. There is also a gap in the service delivery to place these special needs clients due to a general shortage of available affordable housing options in Gainesville.

Provide a summary of the strategy for overcoming gaps in the institutional structure and service delivery system for carrying out a strategy to address priority needs.

The City will continue to be involved with the many cooperative groups and agencies described throughout the Consolidated Plan that offer services to local residents. The City will work cooperatively with these groups to identify gaps in services that may arise. To implement the non-housing portions of the Consolidated Plan, such as public facility and infrastructure improvements, the City uses its own staff, County staff, or procures private sector entities. Most public service activities are undertaken by non-profit agencies under contract with the City.

Public housing in Gainesville is managed by the Gainesville Housing Authority. The quasi-governmental authority is governed by its board of commissioners which are appointed by the City. According to HUD's PIC (the HUD Office of Public & Indian Housing Information Center) data, there are 468 public housing units and no housing choice vouchers in Gainesville. The GHA receives federal funds to modernize and repair those units. The City of Gainesville Community Development Department works closely with the GHA to offer financial literacy classes to public housing residents and other citizens. Efforts have also been made to identify residents that may be ready for homeownership and direct them toward those opportunities. Grant funds from the City of Gainesville down-payment assistance program have been made available to assist residents with purchasing a new home. Such actions will help housing authority residents become more independent and make units available for families with greater needs.

SP-45 GOALS SUMMARY – 91.215(A)(4)

Goals Summary Information

TABLE 53 – GOALS SUMMARY

Sort Order	Goal Name	Start Year	End Year	Category	Geographic Area	Needs Addressed	Funding	Goal Outcome Indicator
1	Expanded Affordable Housing Supply	2019	2023	Affordable Housing Public Housing Non-Housing Community Development	Citywide	Housing Affordability Infrastructure and Public Facility Improvements	CDBG: \$350,000	Public facility or infrastructure activity: 180 LMI households assisted
2	Homeowner Housing Rehabilitation	2019	2023	Affordable Housing Non-Homeless Special Needs	Citywide	Housing Affordability	CDBG: \$150,000	Homeowner housing rehabilitated: 15 housing units
3	Homebuyer Assistance	2019	2023	Affordable Housing	Citywide	Housing Affordability	CDBG: \$150,000	Financial assistance to homebuyers: 10 households
4	Improved Public Facilities and Infrastructure	2019	2023	Non-Housing Community Development	Citywide	Infrastructure and Public Facility Improvements Neighborhood Revitalization	CDBG: \$564,263	Public facility or infrastructure activity: 1,000 LMI persons assisted
5	Demolition and Acquisition	2019	2023	Affordable Housing Non-Housing Community Development	Citywide	Housing Affordability Neighborhood Revitalization Economic Development	CDBG: \$250,000	Buildings demolished: 5 buildings
6	Code Enforcement and Neighborhood Revitalization	2019	2023	Non-Housing Community Development	Citywide	Neighborhood Revitalization	CDBG: \$10,000	Housing code enforcement/foreclosed property care: 10 housing units
7	Public Services and Economic Opportunities	2019	2023	Homelessness Non-Homeless Special Needs Non-Housing Community Development	Citywide	Public Services Economic Development Fair Housing	CDBG: \$450,000	Public service activity: 1,000 LMI persons assisted
8	General Program Administration	2019	2023	Non-Housing Community Development	Citywide	Program Administration Fair Housing	CDBG: \$498,000	Other

Goal Descriptions

TABLE 54 – GOALS DESCRIPTIONS

1	Goal name	Expanded Affordable Housing Supply
	Goal description	Site improvements, public infrastructure, public facilities, or other eligible activities for the support of affordable housing development or re-construction
2	Goal name	Homeowner Housing Rehabilitation
	Goal description	Housing rehabilitation and emergency repair for income-eligible homeowners
3	Goal name	Homebuyer Assistance
	Goal description	Provide downpayment, closing cost, or other eligible assistance to income-eligible homebuyers
4	Goal name	Improved Public Facilities and Infrastructure
	Goal description	Improve public facilities and infrastructure in low- and moderate-income neighborhoods; Potential improvements may include, but are not limited to, parks and open space, community centers, sidewalk construction or improvement, ADA improvements, pedestrian safety devices and lighting, and bus shelters/seating
5	Goal name	Demolition and Acquisition
	Goal description	Demolition and/or acquisition of dilapidated buildings and land to create greenspace, improve housing affordability, or promote economic development
6	Goal name	Code Enforcement and Neighborhood Revitalization
	Goal description	Code enforcement activities with a special emphasis in low- and moderate-income target areas
7	Goal name	Public Services and Economic Opportunity
	Goal description	Community services possibly to include, but not be limited to, youth-focused activities, programming for seniors, services for people experiencing homelessness, employment training, housing counseling, transportation assistance, fair housing education and enforcement, and others <u>Includes activities to prevent, prepare for, and respond to the COVID-19 pandemic, possibly to include, but not be limited to, access to food and cleaning supplies, remote learning, small business assistance, medical supplies such as personal protective equipment (PPE), utility assistance and budgeting assistance, and others</u>
8	Goal name	General Program Administration
	Goal description	Staff salary, planning, and administrative service delivery costs for implementing the Community Development Block Grant program

Estimate the number of extremely low-income, low-income, and moderate-income families to whom the jurisdiction will provide affordable housing as defined by HOME 91.315(b)(2).

Not applicable. The City of Gainesville does not receive HOME grant funds. The City anticipates assisting 15 low- and moderate-income homeowners with home rehabilitation / emergency repairs over the next five years. Additionally, the City anticipates using CDBG funding for infrastructure development to support construction of new housing units affordable to low- and moderate-income families.

SP-50 PUBLIC HOUSING ACCESSIBILITY AND INVOLVEMENT – 91.215(C)

Need to Increase the Number of Accessible Units (if required by a Section 504 voluntary compliance agreement)

The Gainesville Housing Authority (GHA) is currently compliant with fair housing and civil rights requirements and is not under a voluntary compliance agreement related to Section 504.

Activities to Increase Resident Involvement

The GHA receives a Resident Opportunity and Supportive Services Program (ROSS) grant that supports GHA's residents by linking them with valuable community resources to obtain economic self-sufficiency, independence, improved quality of life, and in some cases, help maintaining stable housing as residents age.

Is the public housing agency designated as troubled under 24 CFR part 902?

The GHA is designated a "Standard Performer" based on its 2018 score report in the Public Housing Assessment System, with a score of 82 on a 100-point scale.

Plan to Remove the 'Troubled' Designation

Not applicable.

SP-55 BARRIERS TO AFFORDABLE HOUSING – 91.215(H)

Barriers to Affordable Housing

Market data and stakeholder input both suggest a tight housing market in Gainesville, with low vacancy rates and increasing housing costs. While the market depends largely on the private sector to provide housing, there are roles the City and others can play through policy and regulation that may encourage greater private investment in new housing development in Gainesville.

Several aspects of the City's zoning code could potentially have a negative effect on housing development. For example, the City may want to consider adopting means to allow more flexibility in density and

affordable housing development by carving out additional residential zoning districts or subdistricts that allow for a greater mix of housing types, lower minimum lot sizes, and higher multifamily density, and other alternatives such as relaxing the infill residential development standards, providing for cluster developments, density blending, and transfer of development rights in appropriate locations. Permitting or incentivizing conversion of single-family dwellings in high opportunity intown neighborhoods to two-family, 3-family, or multifamily dwellings on large lots also is a strategic way to address the need for more density and infill development in established neighborhoods.

Moreover, the City's land use regulations could go beyond just meeting the minimum FHA standards and affirmatively further and incentivize the development of affordable housing with inclusionary zoning policies. Gainesville has not adopted specific development incentives like density bonuses, reduced parking, or design waivers, reduced or waiver of development impact fees, administrative variances, or expedited permitting for the development of affordable or low-income housing or housing for protected classes.

Taken together, these zoning tools could potentially allow for more supply of housing, which helps put downward pressure on rental and sale prices, so that moderate and low-income families have access to those neighborhoods and all the congruent benefits that come with higher opportunity areas such as access to jobs, better schools, access to transportation, and access to cultural amenities and public accommodations.

Strategy to Remove or Ameliorate the Barriers to Affordable Housing

As described more completely in the City's Analysis of Impediments to Fair Housing Choice, the City will work toward removing barriers to affordable housing development related to zoning code issues by reviewing its current code and drafting any amendments that could expand housing choice by making affordable housing development more efficient and less costly. Additionally, the City will continue to be supportive of Low Income Housing Tax Credit development proposals that would add additional affordable rental units to the local housing stock.

SP-60 HOMELESSNESS STRATEGY – 91.215(D)

Reaching out to homeless persons (especially unsheltered persons) and assessing individual needs.

The primary source of funding for homelessness programs and services in the Gainesville community comes from DCA through the Balance of State Continuum of Care. The local organizations receiving funding from this stream will continue to be engaged in the work of outreach to homeless persons in order to assess individual needs and share information about available resources. Because funding is the greatest obstacle to addressing this need, the City will continue to fund homeless prevention services from CDBG funds under the public services funding category. These funds will supplement the state funds received through DCA.

Addressing the emergency and transitional housing needs of homeless persons.

The City plans to make CDBG public service funding available for local non-profit agencies to address the emergency and transitional housing needs of homeless persons. In addition, emergency and transitional housing needs may be addressed through grant funding opportunities, such as the competitive Continuum of Care process, or through other state or local funding streams.

Helping homeless persons (especially chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth) make the transition to permanent housing and independent living, including shortening the period of time that individuals and families experience homelessness, facilitating access for homeless individuals and families to affordable housing units, and preventing individuals and families who were recently homeless from becoming homeless again.

Stakeholder input suggests that one reason households in transitional housing are slow to transition out is because there are so few decent affordable options available in the private rental market. Increasing support and case management funding associated with shelter and transitional housing programs may help, but adding new units to the overall affordable housing stock may help as well.

The City of Gainesville is not a direct recipient of the Emergency Solutions Grant (ESG) which could assist with housing the homeless and provide services to prevent homelessness, re-house or otherwise permanently house the homeless. ESG funding is made available through a competitive process through the Department of Community Affairs.

Helping low-income individuals and families avoid becoming homeless, especially extremely low-income individuals and families who are likely to become homeless after being discharged from a publicly funded institution or system of care, or who are receiving assistance from public and private agencies that address housing, health, social services, employment, education or youth needs.

Service providers in the city, along with housing providers, work together to prevent homelessness in those populations which are vulnerable or at risk of homelessness. These groups include extremely low-income individuals and families, people discharged from institutions, and those receiving assistance from agencies addressing a variety of needs, such as housing, health, social services, employment, education or youth needs.

This plan identifies a need for additional affordable housing in Gainesville. The City and the Gainesville Housing Authority will continue to work toward the goal of creating additional affordable housing options, which will provide additional housing options for all people exiting an institutional setting and who may otherwise become homeless. The existing nonprofit organizations that serve the homeless population will also continue planning and coordinating procedures to ensure people are not discharged from hospitals or jails into homelessness. Various other homeless prevention efforts will be initiated and maintained by the local organizations participating in the Continuum of Care.

SP-65 LEAD BASED PAINT HAZARDS – 91.215(I)

Actions to address LBP hazards and increase access to housing without LBP hazards.

The City of Gainesville will work to eliminate lead-based paint in housing and public buildings built prior to 1978. Strategies include providing funding for lead-based paint remediation for local homeowners and renters, identifying and targeting households with children under 7 years old for testing, and educating owners and renters about lead-based paint hazards for units built prior to 1978. Currently, the City has contracted with an agency to provide all lead testing and clearance activities. Clearance testing is performed on all completed units.

How are the actions listed above related to the extent of lead poisoning and hazards?

Lead poisoning is the leading environmental hazard to children, creating devastating and irreversible health problems. The primary cause of lead poisoning is exposure to dust from deteriorating paint in homes constructed before 1978. This is due to high lead content used in paint during that period, and particularly in homes built before 1950. Pre-1978 housing occupied by lower income households with children offers particularly high risks of lead exposure because lower income households are generally more likely to live in units with deferred maintenance. This is an important factor because it is not the lead paint itself that causes hazards, but rather deterioration of the paint that releases lead-contaminated dust and flakes that may be inhaled or eaten by small children.

According to CHAS estimates for the city of Gainesville, there are 165 homeowner and 840 renter households with children under age 7 living in housing units built before 1980. A windshield survey conducted several years ago by the City's Code Enforcement Division reported that flaking paint does not appear to be a significant problem in the city, though it was most common in older homes in lower-income areas.

How are the actions listed above integrated into housing policies and procedures?

An important initiative emanating from HUD in the last decade is the reduction of lead-based paint hazards, and many jurisdictions around the country have focused on reaching this goal. The federal Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of the Housing and Community Development Act of 1992) amends the Lead-Based Paint Poisoning Prevention Act of 1971, which is the law covering lead-based paint in federally funded housing. These laws and subsequent regulations issued by the U.S. Department of Housing and Urban Development (24 CFR part 35) protect young children from lead-based paint hazards in housing that is financially assisted or being sold by the federal government.

In property rehabilitation projects involving the City of Gainesville, the City assesses whether lead-based paint might be present and, if so, follows the guidelines set forth in the Residential Lead-Based Paint Hazard Reduction Act of 1992.

The City of Gainesville is committed to testing and abating lead in all pre-1978 housing units assisted with federal grant funds in any of the housing programs it implements. Currently, the City has contracted with

an agency to provide all lead testing and clearance activities. Clearance testing is performed on all completed units.

SP-70 ANTI-POVERTY STRATEGY – 91.215(J)

Jurisdiction Goals, Programs and Policies for Reducing the Number of Poverty-Level Families

The City of Gainesville’s anti-poverty strategy focuses on helping all low-income households improve their economic status and remain above poverty levels. This may include, but is not limited to, job training, education, healthcare services, and emergency assistance. Current programs to reduce poverty through access to education and jobs are provided by through WorkSource Georgia Mountains and Lanier Technical College. Emergency assistance is also provided by several nonprofit housing and service agencies in Gainesville and Hall County. Additionally, City of Gainesville’s housing programs and activities that support development of affordable housing inherently address poverty by creating housing opportunities for low-income households. Without these housing opportunities, many low-income households would not be able to afford housing rehabilitation costs or to purchase a home.

How are the jurisdiction’s poverty reducing goals, programs, and policies coordinated with this affordable housing plan?

The discussion of housing needs shows that the crucial difference between households with needs and those without needs is income. For households with severely restricted incomes, little discretionary income remains after paying monthly housing costs. One of the objectives of the Consolidated Plan is to encourage new construction of affordable multifamily rental units. Affordable housing will provide the potential to decrease housing costs and allocate more funds to food, clothing, health care, children’s needs, savings, and personal and economic development.

Similarly, the goal of providing home rehabilitation and emergency repair to low-income and senior households would allow these families to re-allocate money that would otherwise be spent on maintenance to secure housing. Additionally, making needed home repairs will lower utility costs and help maintain the existing housing stock for future generations. By addressing risks posed by lead-based paint using HUD-funded programs, health care risks, particularly risks for young children, will be reduced.

The City of Gainesville’s anti-poverty strategy is in agreement with its housing priorities. The City will continue to partner with multiple agencies to examine and evaluate policies to eliminate barriers to education and employment. Increasing the number of adults with living wage jobs reduces poverty, increases stability and quality of life, and lessens demand for subsidized housing.

SP-80 MONITORING – 91.230

Describe the standards and procedures that the jurisdiction will use to monitor activities carried out in furtherance of the plan and will use to ensure long-term compliance with requirements of the programs involved, including minority business outreach and the comprehensive planning requirements.

Gainesville's monitoring standards and procedures developed in accordance with the Subrecipients Monitoring Manual provided by HUD dated August 1990 are provided below.

Pre-Award Meeting

The Community & Economic Development Department's Housing & Special Projects Division will provide each subrecipient with an agreement that outlines the terms and conditions of acceptance of funds. The Division will schedule an interview with the subrecipients' representative to discuss the terms of the agreement including an overview of the standards, procedures, and monitoring requirements outlined by the Division for subrecipients. A copy of the standards, procedures, and requirements will be provided.

On-Site Visits, Performance Evaluations, and Follow-Up Procedures

The Community & Economic Development Department's Housing & Special Projects Division will meet with the director and appropriate staff of each agency to discuss finances and activities. A site visit will be held with the director and/or appropriate staff using HUD's monitoring guide. The Division will complete the subrecipient's performance evaluation as provided in HUD's Subrecipient Manual. The information gathered to complete the evaluation would be presented to the director and appropriate staff for comments and clarification. Concerns will be discussed with the director and staff. The agency will be provided with a copy of the completed form. A letter will be provided addressing each concern mentioned in the performance checklist and suggesting solutions.

Financial Audits and Follow-up Procedures

Each subrecipient's records will be reviewed by the City's comptroller or the Housing & Special Projects Division's representative at any time those records are requested. Upon completion of the review the City or the Housing & Special Projects Division will send a written notification of any irregularities to the subrecipient. The City or Division may request a subrecipient to hire a CPA to perform a complete financial audit if irregularities are uncovered after the review. The subrecipient and the Division will discuss the findings of the financial audit performed by the CPA. All concerns will be documented in a letter with an explanation of the inappropriate disposition of the funds or other violations. The subrecipient will have an opportunity to correct any problems. In addition, the agency will be notified of the immediate termination of funds if such action is deemed appropriate.

Post Award Compliance Procedure

Each subrecipient agency will be monitored to determine if the funds provided to the organization are expended appropriately. Monitoring includes on-site visits, evaluations, and financial record reviews. An additional on-site visit and evaluation will be performed six weeks after written notification to the agency if any irregularities are found. The City comptroller or the Housing & Special Projects Division's representative will perform a financial review of the subrecipient's records. The City or the Housing &

Special Projects Division may request the subrecipient hire a CPA if any irregularities exist in the financial records to perform a complete financial audit. Subrecipients will receive written notification of any violations or concerns by the Housing & Special Projects Division.

Termination of Funds

Noncompliance of HUD and/or City of Gainesville policies, procedures, and requirements may result in immediate termination of the subrecipient's funding. The subrecipient will receive written notification of violations and/or the City's determinations and necessary corrective actions.

2019 Annual Action Plan

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EXPECTED RESOURCES

AP-15 EXPECTED RESOURCES – 91.220(C)(1,2)

Introduction

Due to its size, the City of Gainesville only qualifies for a formula grant under HUD's CDBG program. The table below shows the City's CDBG allocation for the 2019-2020 program year (as announced by HUD), along with an estimate of anticipated grant funding for the remaining four years covered by this Consolidated Plan. This estimate assumes that funding over those four years will average to be about the same as the 2019 allocation.

Gainesville residents are also eligible for housing assistance through the Section 8 Housing Choice Voucher program and Continuum of Care programs operated by the Georgia Department of Community Affairs. However, the City of Gainesville does not receive direct allocations under either program.

All federal funds will be used in a manner which supports decent affordable housing, a suitable living environment, and expanded economic opportunities to principally benefit low- and moderate-income Gainesville residents.

In addition to its annual formula grant, the City of Gainesville will receive \$282,736 in CDBG-CV funding through the federal CARES Act in PY2020 to prevent, prepare for, and respond to the COVID-19 pandemic and related health, social, and economic impacts.

Anticipated Resources

TABLE 55 - EXPECTED RESOURCES – PRIORITY TABLE

Program	Source of Funds	Uses of Funds	Expected Amount Available Year 1				Expected Amount Available Remainder of ConPlan	Narrative Description
			Annual Allocation: \$	Program Income: \$	Prior Year Resources: \$	Total: \$		
CDBG	Federal	Acquisition Admin and Planning Economic Development Housing Public Improvements Public Services	\$498,567	<u>\$30,000</u>	\$273,179	<u>\$801,746</u>	\$1,994,268	CDBG funds will be used to carry out activities related to acquisition, administration and planning, housing, economic development, public facility improvements, and public services.
<u>CDBG-CV</u>	<u>Federal</u>	<u>Prevention of, preparation for, and response to COVID-19 pandemic</u>	<u>\$282,736</u>	<u>\$0</u>	<u>\$0</u>	<u>\$282,736</u>	<u>\$0</u>	<u>CDBG-CV funds will be used to carry out activities related to preventing, preparing for, and responding to the COVID-19 pandemic.</u>

Explain how federal funds will leverage those additional resources (private, state and local funds), including a description of how matching requirements will be satisfied.

While CDBG funds do not require a match, the City anticipates leveraging local, federal, and private funds as they address the priorities and goals outlined in the Consolidated Plan. The City will leverage local funds (i.e., City general funds) to complete public improvements and code enforcement activities in neighborhoods and business districts with low- and moderate-income households. Private funds and other federal funds will be leveraged for housing rehabilitation and new construction projects. Additionally, the Gainesville Nonprofit Development Foundation (GNPDF) has been a vital part of revitalization the city for the past 40 years and provides annual financial support to enhance opportunities provided by the CDBG program.

If appropriate, describe publicly owned land or property located within the jurisdiction that may be used to address the needs identified in the plan.

CDBG funding will be used to develop and improve public facilities for the benefit of low- and moderate-income residents using existing publicly owned land. If CDBG funds are used to acquire private land for public purpose, the City will follow CDBG acquisition requirements and procedures.

ANNUAL GOALS AND OBJECTIVES

AP-20 ANNUAL GOALS AND OBJECTIVES

Goals Summary Information

TABLE 56 – GOALS SUMMARY

Sort Order	Goal Name	Start Year	End Year	Category	Geographic Area	Needs Addressed	Funding	Goal Outcome Indicator
1	Expanded Affordable Housing Supply	2019	2023	Affordable Housing Public Housing Non-Housing Community Development	Citywide	Housing Affordability Infrastructure and Public Facility Improvements	CDBG: \$150,000 <u>\$100,000</u>	Public facility or infrastructure activity: 180 LMI households benefitted
2	Homeowner Housing Rehabilitation	2019	2023	Affordable Housing Non-Homeless Special Needs	Citywide	Housing Affordability	CDBG: \$30,000 <u>\$19,557</u>	Homeowner housing rehabilitated: <u>3</u> <u>2</u>
<u>3</u>	<u>Homebuyer Assistance</u>	<u>2019</u>	<u>2023</u>	<u>Affordable Housing</u>	<u>Citywide</u>	<u>Housing Affordability</u>	CDBG: <u>\$10,000</u>	<u>Financial assistance to homebuyers: 2 households</u>
<u>4</u>	Improved Public Facilities and Infrastructure	2019	2023	Non-Housing Community Development	Citywide	Infrastructure and Public Facility Improvements Neighborhood Revitalization	CDBG: \$168,854 <u>\$289,297</u>	Public facility or infrastructure activity: 1,000 LMI persons or households benefitted
<u>5</u>	Demolition and Acquisition	2019	2023	Affordable Housing Non-Housing Community Development	Citywide	Housing Affordability Neighborhood Revitalization Economic Development	CDBG: \$50,000 <u>\$20,000</u>	Buildings demolished: <u>5</u> <u>1</u>

TABLE 56 – GOALS SUMMARY (CONTINUED)

Sort Order	Goal Name	Start Year	End Year	Category	Geographic Area	Needs Addressed	Funding	Goal Outcome Indicator
<u>6</u>	<u>Public Services and Economic Opportunities</u>	<u>2019</u>	<u>2023</u>	<u>Homelessness</u> <u>Non-Homeless Special Needs</u> <u>Non-Housing Community Development</u>	<u>Citywide</u>	<u>Public Services</u> <u>Economic Development</u> <u>Fair Housing</u>	<u>CDBG-CV:</u> <u>\$250,000</u>	<u>TBD</u>
<u>7</u>	General Program Administration	2019	2023	Non-Housing Community Development	Citywide	Program Administration Fair Housing	CDBG: \$99,713 <u>\$89,713</u> CDBG-CV: <u>\$32,736</u>	Other

Goal Descriptions

TABLE 57 – GOALS DESCRIPTIONS

1	Goal name	Expanded Affordable Housing Supply
	Goal description	Site improvements, public infrastructure, public facilities, or other eligible activities for the support of affordable housing development or re-construction
2	Goal name	Homeowner Housing Rehabilitation
	Goal description	Housing rehabilitation and emergency repair for income-eligible homeowners
3	Goal name	<u>Homebuyer Assistance</u>
	Goal description	<u>Provide downpayment, closing cost, or other eligible assistance to income-eligible homebuyers</u>
4	Goal name	Improved Public Facilities and Infrastructure
	Goal description	Improve public facilities and infrastructure in low- and moderate-income neighborhoods; Potential improvements may include, but are not limited to, parks and open space, community centers, sidewalk construction or improvement, ADA improvements, pedestrian safety devices and lighting, and bus shelters/seating
5	Goal name	Demolition and Acquisition
	Goal description	Demolition and/or acquisition of dilapidated buildings and land to create greenspace, improve housing affordability, or promote economic development
6	Goal name	<u>Public Services and Economic Opportunity</u>
	Goal description	<u>Community services possibly to include, but not be limited to, youth-focused activities, programming for seniors, services for people experiencing homelessness, employment training, housing counseling, transportation assistance, fair housing education and enforcement, and others</u> <u>Includes activities to prevent, prepare for, and respond to the COVID-19 pandemic, possibly to include, but not be limited to, access to food and cleaning supplies, remote learning, small business assistance, medical supplies such as personal protective equipment (PPE), utility assistance and budgeting assistance, and others</u>
7	Goal name	General Program Administration
	Goal description	Staff salary, planning, and administrative service delivery costs for implementing the Community Development Block Grant program

PROJECTS

AP-35 PROJECTS – 91.220(D)

Introduction

Projects planned for the 2019-2020 program year are identified in the table below, with additional detail provided in AP-38. Over the next year, the City of Gainesville anticipates assisting low- and moderate-income homeowners with home rehabilitation/emergency repair and downpayment assistance. The City will also use CDBG funds for demolition and acquisition, public improvements and construction of infrastructure to support affordable housing development. Using program administration funds, the City will provide fair housing education to its residents.

CDBG-CV funds allocated through the CARES Act will be used for public services and economic development activities designed to assist local organizations address growing effects of the COVID-19 pandemic.

Projects

TABLE 58 – PROJECT LIST

#	Project Name
1	Tower Heights Infrastructure Improvements
2	Wood Avenue Infrastructure Improvements & Neighborhood Park
2	<u>Public Facilities and Infrastructure Improvements</u>
3	Demolition and Acquisition
4	Housing Rehabilitation and Emergency Repairs
5	<u>Homeownership Assistance</u>
6	Program Administration
7	<u>CV – Public Services and Economic Development</u>
8	<u>CV – Program Administration</u>

Describe the reasons for allocation priorities and any obstacles to addressing underserved needs.

The City's allocation priorities reflect its focus on a number of high priority needs identified through data analysis, community member input, consultation with City staff and other public agencies, and reviews of relevant recently-completed plans and studies, such as Gainesville's *2040 Comprehensive Plan*. A key priority that emerged from the Consolidated Planning process was the need for more affordable housing for renters and owners and a need for housing rehabilitation. To meet this underserved need, the City will

provide infrastructure improvements to support development of new affordable rental housing construction. The City will also provide funds to homeowners for housing rehabilitation and repair.

The City does not anticipate any obstacles to completing the projects it has identified for the 2019-2020 program year.

AP-38 PROJECT SUMMARY

Project Summary Information

TABLE 59 – PROJECT INFORMATION

1	Project Name	Tower Heights Infrastructure and Site Development
	Target Area	Citywide
	Goals Supported	Expanded Affordable Housing Supply
	Needs Addressed	Housing Affordability, Infrastructure and Public Facility Improvements
	Funding	<u>CDBG: \$150,000 \$100,000</u>
	Description	Infrastructure improvements and site development work to support redevelopment of the Tower Heights Apartments by the Gainesville Housing Authority and Walton Communities
	Target Date	06/30/2022
	Estimate the number and type of persons that will benefit from the proposed activity	180 LMI households benefitted
	Location Description	Westside Redevelopment Area (Tower Heights Road and Jones Street)
	Planned Activities	Infrastructure improvements and site development work (i.e., grading, streetscape, pedestrian facilities)
2	<u>Project Name</u>	<u>Wood Avenue Infrastructure Improvements & Neighborhood park</u>
	<u>Target Area</u>	<u>Citywide</u>
	<u>Goals Supported</u>	<u>Improved Public Facilities and Infrastructure</u>
	<u>Needs Addressed</u>	<u>Infrastructure and Public Facility Improvements, Neighborhood Revitalization</u>
	<u>Funding</u>	<u>\$168,854</u>

	<u>Description</u> <u>Target Date</u> <u>Estimate the number and type of persons that will benefit from the proposed activity</u> <u>Location Description</u> <u>Planned Activities</u>	<u>Acquisition of property, infrastructure improvements (i.e. driveway, parking, water and sanitary sewer connections), playground, pavilions, outdoor charcoal grills, pedestrian facilities (e.g. walkways, benches, trashcans, etc.) and signage</u> <u>06/30/2023</u> <u>1,000 LMI persons assisted from public facility or infrastructure activity</u> <u>Wood Avenue</u> <u>Property acquisition, water/sanitary sewer connection, driveway and parking, pavilions with picnic tables, outdoor charcoal grills, benches, trashcans, and park signage</u>
2	<u>Project Name</u> <u>Target Area</u> <u>Goals Supported</u> <u>Needs Addressed</u> <u>Funding</u> <u>Description</u> <u>Target Date</u>	<u>Public Facilities and Infrastructure Improvements</u> <u>Citywide</u> <u>Improved Public Facilities and Infrastructure</u> <u>Infrastructure and Public Facility Improvements, Neighborhood Revitalization</u> <u>CDBG: \$289,297</u> <u>Facility and infrastructure improvement projects such as, but not limited to:</u> <u>Acquisition, construction, or rehabilitation of parking lots and parking garages.</u> <u>Installation or repair of streets, street drains, storm drains, curbs and gutters, tunnels, bridges, and traffic lights/signs.</u> <u>Improvements to sidewalks that include the installation of trash receptacles, lighting, benches, and trees. Activities limited to tree planting (sometimes referred to as "beautification").</u> <u>Installation or replacement of water lines, sanitary sewers, storm sewers, and fire hydrants.</u> <u>Drainage Improvements and the installation of water lines, sanitary sewer and storm sewers associated with developing affordable housing.</u> <u>06/30/2023</u>

	<u>Estimate the number and type of persons that will benefit from the proposed activity</u>	<u>1,000 LMI persons assisted from public facility or infrastructure activity</u>
	<u>Location Description</u>	<u>Locations to be determined during program year</u>
	<u>Planned Activities</u>	<u>Various infrastructure and public facility improvement activities</u>
3	Project Name	Demolition and Acquisition
	Target Area	Citywide
	Goals Supported	Demolition and Acquisition
	Needs Addressed	Housing Affordability, Neighborhood Revitalization
	Funding	<u>CDBG: \$50,000 \$20,000</u>
	Description	Acquire unkempt/abandoned vacant properties; acquire blighted or foreclosed properties with dilapidated structures and demolish dilapidated structures.
	Target Date	06/30/2020
	Estimate the number and type of persons that will benefit from the proposed activity	<u>51</u> buildings demolished
	Location Description	Citywide in income-eligible census tracts
	Planned Activities	Property acquisition and demolition of dilapidated structures
4	Project Name	Housing Rehabilitation and Emergency Repairs
	Target Area	Citywide
	Goals Supported	Homeowner Housing Rehabilitation
	Needs Addressed	Housing Affordability

	Funding	CDBG: \$30,000 \$19,557
	Description	Housing rehabilitation and emergency repair funding of up to \$10,000 for income-eligible homeowners
	Target Date	06/30/2020
	Estimate the number and type of persons that will benefit from the proposed activity	3 2 low- and moderate-income homeowners
	Location Description	Citywide
	Planned Activities	Housing rehabilitation and emergency repair funding of up to \$10,000 for income-eligible homeowners
5	<u>Project Name</u>	<u>Homeownership Assistance</u>
	<u>Target Area</u>	<u>Citywide</u>
	<u>Goals Supported</u>	<u>Homebuyer Assistance</u>
	<u>Needs Addressed</u>	<u>Housing Affordability</u>
	<u>Funding</u>	<u>CDBG: \$10,000</u>
	<u>Description</u>	<u>Financial assistance to low- and moderate-income, first-time homebuyers to assist them with the purchase of a home. Eligible uses of these funds include: up to 50% of down payment, reasonable closing costs, and premium for mortgage insurance required up-front.</u>
	<u>Target Date</u>	<u>06/30/2021</u>
	<u>Estimate the number and type of persons that will benefit from the proposed activity</u>	<u>Up to 2 households assisted with direct financial assistance</u>
	<u>Location Description</u>	<u>Location to be determined during program year</u>
	<u>Planned Activities</u>	<u>First-time homebuyer assistance with downpayment, closing cost and/or up-front mortgage insurance premium</u>

<u>6</u>	Project Name	General Program Administration
	Target Area	Citywide
	Goals Supported	General Program Administration
	Needs Addressed	Program Administration, Fair Housing
	Funding	CDBG: \$99,713 \$89,713
	Description	Staff salary, planning, and administrative service delivery costs for implementing the Community Development Block Grant program.
	Target Date	06/30/2020
	Estimate the number and type of persons that will benefit from the proposed activity	Not applicable
	Location Description	Citywide
	Planned Activities	Staff salary, planning, and administrative service delivery costs for implementing the Community Development Block Grant program. Provide fair housing education to Gainesville residents.
<u>7</u>	<u>Project Name</u>	<u>CV – Public Services and Economic Development</u>
	<u>Target Area</u>	<u>Citywide</u>
	<u>Goals Supported</u>	<u>Public Services and Economic Opportunities</u>
	<u>Needs Addressed</u>	<u>Public Services, Economic Development</u>
	<u>Funding</u>	<u>CDBG-CV: \$250,000</u>
	<u>Description</u>	<u>Funding allocated to nonprofit service providers and/or to for-profit businesses to address growing health, social, and economic effects of the COVID-19 pandemic.</u>
	<u>Target Date</u>	<u>06/30/2021</u>

	<u>Estimate the number and type of persons that will benefit from the proposed activity</u>	<u>TBD</u>
	<u>Location Description</u>	<u>Location to be determined during program year</u>
	<u>Planned Activities</u>	<u>Public service and economic development activities to respond to effects of the COVID-19 pandemic</u>
<u>8</u>	Project Name	<u>CV – Program Administration</u>
	Target Area	<u>Citywide</u>
	Goals Supported	<u>General Program Administration</u>
	Needs Addressed	<u>Program Administration</u>
	Funding	<u>CDBG-CV: \$32,736</u>
	Description	<u>Staff salary, planning, and administrative service delivery costs for implementing COVID-19 prevention, preparation, and response activities.</u>
	Target Date	<u>06/30/2021</u>
	Estimate the number and type of persons that will benefit from the proposed activity	<u>Not applicable</u>
	Location Description	<u>Citywide</u>
	Planned Activities	<u>Staff salary, planning, and administrative service delivery costs for implementing COVID-19 prevention, preparation, and response activities.</u>
CDBG Total		\$528,567
CDBG-CV Total		\$282,736

AP-50 GEOGRAPHIC DISTRIBUTION – 91.220(F)

Description of the geographic areas of the entitlement (including areas of low-income and minority concentration) where assistance will be directed.

HUD identifies CDBG-eligible block groups where there are concentrations of low- and moderate-income families. In this case, HUD defines a concentration as a block group where low- and moderate-income households make up more than 51% of total households in the block group. As of the 2018 program year, there are 19 such block groups in Gainesville. Notably, 18 of these block groups are located in census tracts that have high rates of housing need and/or populations that are majority people of color.

Six of these (Tracts 10.02, 10.03, 11.01, 11.02, 12.01, and 12.02) are contiguous tracts all located south of E.E. Butler Parkway extending roughly from Athens Highway on the east to Dawsonville Highway, McEver Road, and Lake Lanier on the west. These tracts cover the Downtown, Midtown, and Westside neighborhoods. Note that the area that includes the airport, Elachee Nature Preserve, and Chicopee Woods golf course is not included. In five of these six tracts, the majority of the population is Latino, ranging from 51 to 84%. In the sixth tract, white residents comprise 49% of the population and Latinos make up 41%. Black population shares range from 2 to 12%.

The remaining two tracts where people of color comprise more than 50% of the population are immediately north of downtown and E.E. Butler Parkway, and include the Fair Street Area NPU and neighborhoods to its east (Tracts 7.01 and 8). In each of these tracts, Latinos and African Americans each make up considerable shares of the population (between 31 and 47%). White residents make up less than one-fifth of people in these tracts.

Geographic Distribution

Rationale for the Priorities for Allocating Investments Geographically

The City will focus its funding in neighborhoods that have concentrations of low- and moderate-income households and substantial needs related to housing quality and affordability, public facilities and infrastructure, and economic development. Specific target areas are listed in Table 47, however, individual low- and moderate-income persons residing anywhere in the City may be eligible beneficiaries of CDBG funds. CDBG funding may also be spend in eligible block groups / census tracts where at least 51% of households have low- or moderate-incomes (i.e., incomes under 80% of the area median, adjusted for household size).

AFFORDABLE HOUSING

AP-55 AFFORDABLE HOUSING – 91.220(G)

Introduction

Over the 2019-2020 program year, the City of Gainesville estimates that it will assist 32 non-homeless low- and moderate-income homeowner households with the rehabilitation of existing residential units **and up to 2 households with downpayment assistance**. The City will also make infrastructure improvements to support the construction of 148 new and 32 replacement affordable rental units, **completed over multiple phases, with about 90 units in the first phase.**

TABLE 60 - ONE YEAR GOALS FOR AFFORDABLE HOUSING BY SUPPORT REQUIREMENT

One Year Goals for the Number of Households to be Supported	
Homeless	0
Non-Homeless	4
Special-Needs	0
Total	4

TABLE 61 - ONE YEAR GOALS FOR AFFORDABLE HOUSING BY SUPPORT TYPE

One Year Goals for the Number of Households Supported Through	
Rental Assistance	0
Production of New Units	<u>148</u> 90
Rehab of Existing Units	<u>3</u> 2
Acquisition of Existing Units	<u>9</u> 2
Total	<u>151</u> 90

AP-60 PUBLIC HOUSING – 91.220(H)

Introduction

Public housing in the city of Gainesville is managed by the Gainesville Housing Authority (GHA). The quasi-governmental authority is governed by its board of commissioners which are appointed by the City. According to HUD's PIC (the HUD Office of Public & Indian Housing Information Center) data, there are 468 public housing units and no housing choice vouchers in Gainesville. The GHA receives federal funds to modernize and repair those units. The City of Gainesville Community Development Department works closely with the GHA to offer financial literacy classes to public housing residents and other citizens. Efforts

have also been made to identify residents that may be ready for homeownership and direct them toward those opportunities. Grant funds from the City of Gainesville down-payment assistance program have been made available to assist residents with purchasing a new home. Such actions will help housing authority residents become more independent and make units available for families with affordable housing needs.

The GHA is independent of the City of Gainesville and the City does not manage or oversee GHA funds.

Actions planned during the next year to address the needs to public housing.

The GHA is applying to HUD for the ability to convert its remaining public housing units under the Rental Assistance Demonstration (RAD) program. If approved, this would give the GHA opportunities to leverage its real estate assets to replace and/or rehabilitate these units. The GHA will also continue to work with Walton Communities, its LIHTC development partner, to secure tax credit funding for the final phase of Walton Summit.

Actions to encourage public housing residents to become more involved in management and participate in homeownership.

The GHA receives a Resident Opportunity and Supportive Services Program (ROSS) grant that supports GHA's residents by linking them with valuable community resources to obtain economic self-sufficiency, independence, improved quality of life, and in some cases, help maintaining stable housing as residents age.

If the PHA is designated as troubled, describe the manner in which financial assistance will be provided or other assistance.

The GHA is rated a "Standard Performer" based on its 2018 score report in the Public Housing Assessment System, and is not designated as troubled.

AP-65 HOMELESS AND OTHER SPECIAL NEEDS ACTIVITIES – 91.220(I)

Introduction

The City of Gainesville is covered by the Balance of State Continuum of Care, a network of homeless service providers covering all but the most populous Georgia counties and coordinated by Georgia DCA. The state conducts a biennial homeless count and the most recent data released as of the date this plan was drafted was from January 2017. On the night of the count, there were a total of 123 homeless persons enumerated in Hall County, including 78 residing in shelters and 45 unsheltered.

Describe the jurisdictions one-year goals and actions for reducing and ending homelessness including:

1. Reaching out to homeless persons (especially unsheltered persons) and assessing their individual needs.

The primary source of funding for homelessness programs and services in the Gainesville community comes from DCA through the Balance of State Continuum of Care. The local organizations receiving funding from this stream will continue to be engaged in the work of outreach to homeless persons in order to assess individual needs and share information about available resources. Because funding is the greatest obstacle to addressing this need, the City will continue to fund homeless prevention services from CDBG funds under the public services funding category. These funds will supplement the state funds received through DCA.

2. Addressing the emergency shelter and transitional housing needs of homeless persons.

Several local organizations address the emergency and transitional housing needs of homeless persons. In addition, emergency and transitional housing needs may be addressed through grant funding opportunities, such as the competitive Continuum of Care process, or through other state or local funding streams.

3. Helping homeless persons (especially chronically homeless individuals and families, families with children, veterans and their families, and unaccompanied youth) make the transition to permanent housing and independent living, including shortening the period of time that individuals and families experience homelessness, facilitating access for homeless individuals and families to affordable housing units, and preventing individuals and families who were recently homeless from becoming homeless again.

Stakeholder input suggests that one reason households in transitional housing are slow to transition out is because there are so few decent affordable options available in the private rental market. Increasing support and case management funding associated with shelter and transitional housing programs may help, but adding new units to the overall affordable housing stock may help as well.

The City of Gainesville is not a direct recipient of the Emergency Solutions Grant (ESG) which could assist with housing the homeless and provide services to prevent homelessness, re-house or otherwise permanently house the homeless. ESG funding is made available through a competitive process through the Department of Community Affairs.

4. Helping low-income individuals and families avoid becoming homeless, especially extremely low-income individuals and families and those who are: being discharged from publicly funded institutions and systems of care (such as health care facilities, mental health facilities, foster care and other youth facilities, and corrections programs and institutions); or, receiving assistance from public or private agencies that address housing, health, social services, employment, education, or youth needs.

Service providers in the city, along with housing providers, work together to prevent homelessness in those populations which are vulnerable or at risk of homelessness. These groups include extremely low-income individuals and families, people discharged from institutions, and those receiving assistance from agencies addressing a variety of needs, such as housing, health, social services, employment, education or youth needs.

This plan identifies a need for additional affordable housing in Gainesville. The City and the Gainesville Housing Authority will continue to work toward the goal of creating additional affordable housing options, which will provide additional housing options for all people exiting an institutional setting and who may otherwise become homeless. The existing nonprofit organizations that serve the homeless population will also continue planning and coordinating procedures to ensure people are not discharged from hospitals or jails into homelessness. Various other homeless prevention efforts will be initiated and maintained by the local organizations participating in the Continuum of Care.

Discussion

Local homeless service providers generally agree that the point-in-time count underestimates the true number of homeless people in the community, yet no more reliable source of data is available. Hall County has 87 emergency shelter and transitional housing beds, down from 98 beds five years ago. Compared with what is likely a low-end estimate of 123 homeless people in Hall County, the 87 available beds indicate a shortage of at least 36 beds within the community.

AP-75 BARRIERS TO AFFORDABLE HOUSING – 91.220(J)

Introduction

Market data and stakeholder input both suggest a tight housing market in Gainesville, with low vacancy rates and increasing housing costs. While the market depends largely on the private sector to provide housing, there are roles the City and others can play through policy and regulation that may encourage greater private investment in new housing development in Gainesville.

Several aspects of the City's zoning code could potentially have a negative effect on housing development. For example, the City may want to consider adopting means to allow more flexibility in density and affordable housing development by carving out additional residential zoning districts or subdistricts that allow for a greater mix of housing types, lower minimum lot sizes, and higher multifamily density, and other alternatives such as relaxing the infill residential development standards, providing for cluster developments, density blending, and transfer of development rights in appropriate locations. Permitting or incentivizing conversion of single-family dwellings in high opportunity intown neighborhoods to two-family, 3-family, or multifamily dwellings on large lots also is a strategic way to address the need for more density and infill development in established neighborhoods.

Moreover, the City's land use regulations could go beyond just meeting the minimum FHA standards and affirmatively further and incentivize the development of affordable housing with inclusionary zoning policies. Gainesville has not adopted specific development incentives like density bonuses, reduced parking, or design waivers, reduced or waiver of development impact fees, administrative variances, or expedited permitting for the development of affordable or low-income housing or housing for protected classes.

Taken together, these zoning tools could potentially allow for more supply of housing, which helps put downward pressure on rental and sale prices, so that moderate and low-income families have access to

those neighborhoods and all the congruent benefits that come with higher opportunity areas such as access to jobs, better schools, access to transportation, and access to cultural amenities and public accommodations.

Actions planned to remove or ameliorate the negative effects of public policies that serve as barriers to affordable housing such as land use controls, tax policies affecting land, zoning ordinances, building codes, fees and charges, growth limitations, and policies affecting the return on residential investment.

As described more completely in the City's Analysis of Impediments to Fair Housing Choice, the City will work toward removing barriers to affordable housing development related to zoning code issues by reviewing its current code and drafting any amendments that could expand housing choice by making affordable housing development more efficient and less costly. Additionally, the City will continue to be supportive of Low Income Housing Tax Credit development proposals that would add additional affordable rental units to the local housing stock.

AP-85 OTHER ACTIONS – 91.220(K)

Introduction

This section details the City's actions planned to ensure safe and affordable housing for its residents, along with plans to meet underserved needs, reduce poverty, develop institutional structure, and enhance coordination between public and private sector housing and community development agencies.

Actions Planned to Address Obstacles to Meeting Underserved Needs

The City will work with its community partners to assist low- and moderate-income residents in accessing employment services, childcare, health services, substance abuse counseling and treatment, education programs, services for senior citizens, services for people experiencing homelessness, and fair housing counseling.

Actions Planned to Foster and Maintain Affordable Housing

In an effort to maintain the current affordable housing stock, the City of Gainesville will continue to provide funding for owner-occupied housing rehabilitation. Since 2001, the City has rehabilitated 48 homes with a total cost of about \$1.3 million.

Actions Planned to Reduce Lead-Based Paint Hazards

An important initiative emanating from HUD in the last decade is the reduction of lead-based paint hazards, and many jurisdictions around the country have focused on reaching this goal. The federal Residential Lead-Based Paint Hazard Reduction Act of 1992 (Title X of the Housing and Community Development Act of 1992) amends the Lead-Based Paint Poisoning Prevention Act of 1971, which is the law covering lead-based paint in federally funded housing. These laws and subsequent regulations issued

by the U.S. Department of Housing and Urban Development (24 CFR part 35) protect young children from lead-based paint hazards in housing that is financially assisted or being sold by the federal government.

In property rehabilitation projects involving the City of Gainesville, the City will assess whether lead-based paint might be present and, if so, follow the guidelines set forth in the Residential Lead-Based Paint Hazard Reduction Act of 1992.

The City of Gainesville is committed to testing and abating lead in all pre-1978 housing units assisted with federal grant funds in any of the housing programs it implements. Currently, the City has contracted with an agency to provide all lead testing and clearance activities. Clearance testing is performed on all completed units.

Actions Planned to Reduce the Number of Poverty-Level Families

The City of Gainesville's anti-poverty strategy focuses on helping all low-income households improve their economic status and remain above poverty levels. This may include, but is not limited to, job training, education, healthcare services, and emergency assistance. Current programs to reduce poverty through access to education and jobs are provided by through WorkSource Georgia Mountains and Lanier Technical College. Emergency assistance is also provided by several nonprofit housing and service agencies in Gainesville and Hall County. Additionally, City of Gainesville's housing programs and activities that support development of affordable housing inherently address poverty by creating housing opportunities for low-income households. Without these housing opportunities, many low-income households would not be able to afford housing rehabilitation costs or to purchase a home.

Actions Planned to Develop Institutional Structure

The City of Gainesville will continue to work closely with the United Way, Gainesville Housing Authority, state and local agencies and governments, and other service providers to coordinate delivery of services to city residents. The City has representatives on many nonprofit boards and advisory committees, and the Community & Economic Development Department will continue to consult with various housing, social service, elderly and disability resource agencies to gather data and identify service gaps. While there are unmet needs within the City of Gainesville, we have not identified any significant gaps in the service delivery system provided by the institutions within the city.

Actions Planned to Enhance Coordination between Public and Private Housing and Social Service Agencies

Public housing in the city of Gainesville is managed by the Gainesville Housing Authority. The quasi-governmental authority is governed by its board of commissioners which are appointed by the City. According to HUD's PIC (the HUD Office of Public & Indian Housing Information Center) data, there are 468 public housing units in Gainesville. The GHA receives federal funds to modernize and repair those units. The City of Gainesville Community & Economic Development Department will continue to work closely with the GHA to offer financial literacy classes to public housing residents and other citizens. Efforts will be made to identify residents that may be ready for homeownership and direct them toward those opportunities. Grant funds from the City of Gainesville downpayment assistance program will be made

available to assist residents with purchasing a new home. Such actions will help housing authority residents become more independent and make units available for families with greater needs.

GHA will continue to partner with area organizations to offer opportunities for residents including:

- English classes
- Income tax assistance
- Case management
- Adult Computer Classes
- Childcare
- Credit Issues
- Community Services
- Educational Goals
- Employment Readiness
- Financial Literacy
- Housing
- Home-ownership Counseling
- Disability Counseling
- Support Services
- Nutrition
- Healthcare
- Accessible Resources
- Senior Employment Volunteer Opportunities

Additionally, the Resident Opportunity and Supportive Services Program (ROSS) will continue to support public housing residents by linking them with valuable community resources to obtain economic self-sufficiency, independence, improved quality of life, and in some cases, helping individuals maintain stable housing as they age.

PROGRAM SPECIFIC REQUIREMENTS

AP-90 PROGRAM SPECIFIC REQUIREMENTS – 91.220(L)(1,2,4)

Introduction

Projects planned with CDBG funds expected to be available during the year are identified in the Projects Table. The following identifies program income that is available for use that is included in projects to be carried out.

Community Development Block Grant Program (CDBG) (Reference 24 CFR 91.220(l)(1))

1. The total amount of program income that will have been received before the start of the next program year and that has not yet been reprogrammed	\$0
2. The amount of proceeds from section 108 loan guarantees that will be used during the year to address the priority needs and specific objectives identified in the grantee's strategic plan	\$0
3. The amount of surplus funds from urban renewal settlements	\$0
4. The amount of any grant funds returned to the line of credit for which the planned use has not been included in a prior statement or plan.	\$0
5. The amount of income from float-funded activities	\$0
Total Program Income	

Other CDBG Requirements

1. The amount of urgent need activities	\$0
2. The estimated percentage of CDBG funds that will be used for activities that benefit persons of low and moderate income. Overall benefit – A consecutive period of one, two, or three years may be used to determine that a minimum of 70% of CDBG funds is used to benefit persons of low and moderate income. Specify the years covered that include this Annual Action Plan.	80% 2019, 2020, 2021

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/9/2020
Presenter: Phillippa Lewis Moss
Item of Business: Resolution: Accept FY21 Legacy Link Grant Contract
Meeting Date: 7/16/2020

Purpose of Request:

Legacy Link invited the Community Service Center to submit a request for proposals that would provide funding for Meals on Wheels, Senior Life Center, and Coordinated Transportation for Senior Life Center clients.

History/Background:

Legacy Link, Inc. is our community's Area Agency on Aging. It is a pass through agency for funding available under the Older Americans Act. Funding for Meals on Wheels, Senior Life Center and some Coordinated Transportation services is granted to the City of Gainesville through a Legacy Link grant.

Facts & Issues for Consideration:

Legacy Link has reviewed the CSC's FY21 proposal and would like to offer grant funding for \$1,465,175 to support its Meals on Wheels, Senior Life Center, and Senior Transportation Services. To receive the grant funding the Gainesville City Council must authorize the City Manager and/or Mayor to execute the contract and associated documents.

Department Recommendation:

Authorize the approval of the FY21 Legacy Link, Inc. grant documents and future amendments.

Department Director:

Phillippa Lewis Moss

If funding is involved, are funds approved within the current budget?

Yes

Amount Requested:

\$66,142

Source of Funds:

General Funds - Already in Approved FY21 CSC Budget

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ FY21 Legacy Link Contract Resolution	Resolution

RESOLUTION PR-2020 - ____

Accept FY21 Legacy Link Grant Contract

WHEREAS, the Gainesville-Hall County Community Service Center (CSC) is charged with providing a variety of services for aging persons in Hall County; and

WHEREAS, the CSC has for three decades applied for and been awarded a grant through Legacy Link for aging services to include senior transportation, home delivered meals, and congregate meals.

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves of the FY21 Legacy Link grant contract and addendums and authorizes the City Manager and/or Mayor to sign all associated documents.

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/13/2020
Presenter: Phillippa Lewis Moss
Item of Business: Resolution: Approval of Hall Area Transit Safety Plan
Meeting Date: 7/16/2020

Purpose of Request:

City Council approval of a draft Safety Plan is required for Hall Area Transit to be in compliance with federal regulations as established through the authorizing resolution known as Moving Ahead for Progress in the 21st Century (MAP-21).

History/Background:

The Federal Transit Administration has directed all transit agencies to develop a Safety Plan consistent with goals outlined in the authorizing resolution known as Moving Ahead for Progress in the 21st Century (MAP-21).

Facts & Issues for Consideration:

Four objectives of the Safety Plan are to:

- 1) Increase the safety of our transit system by proactively identifying, assessing and controlling risks
- 2) Continually improve safety performance
- 3) Improve commitment of transit leadership to safety
- 4) Foster a culture of safety awareness and responsiveness

Department Recommendation:

Approve the Hall Area Transit Safety Plan.

Department Director:

Phillippa Lewis Moss

If funding is involved, are funds approved within the current budget?

No

Amount Requested:

\$0.00

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Approve Hall Area Transit Draft Safety Plan	Resolution
☐ Hall Area Transit Draft Safety Plan	Attachments/Exhibits

RESOLUTION PR-2020 - ____

Accept Hall Area Transit Safety Plan

WHEREAS, the Federal Transit Administration has directed all transit agencies to develop a Safety Plan consistent with goals outlined in the authorizing resolution known as Moving Ahead for Progress in the 21st Century (MAP-21); and

WHEREAS, the four objectives of the Safety Plan are to:

- 1) Increase the safety of our transit system by proactively identifying, assessing and controlling risks,
- 2) Continually improve safety performance
- 3) Improve commitment of transit leadership to safety; and
- 4) Foster a culture of safety awareness and responsiveness

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves of the attached Hall Area Transit Safety Plan and authorizes the City Manager and/or Mayor to sign all associated documents.

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

HALL AREA TRANSIT

SAFETY PLAN

JULY 2020



5/29/2020 FINAL DRAFT

AUTHORIZATIONS

Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America's Surface Transportation Act (FAST) granted the Federal Transit Administration (FTA) the authority to establish and enforce a comprehensive framework to oversee the safety of transit bus systems throughout the United States. On July 19, 2018, the FTA promulgated its final rule 49 C.F.R. Part 673 - Public Transportation Agency Safety Plan (PTASP) which requires recipients of FTA Chapter 5307 funds to develop and implement a safety plan based on Safety Management Systems (SMS) principles and methods.

Hall Area Transit (HAT) establishes this Safety Plan as our agency's commitment to system safety and the principles of SMS. The objectives of our plan are to:

- Increase the safety of our transit system by proactively identifying, assessing and controlling risks;
- Continually improve safety performance;
- Improve the commitment of transit leadership to safety; and
- Foster a culture of safety awareness and responsiveness.

HAT is committed to implementing a systematic and comprehensive safety program. Leadership will visibly demonstrate its commitment to safety by monitoring hazards, enforcing and supporting safety programs, and promoting an open and transparent environment to discuss and address safety issues.

This Safety Plan was developed by the Georgia Department of Transportation (GDOT), and HAT has adopted it to comply with FTA Part 673 requirements. The Gainesville City Council and City Manager, and our Community Services Director and Transit Operations Director have reviewed and approved this Safety Plan and assure that its contents meet the requirements of Regulation 49 C.F.R. Part 673 through the establishment of a comprehensive SMS framework.

This Safety Plan will be distributed to all transit employees and will be reviewed and updated annually.

APPROVED BY	DATE
[ACCOUNTABLE EXECUTIVE, PHILLIPPA LEWIS MOSS, COMMUNITY SERVICES DIRECTOR]	

REVISION RECORD				
REVISION #	REVIEW DATE	REVIEWER	REVISION DATE	APPROVED BY
1	_/_/21			
2	_/_/22			
3	_/_/23			
4	_/_/24			

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DEFINITIONS

Accident: An event that involves any of the following – loss of life; a report of a serious injury to a person; a collision of a public transit vehicle; an evacuation for life safety reasons at any location, at any time, whatever the cause.

Accountable Executive: A single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the Agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the Agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. § 5329(d), and the Agency's Transit Asset Management Plan in accordance with 49 U.S.C. § 5326.

Chief Safety Officer: Means an adequately trained individual who has responsibility for safety and reports directly to a transit agency's chief executive officer, general manager, president, or equivalent officer. A Chief Safety Officer may not serve in other operational or maintenance capacities, unless the Chief Safety Officer is employed by a transit agency that is a small public transportation provider as defined in this part, or a public transportation provider that does not operate a rail fixed guideway public transportation system.

Event: Means any accident, incident, or occurrence.

Hazard: A condition that has the potential to cause injury, illness, death, or property damage.

Fatality: A death or suicide confirmed within 30 days of a reported event. Does not include deaths in or on transit property that are a result of illness or other natural causes; a death due to, Collision (including suicides), Fire, Hazardous material spill, Acts of God, System or personal security event (including suicides), and Other safety events.

Hazard Likelihood: Probability of a hazard consequence to occur.

Hazard Severity: The effect/damaging result of a hazards consequence.

Incident: An event that involves any of the following – a personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

Injury: Any damage or harm to persons that requires immediate medical attention away from the scene because of a reportable event. Agencies must report each person transported away from the scene for medical attention as an injury, whether or not the person appears to be injured.

Occurrence: An event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency.

Performance target: A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration.

Reportable: An event occurring on transit right-of-way, in a transit revenue facility, in a transit maintenance facility, or involving a transit revenue vehicle, excluding occupational safety events occurring in administrative buildings.

Risk: An assessed probability and severity calculation to classify the overall potential consequences of a hazard.

Safety Assurance: A list of defined safety performance indicators for reach priority risk and associated targets the Agency will use to determine if it is achieving the specified safety goals.

Safety Events: Include but are not limited to collisions, fires, hazardous material spills, slips, trips, falls, smoke, power failure, maintenance-related issues, or electric shock. To be reported as a major event, these events must **either** meet the fatality, evacuation, or property damage threshold **or** result in two or more injured persons. Other Safety Events that cause only one person to be immediately transported from the scene for medical attention, and that do not trigger any other reporting threshold, are reported on the Non-Major Monthly Summary Report form. The FTA includes Other Safety Events that occur in a transit maintenance facility and meet a reporting threshold but continues to exclude occupational safety events occurring in administrative buildings.

Safety Performance Target: A performance target related to safety management activities.

Serious injury: Any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or noses); (3) Causes severe hemorrhages, nerve, muscle, or tendon damage; (4) Involves any internal organ; or (5) Involves second or third degree burns, or any burns affecting more than 5 percent of the body surface.

Acronyms:

ADA	Americans with Disabilities Act
CAP	Corrective Action Plan
CSO	Chief Safety Officer
FAST	Fixing America's Surface Transportation Act
FTA	Federal Transit Administration
FY	Fiscal Year
GDOT	Georgia Department of Transportation
GHCMPO	Gainesville Hall County Metropolitan Planning Organization
HAT	Hall Area Transit
KPI	Key Performance Indicator
MAP-21	Moving Ahead for Progress in the 21 st Century
MILSTD	Military Standard
MPO	Metropolitan Planning Organization
NPTSP	National Public Transportation Safety Plan
NTD	National Transit Database
NTSB	National Transportation Safety Board
PHA	Preliminary Hazard Assessment
PPE	Personal Protective Equipment
PTASP	Public Transportation Agency Safety Plan
SMS	Safety Management System
TAM	Transit Asset Management
UPT	Unlinked Passenger Trip
VRM	Vehicle Revenue Mile

1. Transit Agency Information

Hall Area Transit (HAT) is the public transportation system serving the city of Gainesville and Hall County. HAT operates the Gainesville Connection, a fixed-route bus system offering weekday service along six routes. Buses run hourly from 6:00 AM to 6:00 PM. In addition to our Mobility Plus Americans with Disabilities (ADA) complementary service, HAT uses Section 5311 funds to operate a Dial-a-Ride service, offering the general public curb-to-curb service within Hall County.

Transit Agency Name	Hall Area Transit			
Transit Agency Address	687 Main Street, Gainesville, GA 30501			
Accountable Executive (Name and Title)	Phillippa Lewis Moss, Community Services Director			
Chief Safety Officer (Name and Title)	Transit Operations Director, Shane Thompson			
Mode(s) of Service Provided (e.g., Fixed Route, Demand Response, ADA Paratransit, etc.)	Fixed Route, Demand Response, ADA Paratransit,	List All FTA Funding Types	5307, 5311, 5339	
Vehicles Operated in Maximum Service, by Mode	Fixed Route 6	ADA Paratransit 7	Demand Response	
Mode(s) of Service Contracted Out to Third Party Operators (TPOs)	Not Applicable			
Name of Third Party Operator (if applicable) and contact person	Not Applicable			
Does the agency provide transit services on behalf of another transit agency or entity?	Yes ☐	No ☒	Description of Arrangement(s)	Not Applicable

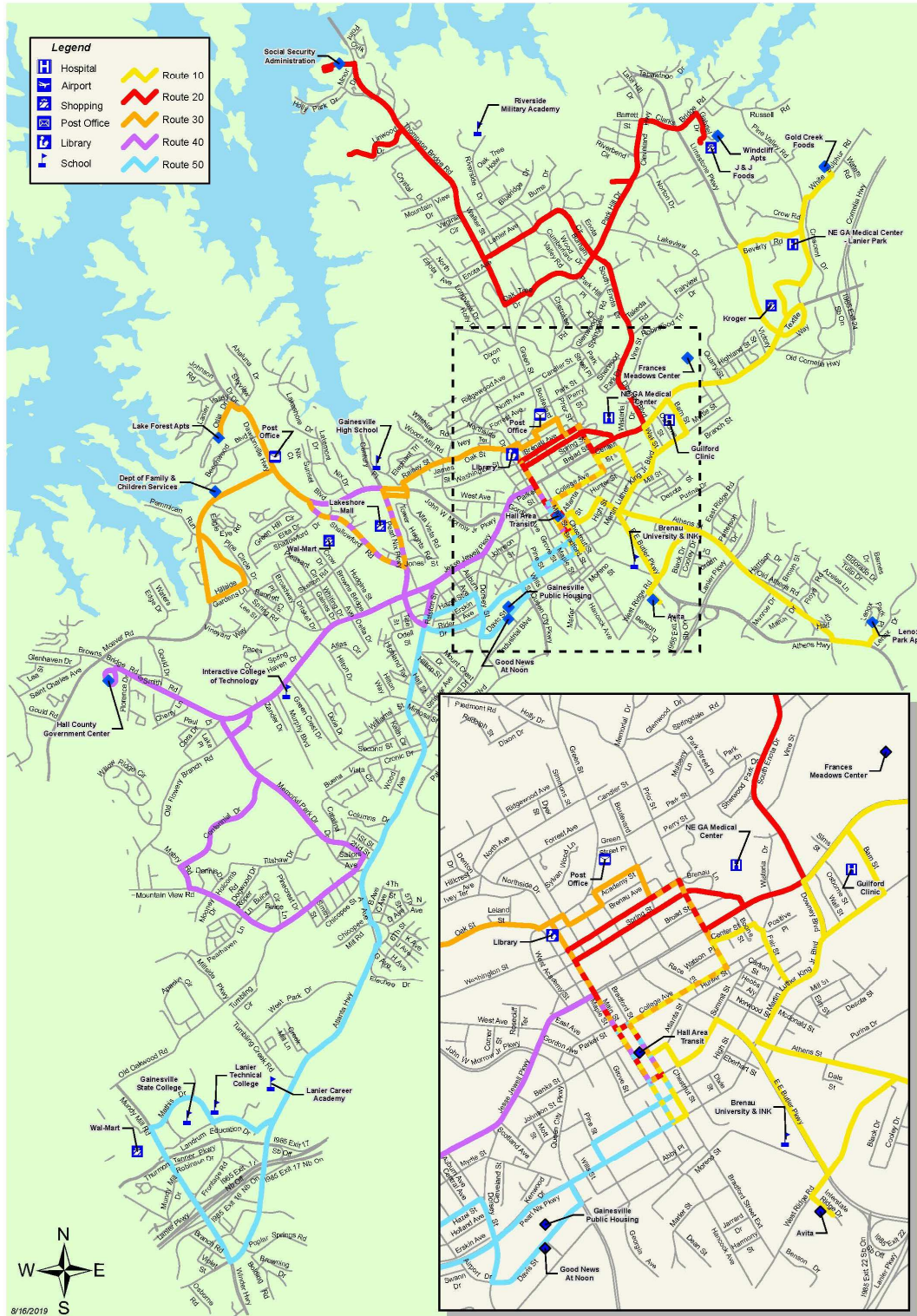
Name and Address of Transit Agency(ies) or Entity(ies) for Which Service Is Provided	Not Applicable	
Are any transit employees represented by a Labor Union? If so please describe.	No	
No. of Fixed Bus Routes:	5	
Annual Vehicle Revenue Miles (VRM)	Fixed Route Bus VRM	Demand Response/Paratransit VRM
	259,649	110,146
Annual Unlinked Passenger Trips (UPT)	Fixed Route Bus UPT	Demand Response/Paratransit UPT
	145,948	10,294

Maintenance of transit vehicles is performed by the City of Gainesville Department of Public Works.

Figure 1 – Hall Area Transit System Map



AUGUST 2019



2. Safety Management

2.1 Safety Management Policy

HAT strives to provide the safest and most secure experience for the riding public and our employees. All levels of management and employees are accountable for the delivery of the highest level of safety performance, starting with the Community Services Director, who manages transit services for Gainesville-Hall. Every employee must practice workplace safety, use equipment, tools and materials properly, and be trained in the agency's work rules and procedures for his or her respective areas of responsibility, including contingency plans for abnormal and emergency conditions.

HAT is committed to:

- Supporting an organizational culture that fosters safe practices, encourages effective employee safety reporting and communication, and actively manages safety with the same attention to results as paid to other management systems of the organization;
- Integrating the management of safety as a primary responsibility of all managers and employees, including contractors;
- Defining for all staff, managers and employees alike, their accountability and responsibility for the delivery of the organization's safety performance and the overall implementation of our Safety Plan;
- Establishing and implementing a proactive safety program to manage risks to a level that is acceptable and consistent with safety performance;
- Ensuring protections for any employee who discloses a safety concern through the employee safety reporting program;
- Complying with, and wherever possible, exceeding the expectations of legislative and regulatory requirements and standards;
- Ensuring all staff are provided with adequate and appropriate safety-related information, personal protective equipment (PPE) and training, are competent in safety management matters, and are allocated only to tasks commensurate with their skills;
- Communicating the purpose and benefits of the Safety Management System (SMS) to all staff, managers, supervisors, and employees;
- Establishing and measuring our safety performance against realistic and data-driven safety performance indicators and safety performance targets;
- Continually improving our safety performance through management processes that ensure appropriate safety management actions are taken and are effective; and
- Ensuring externally supplied systems and services to support our operations are delivered to meet our safety performance standards.

This agency Safety Plan describes our safety efforts and programs, and through our thorough implementation of such efforts and programs we explicitly show our commitment to system safety based on SMS principles, as per 49 CFR Part 673.

2.2 Employee Safety Reporting

Employees are required to embrace HAT's safety goals and objectives and are encouraged to report safety concerns, issues or hazards. Executive management has established a safety reporting process for employees to voice their safety concerns without fear of retribution or blame. All frontline personnel will be responsible for utilizing this program as necessary. Our employees (including contractors) have a duty to report any unsafe condition to their supervisor, manager, or the Chief Safety Officer. Unsafe conditions may include issues with policies, procedures, physical conditions, events, information about an issue, among others. All violations of agency safety rules or procedures (including regulatory requirements of the agency) may result in disciplinary action. No action will be taken against any employee who communicates a safety condition through our reporting program unless such disclosure indicates an illegal act, gross misconduct or negligence, or a deliberate or willful disregard of our rules, policies and procedures. Once actions to remediate a safety violation have been determined, they shall be communicated throughout the organization and carried out.

2.3 Safety Management Policy Communication

HAT staff are informed of their responsibilities related to safety and the requirements of our Safety Plan during onboarding. Communicating the purpose and benefits of this Safety Plan and SMS principles among executive and senior management, supervisors and frontline staff are the most important jobs of all of our employees. All employees understand their respective safety roles and obligations and in identifying and assessing safety risks in the workplace and in agency operations. Fostering and reinforcing these obligations through regular agency-wide communications and programs are critical functions of senior management and the Chief Safety Officer including but not limited to:

- Safety meetings;
- Operator meetings with supervisors and managers;
- Newsletters;
- Safety bulletins;
- Safety emails and text message alerts;
- Radio supervisor communication with operators;
- One-on-one communication between supervisors and frontline employees;
- Meetings with contractors;
- Committee meetings; and
- Safety campaigns.

2.4 Safety Responsibilities

The purpose of our Safety Plan is to maintain a formal safety program and establish a coordinated safety effort responsive to the needs of the operating, maintenance and support departments. We emphasize the goal of all personnel and contractors to work toward the common goal of

minimizing the occurrence of customer and employee accidents and incidents by providing safe revenue service to our customers and a safe work environment for our employees.

The following personnel lead the organization in the implementation of our Safety Plan:

Accountable Executive – Community Services Director (Phillippa Lewis Moss, current incumbent)

- Establishes and sets an organizational example for safety objectives and goals;
- Directs human resources;
- Manages agency finances;
- Oversees operations and maintenance programs;
- Promotes and communicates safety policy and programs;
- Participates in regular meetings with key staff to understand the status of safety programs and data; and
- Ultimately holds responsibility for all agency safety outcomes.

Chief Safety Officer (CSO) – Transit Operations Director (Shane Thompson, current incumbent)

- Designated by the Community Services Director to manage and implement the Safety Plan throughout the agency;
- Regularly reports to the Community Services Director to provide status reports on HAT's safety program implementation;
- Manages the employee safety reporting program;
- Chairs safety meetings with key departmental managers including operations and maintenance;
- Participates in formal meetings with the FTA and GDOT on safety regulatory and program topics;
- Reports Safety Performance Measures/Targets to the Gainesville-Hall Metropolitan Planning Organization (GHMPO);
- Develops and implements safety policies, procedures, and programs;
- Supervises and oversees work of assigned safety staff, conducts performance reviews with staff, and initiates appropriate actions related to such;
- Directs the hazard management process and provides notification of reportable accidents, incidents and hazardous conditions;
- Investigates employee and vehicle accidents/incidents and injuries and works to develop programs to reduce accidents and injuries;
- Conducts inspections and researches safety codes, standards, and regulations;
- Compiles and analyzes health and safety statistics; produces reports, records, documents, and manifests; accesses and updates database files;
- Coordinates staff safety meetings and attends meetings, conferences and group functions related to safety;
- Develops and conducts training sessions relating to safety issues;
- Identifies health and safety concerns, analyzes reports and information, develops programs for accident/injury prevention, and submits recommendations to reduce frequency of accidents;
- Develops departmental and organizational Key Performance Indicators (KPI); and

- Conducts risk identification, evaluation, control, funding, and administration.

The CSO has a direct line of reporting to the Community Services Director.

In addition, SMS implementation is supported by other positions within the HAT management structure, as well as key staff including:

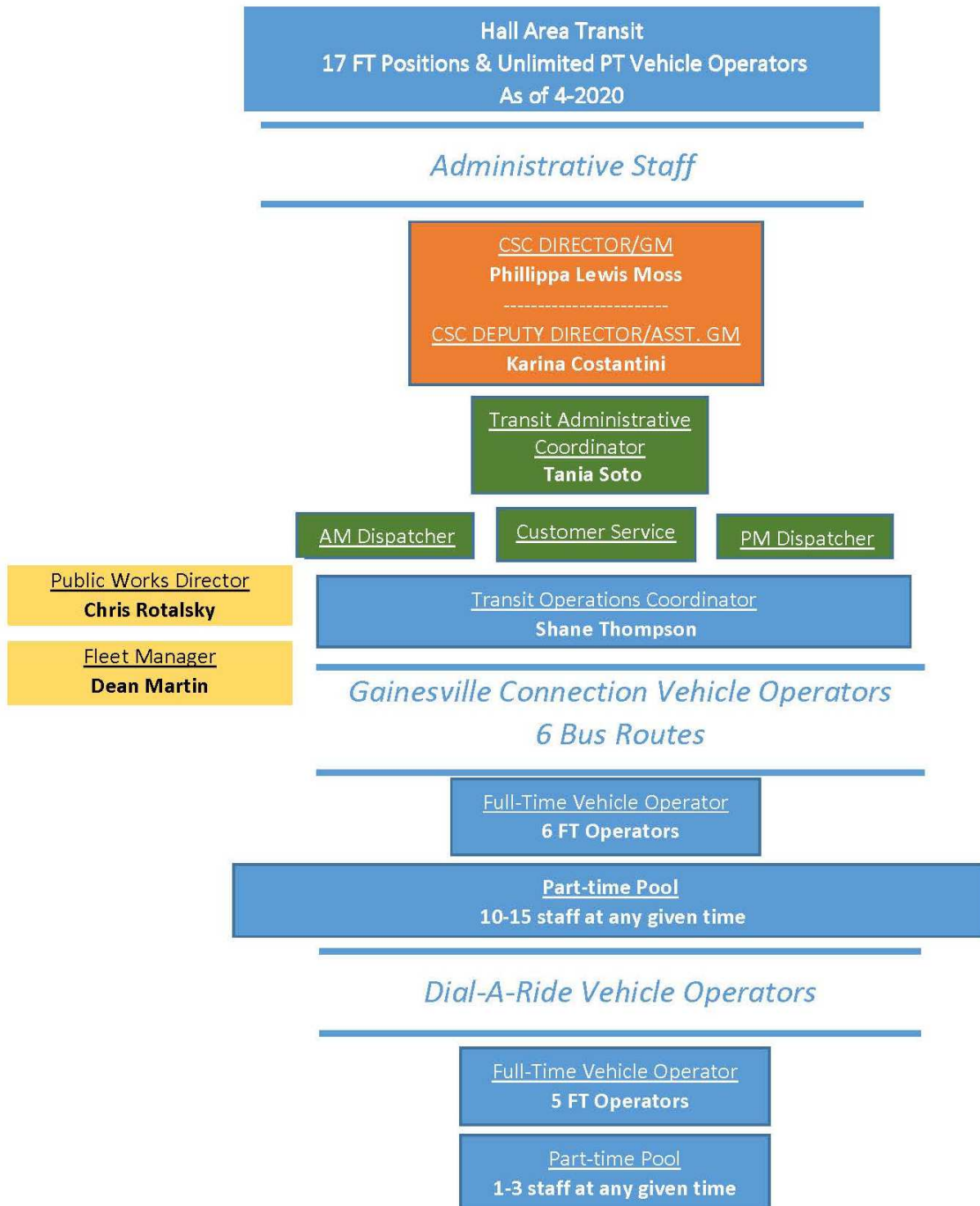
- Public Works Director – This position falls under the Department of Public Works of the City of Gainesville;
- Fleet Manager – This position reports to the Public Works Director and is responsible for maintenance of the HAT buses and paratransit vehicles;
- Community Services Deputy Director; and
- Transit Administrative Coordinator.

These personnel have the following authorities, accountabilities, and responsibilities:

- Participate as members of HAT Safety Committee;
- Complete training on Safety Plan elements;
- Oversee day-to-day operations of the Safety Plan in their departments;
- Modify policies in their departments consistent with implementation of the Safety Plan, as necessary; and
- Provide subject matter expertise to support implementation of the Safety Plan as requested by the Community Services Director or the CSO, including Safety Risk Management activities, investigation of safety events, development of safety risk mitigations, and monitoring of mitigation effectiveness.

The overall HAT Organization Chart, which includes the applicable executive management positions/departments can be found in **Figure 2** on the following page.

Figure 2 – Hall Area Transit Organization Chart



2.5 Safety Committee

The CSO will convene monthly meetings of the Safety Committee to discuss safety program issues, safety data/performance indicators, Safety and Transit Asset Management (TAM) Plan updates, among various other issues that pertain to overall agency safety matters. The Safety Committee is an executive-level function that will at minimum include the Community Services Director, key representatives from Operations and Maintenance, and will be chaired by the CSO. The objectives of regular meetings of the Safety Committee are to ensure that the Community Services Director is well-versed in the implementation of the Safety Plan, KPI, and other important data, and that executive-level staff have a regular multi-disciplinary forum to discuss pertinent safety issues and policy.

3. Safety Risk Management

3.1 Hazard Management Program

HAT promotes the proactive identification and evaluation of hazards before they escalate into accidents or incidents. This Safety Plan and its programs must be effective in identifying and minimizing hazards in the operational environment. All operations must be viewed from a systems perspective in that the safety-critical functions of one group may impact those of one or more others. This focus on system safety is meant to foster the understanding of the interdependence of actions on overall safety. As such, our hazard management program involves a multi-disciplinary review process that is ultimately managed by the Safety Committee, led by the CSO. There are three basic objectives:

- Hazard identification;
- Hazard assessment; and
- Safety risk mitigation.

3.2 Hazard Identification

Hazard identification and resolution is a core element of the Safety Plan emphasizing timely correction of unsafe conditions, anticipated and reconciled before serious accident, injury, or damage occurs. Our risk management program includes the following practices:

- Employee safety reporting;
- Driver, dispatcher, supervisory and maintenance performance information;
- Rules compliance checks;
- ADA compliance reviews;
- Asset conditions assessments;
- Camera and event recorder reviews;
- Environmental information;
- Safety observations;
- Pre- and post-trip inspections;
- Vehicle, facility and equipment inspections;
- Internal safety investigations;
- Fitness for duty checks;
- Accident reports;
- Compliance programs;
- Safety Committee reviews; and
- Public feedback/complaints.

HAT emphasizes the timely identification and correction of unsafe conditions, anticipated and reconciled before serious accident, injury, or damage occurs. To ensure we provide as safe and reliable transportation services as possible, we have established a process by which hazards are identified, analyzed for potential impact on the operating system, and resolved in a manner acceptable to management and applicable regulatory agencies. All management, staff, contractors, and suppliers are required to implement high standards of safety and system

assurance throughout the design, construction, testing, and operational phases of our projects. Hazards which cannot be eliminated with design mitigations which include the implementation of safety warning devices are usually addressed by training, and/or written procedures to prevent mishaps. Most hazards are identified in the field, reported, entered in reports, and are addressed by the responsible departments through routine corrective measures that do not require special attention.

Hazards can be identified through a host of sources ranging from daily experience (accidents, incidents or safety concerns), gathered data, information submitted by patrons, to detailed analyses and assessments of existing conditions, among others. Once hazard causes, consequences, and likelihood of occurrence have been assessed, priorities for resolution can be established. The risks associated with hazards are accepted, minimized, controlled or identified for future remedy. Safety efforts must, however, continue to ensure that the implementation of hazard remedies do not create new safety concerns.

3.3 Hazard Assessment

Hazard assessments shall include specific inputs, reviews, and comments from any department and personnel, as necessary. To categorize the severity of a hazard, the likely effects on passengers, employees, general public and equipment must be established. Hazard severity ratings are based on categories from Military Standard 882E (MILSTD-882E) and require system key agency stakeholders to make subjective determinations of the worst case that could be anticipated to result from design inadequacies, human error, component failure or malfunction. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap from resulting from personnel error, environmental conditions, design inadequacies, and procedural deficiencies for a system, subsystem or component failure or malfunction. **Table 1** below summarizes the hazard severity categories. It reflects the principle that not all hazards pose an equal amount of risk to personnel safety.

Table 1 – Hazard Severity

Characteristics				
Severity Level	People	Equipment/Services	Financial	Reputational
Catastrophic 1	Several deaths and/or numerous severe injuries (per event)	Total loss of equipment or system interruption, requiring months to repair	Estimated loss in excess of \$5 million	Ongoing media coverage, irreparable reputational damage, government intervention (weeks-months)
Critical 2	Low number of deaths and/or severe injuries (per event)	Significant loss of equipment or system interruption, requiring weeks to repair	Estimated loss in the range of \$500,000 to \$5 million	Prolonged media campaign, serious reputational damage, sustained government involvement (days-weeks)
Major 3	Minor injury and possible serious injury (per event)	Some loss of equipment or system interruption, requiring 7 days or less to repair	Estimated loss in the range of \$50,000 to \$500,000	Adverse media coverage, reputational damage, government involvement
Marginal 4	Possible minor injury (per event)	Some loss of equipment, no system interruption, less than 24 hours to repair	Estimated loss in the range of \$1000 to \$49,999	Local media coverage and some reputational damage
Insignificant 5	No injury	Minor damage to equipment, no system interruption, no immediate repair necessary	Estimated loss is likely less than \$1000	No adverse media or reputational damage

The likelihood that a hazard will occur during the planned life expectancy of a system element, subsystem, component or daily operational function can be described subjectively in potential occurrences per unit time, event, population, items or activity. A qualitative hazard likelihood may be derived from research, analysis, and evaluation of historical safety data or a similar system. The CSO, departmental managers or the Safety Committee can assign a likelihood rating to a particular event or a specific hazard. Supporting rationale for assigning a hazard likelihood is documented in hazard analysis reports, memos, or minutes from meetings. The assessment of the likelihood of hazard occurrence will consider specific system operations based on the current system configuration. Hazard likelihood levels to be considered are shown in **Table 2** below.

Table 2 – Hazard Likelihood

Likelihood	Specific Item	Fleet / Inventory	Frequency
A Frequent	Likely to occur frequently in the life of an item	Continuously experienced	26 or more events in a year
B Probable	Will occur often in the life of an item	Will occur frequently in the system	13 to 25 events in a year
C Occasional	Likely to occur sometime in the life of an item	Will occur several times	6 to 12 events in one year, or less than 24 events in 5 years
D Remote	Unlikely but possible to occur in the life of an item	Unlikely, but can be expected to occur	1 to 5 events in one year or less than 10 events in 10 years
E Improbable	Unlikely to occur but possible	Unlikely to occur, but possible	1 event in 25 years
F Eliminated	Incapable of occurrence. This level is used when potential hazards are identified and later eliminated.		

The Hazard Risk Index (**Table 3**) combines hazard categories, severity and probability to constitute a chart to assist in the evaluation of specific hazards and their associated levels of risk.

Table 3 – Hazard Risk Index

Hazard Categories					
Frequency	1 Catastrophic	2 Critical	3 Major	4 Marginal	5 Insignificant
A Frequent	1A	2A	3A	4A	5A
B Probable	1B	2B	3B	4B	5B
C Occasional	1C	2C	3C	4C	5C
D Remote	1D	2D	3D	4D	5D
E Improbable	1E	2E	3E	4E	5E
F Eliminated					

Hazard Risk Index	Risk Decision Criteria
Unacceptable	Hazard must be mitigated
Undesirable	Requires acceptance from management
Acceptable with Review	Hazard may be accepted with management review
Acceptable	Risk level is acceptable
Eliminated	No hazard remains

3.4 Safety Risk Mitigation

Once a risk has been evaluated, the agency will determine a course of action to address a given risk. As per the process above, a risk may be eliminated by eliminating the source of the hazard. For example, if a special service route has experienced incidents, such hazards will be eliminated when such special service is also eliminated. In other instances, for example, the CSO and Safety Committee may utilize accident/incident data over time to discuss the hazards of vehicle rear-endings and evaluate the type, severity and probability of these accidents, and mitigation measures to prevent these mishaps in the future. Such mitigations may include new standard operating procedures, policies, additional training requirements, public awareness campaigns, or even vehicle design changes.

This methodology may be applied for the analysis of risks of day-to-day operations as well as for preliminary hazard assessments (PHA) when designing new system infrastructure. During the safety certification process to develop system expansions, identified hazards can be addressed by designing system elements for minimum risk, and/or incorporating safety and warning devices.

3.5 Hazard Tracking

Some more complex hazards may require the use of a Safety Risk Register which may consist of the following information:

- Assigned hazard number;
- Date hazard identified;
- Hazard title;
- Hazard description;
- Sources from which the hazard was identified;
- The element of operation affected by the hazard;
- Initial hazard classification;
- Current hazard classification; and
- Corrective Action Plan (CAP).

The Register, when used, is updated regularly until the hazard CAP has been closed out. All captured data is analyzed for the identification of developing trends to ensure future safety risks/hazards can be mitigated and/or eliminated.

4. Safety Assurance

The purpose of Safety Assurance is to evaluate the overall effectiveness of safety risk controls established under the Safety Risk Management program. The Community Services Director and CSO are responsible for monitoring and evaluating day-to-day operations to ensure that: 1) emerging risks are identified, 2) HAT is in compliance with regulatory requirements applicable to the Safety Plan, and 3) that our safety programs are meeting our safety goals and objectives. Safety Assurance programs provide important feedback and data into the Safety Risk Management process and vice versa to promote safer operations. Through our Safety Risk Management and Safety Assurance activities, we will evaluate the adequacy of procedures, processes, personnel performance, our data collected, and compliance with procedures and programs.

4.1 Safety Performance Monitoring and Measurement of Risk Mitigations

The Community Services Director has the ultimate responsibility of affording the riding public and employees safe and secure operations. Each employee is required to carry out specific system safety responsibilities in compliance with their job specifications, agency rules and regulations and this Safety Plan. Each department generates its own performance data used for the detection of trends or problems in operations and maintenance prior to the development of a major safety concern. Among the various safety assurance activities overseen by the Community Services Director and CSO include:

- Fleet operations;
- Road supervision;
- Fleet maintenance;
- Drug and Alcohol Program;
- TAM;
- Resource planning;
- Internal operations reviews;
- Accident/incident investigations and other means to determine causal factors;
- Contractor safety efforts;
- Data collection and analysis; and
- Security activities.

The City of Gainesville's Risk Management Guidelines and Accident Review Panel Policy specifically detail procedures for investigating accidents and issuing recommendations to prevent recurrence. As outlined in the Policy, key objectives of the Accident Review Panel are:

1. To assist the City in the effective implementation of its safety programs;
2. To gather data to identify trends and to create statistical reports to assist in future loss control efforts;
3. To determine whether accidents were preventable or non-preventable; and
4. To make recommendations to Department Directors to prevent recurrence of similar accidents in the future.

It is the task of the CSO to monitor and measure the safety performance of operations through data provided from the various departments and report to the Community Services Director and

Safety Committee periodically. Using collected data and assessing trends, we develop minimum performance standards to meet agency safety targets and goals. From there, we may utilize KPI that show us whether or not we are achieving our safety targets and goals. Selected data is accumulated and analyzed for ongoing trending and performance measurement, including fatalities, injuries to passengers and/or personnel, system reliability, and other safety related events. This data comes from various sources including, but not limited to:

- Event reports;
- Observations of operations reports;
- Internal and external inspection, survey, and audit reports;
- Safety suggestions from employees and customers;
- Historical knowledge;
- Seasonal events and effects;
- Environmental considerations;
- New equipment or facility deployments;
- Fleet issues;
- Process reviews and audits;
- Training efforts; and
- Peer reviews.

For HAT, all data is overseen by the Transit Administrative Coordinator.

Monitoring and measurement of our safety assurance program establishes a baseline which we can use to compare criteria and conditions at other specific points in time. Once a baseline is established through monitoring and measurement, data can be used as criteria in evaluating operations to reduce risk and overall safety objective/goal achievement. Ongoing monitoring is built into our operations, performed continually, and responsive to change. Ongoing monitoring includes regular management and supervisory activities, comparisons, reconciliations, and other routine actions.

The CSO maintains a list of safety risk mitigations in a Safety Risk Register. The mechanism for monitoring safety risk mitigations varies depending on the mitigation.

The CSO establishes one or more mechanisms for monitoring safety risk mitigations as part of the mitigation implementation process and assigns monitoring activities to the appropriate director, manager, or supervisor. These monitoring mechanisms may include tracking a specific metric on daily, weekly, or monthly logs or reports; conducting job performance observations; or other activities. The CSO will endeavor to make use of existing processes and activities before assigning new information collection activities.

The CSO and Safety Committee review the performance of individual safety risk mitigations during Safety Committee meetings, based on the reporting schedule determined for each mitigation, and determine if a specific safety risk mitigation is not implemented or performing as intended. If the mitigation is not implemented or performing as intended, the Safety Committee will propose a course of action to modify the mitigation or take other action to manage the safety risk. The CSO will approve or modify this proposed course of action and oversee its execution.

4.2 Safety Performance Measures and Targets

Among the various KPI that we use are the four safety performance measures that are required by the National Public Transportation Safety Plan (NPTSP): Fatalities, Injuries, Safety Events and System Reliability, as defined below:

- Fatalities – Total number of reportable¹ fatalities and rate per total vehicle revenue miles (VRM) by mode;
- Injuries – Total number of reportable injuries and rate per total VRM by mode;
- Safety Events – Total number of reportable events and rate per total VRM by mode; and
- System Reliability – Mean distance between major mechanical failures by mode.

These safety performance measures are based on data submitted to the National Transit Database (NTD). Our annual performance targets for these measures for FY 2021 are as below in **Table 4**. These safety performance targets will be shared with GHMPO to aid in the planning process. HAT will coordinate with GDOT and GHMPO in the selection of state and regional performance targets as requested.

Table 4 – FY 2021 Safety Performance Measures and Targets

Mode of Transit Service	Fatalities (total)	Fatalities (per 100,000 VRM)	Injuries (total)	Injuries (per 100,000 VRM)	Safety Events (total)	Safety Events (per 100,000 VRM)	System Reliability (VRM/Failures)
Fixed Route Bus	0	0	4	1.5	5	1.9	26,000
Demand Response ADA Paratransit	0	0	5	4.5	6	5.4	22,000

¹ The thresholds for “reportable” fatalities, injuries, and events are defined in the NTD Safety and Security Reporting Manual.

5. Safety Promotion

Safety Promotion fosters a positive safety culture and improves safety performance by increasing safety awareness through training and communication. Appropriate training for all employees regardless of their position within the agency provides knowledge for a successful safety program. Through communication of lessons learned and safety performance data, employees are made aware of safety priorities and concerns as they relate to their individual job tasks and the entire organization.

5.1 Safety Training

All new and existing employees undergo Safety Plan familiarization training. Employees at all levels of the agency need to understand 1) what the Safety Plan is, 2) how it supports the agency's mission, and 3) what their specific individual Safety Plan responsibilities are. This core element of our comprehensive safety training program applies to all HAT employees directly responsible for safety, including:

- Community Services Director and CSO;
- Bus operators;
- Dispatchers;
- Maintenance technicians; and
- Managers and supervisors.

Our safety training programs include, but are not limited to, the following:

- Employee Training;
 - Professional Driving;
 - Safety Best Practices;
 - ADA and Sensitivity, Lifts, Ramps, & Securement;
 - Accident and Emergency Procedures;
 - Drug and Alcohol Policy;
 - Defensive Driving;
 - Pedestrian Awareness;
 - Active Shooter, Fire Safety, Inclement Weather;
- Standards of Conduct;
- Compliments and Complaints Recording;
 - Reporting Safety and Personal Complaints;
 - Anti-Retaliation Policy;
- Dispatch and Reservationist Procedures;
 - Daily Operations Report;
 - Opening Building Procedures;
- Vehicle Preventative Maintenance Policy and Program;
 - Preventative Maintenance;
 - Warranty;
 - Road Calls/Incidents;
 - Safety Inspections;
 - FTA Regulatory Requirements;
 - Maintenance Checklist;

- Operator Rule Book;
 - General Rules and Regulations;
 - Safety:
 - Operator Safety;
 - Safe Driving Habits;
 - Reporting Procedures for Accidents and Incidents;
 - Determination of Accident Preventability;
 - Substance Abuse Policy;
 - General Code of Conduct;
 - Customer Relations; and
 - General Operational Duties.

HAT has developed job specifications for all job classifications which require certain skills training in order for personnel to perform job functions safely. For certain positions this will include initial as well as refresher training. HAT maintains records of all employees upon hire and manages their progress through training, annual recertification and retraining if required.

5.2 Safety Communication

All employees, from the Community Services Director to frontline personnel, shall communicate the virtues and requirements of our Safety Plan and program elements. Safety communication activities ensure that all employees and contractors are aware of the following goals and responsibilities:

- The observance of all agency standard operating procedures, policies, and plans;
- The need to systematically identify safety hazards, mitigate risk and reduce fatalities and injuries resulting from transit operations;
- The need to reduce the injury incidence rate by minimizing exposure to unsafe conditions and reducing hazardous employee behavior;
- Providing safe and efficient transit services by ensuring that all vehicles, equipment and facilities are regularly inspected, maintained and serviced as needed; and
- Achieving 100 percent of scheduled routine inspections, preventative and regular maintenance work is completed on time, and essential repairs addressed in a designated time.

Further, we encourage employees and contractors to be mindful of their safety responsibilities, and review various safety issues, recommendations, policies, etc. by various means which include but are not limited to:

- Employee Safety Reporting;
- Monthly Safety meetings;
- Operator meetings with supervisors and managers;
- Newsletters;
- Safety bulletins and memos to all staff;
- Safety emails;
- Text message alerts;
- Radio supervisor communication with operators;
- One-on-one communication between supervisors and frontline employees;
- Meetings with contractors;

- Committee meetings; and
- Safety campaigns.

A positive safety culture focuses on finding and correcting systemic issues rather than finding someone or something to blame. A positive safety culture flourishes in an environment of trust, encouraging error-reporting and discouraging covering up mistakes. The need to address behavior that is malicious or recklessly negligent must be balanced with the need for a just culture that is not excessively punitive. A positive safety culture goes beyond simply adhering to procedures. It is demonstrated when employees carry out their duties correctly, with alertness, full knowledge, sound judgment, and a sense of accountability.

6. Annual Update Process

The CSO will review and update this Safety Plan annually. The updated version of the Plan will be signed by the Community Services Director and approved by the Gainesville City Council. The newly authorized version will be reissued to all transit personnel for their perusal and comprehension. HAT will maintain all documents that are related to the implementation of this Safety Plan and results from SMS processes and activities. These documents will be made available upon request by the FTA or other related federal entity. All such documents will be maintained for a minimum of three years after they are created.

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Appendix A: PTASP Relationship to Other Federal Laws & Regulations

1. Public Transportation Safety Program Rule - 49 U.S.C. § 5329

The Public Transportation Safety Program Rule establishes substantive and procedural rules for FTA's administration of the Public Transportation Safety Program authorized by 49 U.S.C. § 5329. The rule establishes FTA's SMS approach to the development and implementation of the Safety Program. Further, it sets rules of practice for the FTA's enforcement authority and describes the contents of a National Public Transportation Safety Plan.

National Public Transportation Safety Plan (NPTSP)- section 5329(b)

Through the NPTSP, the FTA has adopted the principles and methods of SMS as the basis for enhancing the safety of public transportation in the United States. The NPTSP is a policy document, communications tool, and a repository of standards, guidance, best practices, tolls, technical assistance, and other resources.

This Safety Plan was written in accordance to the Public Transportation Safety Program Rule and the NPTSP.

2. Public Transportation Agency Safety Plan (PTASP) Rule - 49 CFR Part 673

The Federal Transit Administration (FTA) published a final rule for PTASP as authorized by the Moving Ahead for Progress in the 21st Century Act (MAP-21). This final rule requires States and certain operators of public transportation systems that receive Federal financial assistance under Urbanized Area Formula Program (49 U.S.C. § 5307) to develop safety plans that include the processes and procedures to implement Safety Management Systems (SMS). Transit operators must certify they have a safety plan, meeting the requirements of the rule, in place by July 20, 2020.

3. Transit Asset Management (TAM) Rule - 49 CFR Part 625

The PTASP final rule applies to only Section 5307 recipients and sub-recipients, and the TAM rule applies to all operators of public transit. However, the two plans can support one another by providing useful data for agency use and NTD reporting. Pursuant to 49 C.F.R. Part 625, condition assessments were performed as part of safety risk management and safety assurance activities. The results of TAM condition assessments, and subsequent SMS analysis can help prioritize a transit agency's TAM Plan elements. Condition assessments help identify potential safety issues, which could undergo a safety risk assessment as part of safety risk management. Further, TAM data and analysis can also be used for performance monitoring and measurement as part of safety assurance. Results of safety risk assessments and safety performance monitoring and measurement can guide the prioritization of an asset for repair or replacement.

4. National Transit Database (NTD) Rule 49 U.S.C 5335(a)

Transit agency's receiving funding from the Urbanized Area Formula Program (5307) or Rural Formula Program (5311) are required to submit data to the NTD in uniform categories. Agencies submit reports to NTD each fiscal year. The PTASP rule and NTD reporting rule are related, as both rules require agencies to track data based on the same data points; fatalities, injuries and safety events per total revenue vehicle mile by mode, with the additional requirement of mean distance between major mechanical failures.

Appendix B: Board Certification

I hereby certify on behalf of Hall Area Transit (HAT) that on _____, 2020,
the Gainesville City Council approved the enclosed Agency Safety Plan in accordance
with 49 CFR 673.11(a)(1).

Signature of Authorized Official: _____

Printed Name and Title: _____

Date: _____

Appendix C: GDOT Plan Certification

[ATTACH CERTIFICATION LETTER]

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 5/22/2020
Presenter: Phillippa Lewis Moss
Item of Business: Resolution: Via, Inc. Contract for Microtransit Software Service
Meeting Date: 7/16/2020

Purpose of Request:

Request to enter into a four-year contract with Via, Inc. for microtransit software and technical support. The Cares Act of 2020 will provide 100% reimbursement of all transit operating and capital expenses dated back to January 2020 through June 30, 2021. Hence, the cost of the contract and technical support in year one will be fully reimbursed. In years two through four, up to 50% of the contract expenses will be reimbursed via the Federal Transit Administration and the remaining expense will be split between the City of Gainesville & Hall County Government based on the percentage of trips originating in the City proper, or County respectively. Note that this is the same process used to reimburse other CSC programs.

History/Background:

In December 2018, VIA was contracted to conduct a microtransit feasibility study. The result of that study, released in February 2019, indicated that microtransit service could work in the Gainesville-Hall County area.

In January 2020, an RFP was released seeking a provider of microtransit software. Of the six proposals submitted, three were short listed and participated in a virtual software demonstration and interview. One candidate, VIA Inc. was selected as the finalist.

Facts & Issues for Consideration:

The microtransit software will be deployed in 7 vans in October in and around the City of Gainesville. If the service meets established performance goals, it will be expanded to 8 additional vans in FY22 and expand to other Hall County communities.

The new microtransit service will be named WeGo and a colorful logo will be placed on several Lone Star Promaster Low Floor Vans that are being procured this summer.

Department Recommendation:

Approve contracts and any associated documents to operate the microtransit service provided by VIA.

Department Director:

Phillippa Lewis Moss

If funding is involved, are funds approved within the current budget?

Yes

Amount Requested:

\$0.00

Source of Funds:

CARES Act (FTA)

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
📄 Microtransit Software Vendor Award	Powerpoint Presentation
📄 Microtransit Software Vendor Contract Award	Resolution
📄 Via Contract - Draft	Contract/Agreement/MOU

Coming Soon...Microtransit



Micro-transit Vendor Selection Process

- In January 2020, an RFQ was released for Micro-Transit / Dynamic Demand Responsive Transit Technology
- On April 1st, the RFP was opened and six (6) firms responded to the request
- A review committee comprised of six (6) staff members from both the City and the County was formed to analyze the proposals received.
- The committee recommended 3 firms to be short-listed and online interviews/demonstrations were set-up with each vendor on May 12, 13, 14

Micro-transit Vendor Selection Process

- Upon completion of the interviews/demonstrations, the committee scored each of the firm, reviewed the bid package and selected a vendor.
- On June 25th, Hall County Government received and approved the selection process which identified VIA as the final candidate
- Today, the City Council is being asked to execute the actual agreement as its staff oversees and delivers public transit services for the entire county

Microtransit Powered by

- Established in 2012 New York City
- Mission is to develop/operate most efficient/affordable public mobility solutions in the world
- Staffed by 300 Software developers & 450 professionals focused on operations, growth & member services
- Raised \$650M from investors since inception. Recently announced Series E Funding Round for \$200M
- Proprietary Algorithm is touted as the most powerful in the world
- Similar projects in Lone Tree CO, Norwalk CONN, Orange County, CA, Austin TX, Grand Rapids MI

Microtransit is an **OPPORTUNITY** to transform mobility in using **VIA's DYNAMIC & SHARED** proprietary software technology

How Will Microtransit Powered by Look in Gainesville-Hall County?

- Replace 3 of 6 existing Gainesville Connection bus routes
- Provide transit in previously underserved areas (transit deserts)
- Mitigate traffic & parking congestion
- Upgrade existing Dial-A-Ride service

On-demand Transit Will Be Equitable & Accessible

- **Curb-to-curb pickups and dropoffs** for customers with limited mobility
- **Customizable rider notes** to inform drivers of riders' individual needs
- **Variety of payment methods**, including options for unbanked customers
- Simple **phone booking process** for customers without smartphones
- **In-app accessibility features** for customers with hearing and visual impairments



Addressing Transportation Challenges in Gainesville-Hall County Powered by



Public transit

Today's challenges



Coverage

Many areas are underserved by transit; county's geography increases difficulty



Low ridership

Greater frequency and flexibility needed to meet riders' needs



Funding

Stagnant budget and uncertainty surrounding FTA funding

Strengths of Via's Solution



Complement fixed transit

Connect riders to fixed-route network and provide coverage in low-density areas



Tech-enabled and accessible

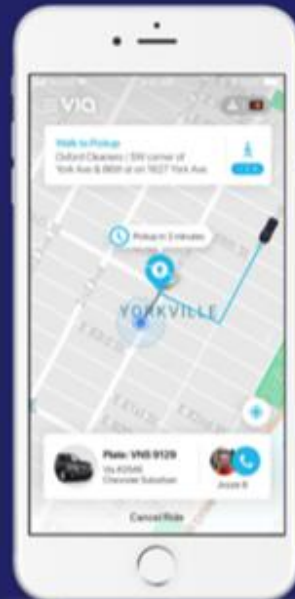
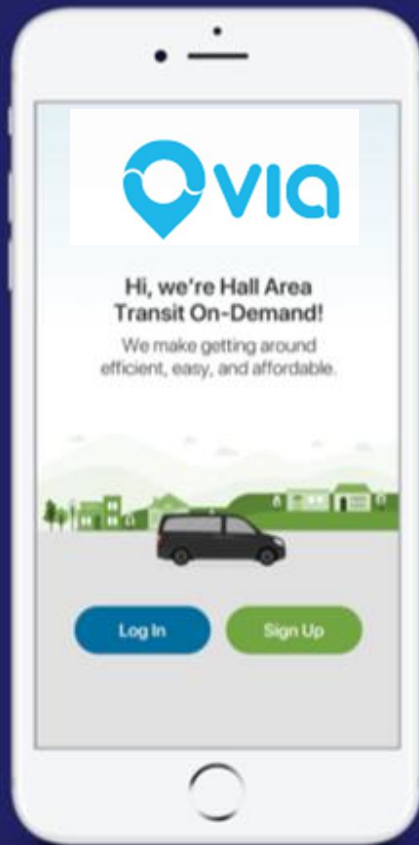
Appeal to new riders and those requiring special accommodations



Cost-effective

Re-route existing streams of funding towards a more effective service

Using Is E-A-S-Y



1

Request ride
using custom
app or phone
call



2

Via assigns
optimal seat



3

Walk to
Virtual
Bus Stop



4

Share
the ride



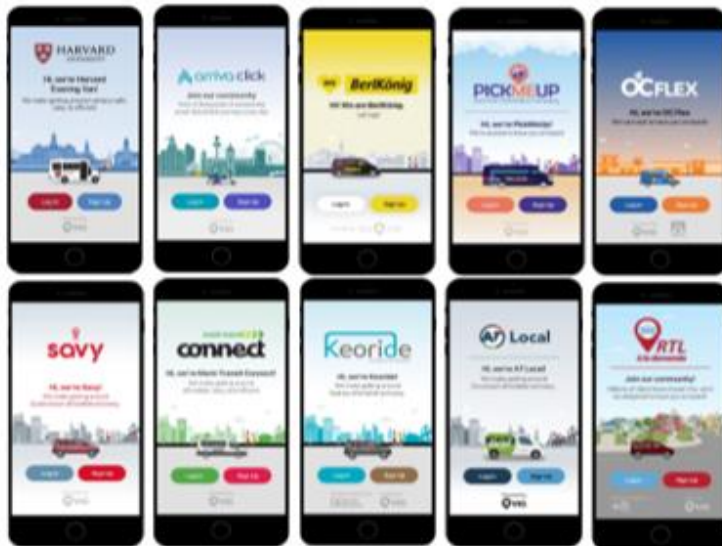
5

Route
dynamically

Is The World's Leading Developer of Software Solutions

Our Software-as-a-Service (SaaS) solution

The vendor's
... technology powers microtransit
transit services operated by agency
and government partners



Our partners include 100+ leading transit agencies and cities



Supportive Features

Custom-Branded Rider App

Request rides, track vehicles in real-time, and get assistance from HAT staff

Driver App

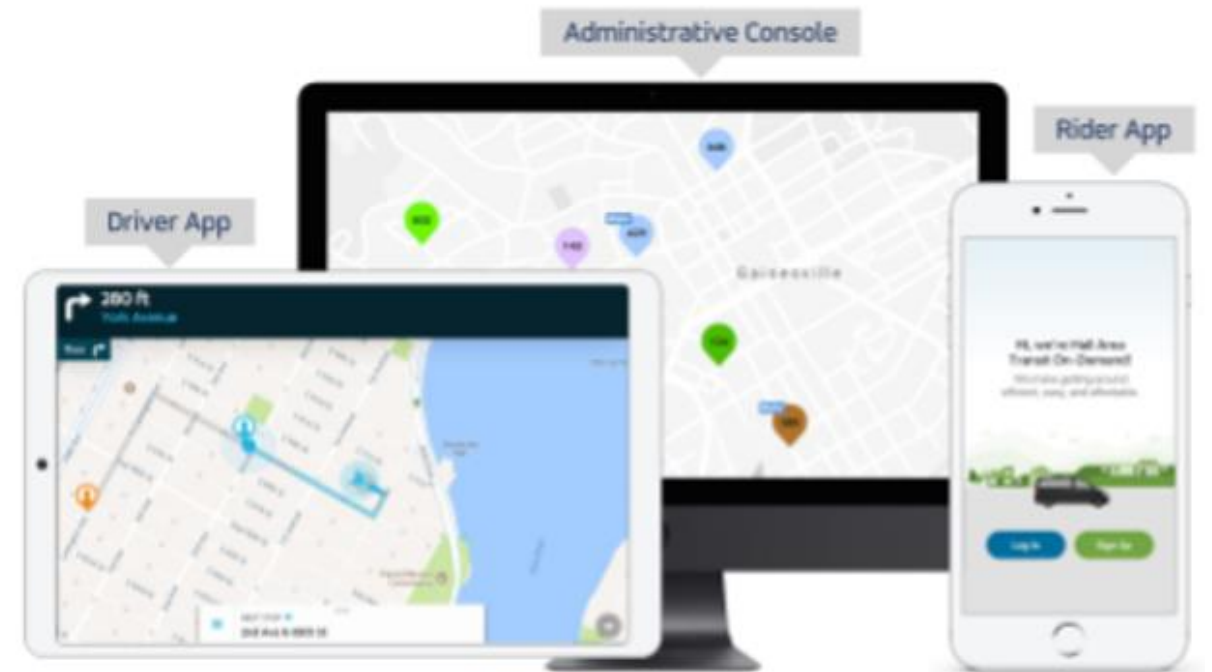
Provides turn-by-turn directions, ride assignment, and support

Administrative Tools

Allows HAT staff to oversee service and provide support when needed

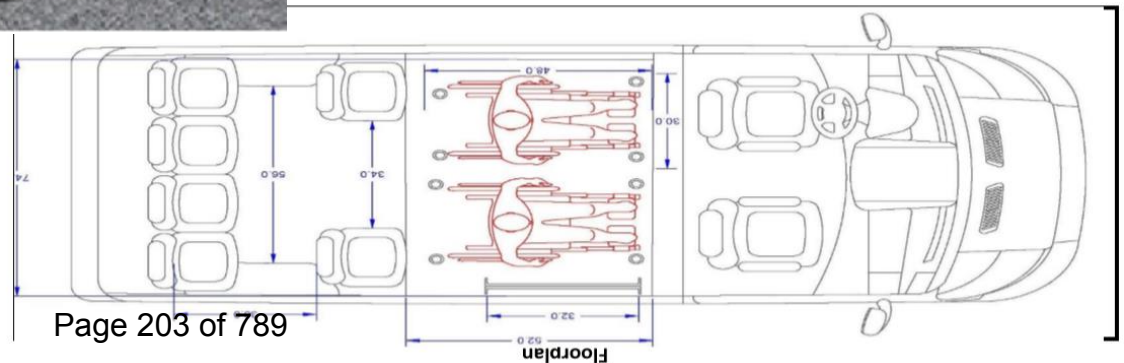
Data & Analytics Suite

FTA compliance reporting, daily ridership reports, custom reports, and more



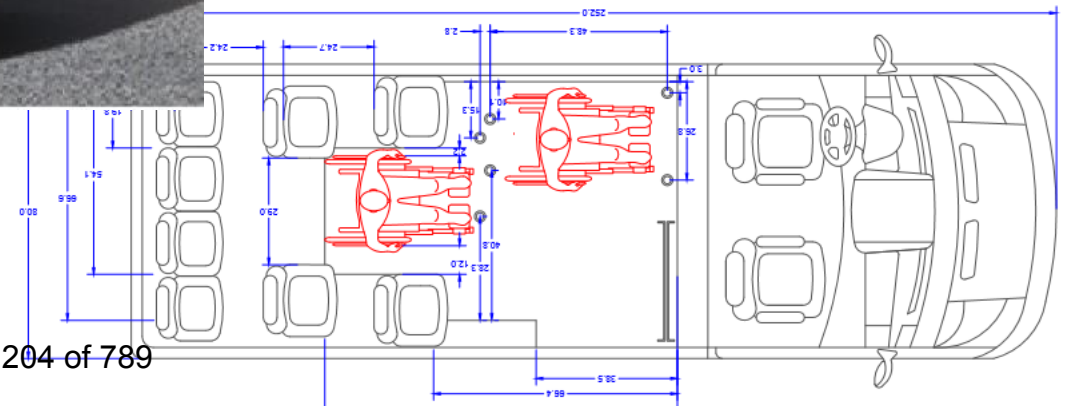
Lonestar 150

Low Floor ADA full-size Conversion Van, Ramp, Seats 10



Lonestar ProMaster 350

Low Floor ADA full-size Conversion Van, Ramp, Seats 12



Phase 1: What To Expect October 2020

- ✓ Eliminate 3 low-performing Gainesville Connection routes
- ✓ Retain 3 high-performing Gainesville Connection routes
- ✓ Introduce 7+ micro-transit vans w/i Gainesville City
 - 35 square miles
 - 3 minute walk
 - 15 minute wait

A NEW BRAND FOR A NEW SERVICE

Design Ideas Provided by...

Confluence Design Consulting





WEGO EXECUTION EXAMPLES



WEGO EXECUTION EXAMPLES



WēGO

wēgō

WEGO

WEGO

WEGO

WEGO

WEGO

WEGO

Questions & Comments

Phillippa Lewis Moss

Director, Gainesville-Hall County Community Services

Member, GHMPO Technical & Policy Committees

770.503.3340 / pmoss@gainesville.org

RESOLUTION PR-2020 - ____

VIA Contract for Software and Technical Support

WHEREAS, in January 2020, an RFP was released seeking a provider of microtransit software. Of the six proposals submitted, three were short listed and participated in virtual software demonstrations and interviews. One candidate, VIA was selected as the finalist; and

WHEREAS, VIA microtransit software will be deployed in several vans this fall in and around the City of Gainesville. Assuming the service meets established performance goals, it will be expanded to the balance of Hall County in FY22 with 5 to 8 additional vans; and

WHEREAS, the microtransit service will be funded as follows:

Year 1: Under the CARES Act, FTA will reimburse 100% of all operating and capital expenses

Year 2-4: Under Section 5307, FTA will reimburse up to 50% of operating costs and 80% of any additional Capital costs. Any remaining expenses will be split between the City of Gainesville and Hall County Government based on the percentage of trips which originate in the City of Gainesville proper and Hall County respectively.

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves for the City to enter into a four-year contract with VIA for microtransit software and technical support.

BE IT FURTHER RESOLVED THAT the governing body for the City of Gainesville hereby authorizes the Mayor and/or City Manager to execute the contract and all other associated documents.

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

GAINESVILLE-HALL COUNTY DEPLOYMENT SERVICE ORDER¹

1. Purpose; Scope

By this service order (the “**Order**”), Via Mobility LLC, a Delaware company with its principal office located at 160 Varick Street, Floor 4, New York, New York 10013 (“**Via**”), and City of Gainesville (“**Customer**”) agree to collaborate towards the operation by Customer of a deployment (the “**Deployment**”) in a geographic area in Gainesville-Hall County.

For purposes of the Deployment, Via will provide (in accordance with and subject to the Terms):

- (a) The use of the standard Via Solution, comprised of:
 - Via’s fully localized dynamic vehicle routing and real-time passenger aggregation system
 - Downloadable custom-branded rider iOS and Android apps. The app will be custom-branded as “Powered by Via” in a prominently displayed banner headlined by the Customer name/logo
 - iOS or Android driver apps
 - Backend administration tools
 - Ongoing technical, operational, and marketing support, as specified below
 - Analytics tools and reporting, as specified below
- (b) The following Support Services:
 - i. Installation Services until up to four weeks after launch of the Deployment:

Installation Services	Description*
Localization for new city	Optimize dynamic vehicle routing and real-time passenger aggregation algorithm; configure backend (billing, payment, and database); build detailed map; input traffic model; define service zone, including pickup and drop-off points; update monitoring tools; update rider and/driver apps
Testing and quality assurance	Remote and on-the-ground testing of all Via systems before launch
Assist with development of launch model	Help Customer to build a launch plan and customer acquisition strategy
Train local personnel and oversee launch	Instruction for drivers, dispatchers, and managers on Via’s best practices; onsite and remote launch support (travel costs excluded)

* Customer shall reimburse all travel expenses of Via personnel for purposes of the Deployment. Installation-related services described above will initially be performed remotely, and if Via deems it necessary, in person by Via personnel for a limited period around launch. Thereafter, services will continue to be performed remotely as

¹ All capitalized terms used but not defined herein shall have the meaning set forth in the terms and conditions set forth at <https://ridewithvia.com/platform-terms-of-service/>, which govern this service order (the “**Terms**”).

applicable, provided that Via personnel can be sent to Customer's location for additional trips upon reasonable request.

- ii. Ongoing Services following the fourth week after launch of the Deployment, which are included in the Fees up to the amounts set forth below:

Ongoing Services	Description	Amount
Operational Support and System Adjustments	• Virtual bus stop architecture and map maintenance: quality assurance and update of optimal pickup points • Fleet optimization and essential service adjustments: adjustments to dynamic and predictive routing algorithm	Up to 10 hours/month
Expert Consulting Services	• Marketing and growth: Including help setting up complex promotions, review and assistance for third-party marketing tools included in Via's marketing tech stack, as applicable • Operations: Including supply optimization analysis, payment & fraud investigation, and business case/unit economics analysis • Service expansion: Including feasibility analysis for expansions in service or additional on-demand projects	Up to 5 hours/month
Data Sharing	As set forth in Appendix 1	N/A
Automatic product upgrades	Receive regular software updates	N/A
Cloud hosting and third-party tools	Amazon Web Services, Twilio, analytics and communications software tools (excluding third party payment processor)	N/A
Tech Support and Maintenance**	Dedicated customer success Via point of contact will use commercially reasonable efforts to respond within one business day for non-critical issues (upon receipt of a detailed description of the issue as requested by Via) and to ensure that assistance is provided within a reasonable time frame. Via will also provide Customer with an appropriate channel for alerting Via to system outages or other critical issues, with respect to which Via will provide emergency assistance both during and outside of the normal hours set forth above.	No maximum

Via will use commercially reasonable efforts to notify Customer if Customer is within 1 hour of exceeding capped hourly limit on Product Maintenance and/or Consulting Services.

** At the start of the project, Via will direct Customer towards the relevant CRM tools to log requests. In order to trigger a Product Maintenance request, requests for product maintenance must contain detailed information about the nature of the request. If the request is for an additional feature, it will be subject to the “additional features” costs and timeline as set forth below.

- iii. If applicable, the following Additional Services in accordance with the Terms for the following additional Fees:

Additional Services	Description	Rate
Additional Features; Zone Changes	Add access to powerful features, including a web-based booking portal, corporate account management dashboards, linkage to fixed route bus and train lines, and integration into third party travel planners and payment providers Changes or expansions to the Deployment zone, or additional zone locations	Per feature access fees available upon request; \$200/hour (total localization effort to be estimated in scope of work prior to start of project)
Operational Support and System Adjustments	Additional support beyond the 10 hours/month capped rate specified above	\$165/person/hour
Expert Consulting Services	Additional support beyond the 5 hours/month capped rate specified above	\$200/person/hour

In accordance with the Terms, all fees set forth herein are exclusive of any applicable taxes, and are payable within thirty (30) days of receipt of invoice. All fees are shown in US dollars.

Customer will operate and manage the Deployment as set forth in the Terms, cooperate with Via in all respects and support Via’s team by providing any useful local insights. Customer shall cooperate with Via as necessary for the purpose of setting up the Deployment and its specifications, including by providing prompt feedback to Via’s inquiries, in order to meet mutually agreed upon deadlines.

2. Duration

The duration of the Deployment shall last until the last day of the calendar month during which a period of 60 months following launch expires (the “**Initial Term**”), subject to extension by mutual agreement of the parties on terms to be agreed (including any increase in monthly fees for additional months).

3. Fees

Customer shall pay to Via the following Fees:

Fee Category	Amount	Invoicing Terms
Installation Fee	\$10,000	
• First installment	50% (\$5,000)	Payable upon signing of this Order
• Second installment	50% (\$5,000)	Payable upon launch of the Deployment
Monthly Fees	\$135,000 (minimum for 60 months)	
• Per-Vehicle Fees	\$475 per vehicle per calendar month for the first 5 vehicles, with a minimum of \$2,250 per month (i.e., 5-vehicle minimum), <i>plus</i> If applicable, \$435 per vehicle per month for the 6th vehicle up to and including the 10th vehicle, <i>plus</i> If applicable, \$400 per vehicle per month for any vehicles in excess of 10 vehicles	
Total for 60 months	\$141,000 (minimum excluding additional vehicles, Fees for any Additional Services, and travel expenses)	

For the avoidance of doubt, (i) the number of vehicles per month for purposes of the above fees shall be the maximum number of distinct vehicles input by Customer that use the Via Solution on any given day over the course of the applicable calendar month and (ii) in the event the duration of the Deployment does not exactly match calendar months, monthly fees will be pro-rated for the first and/or last calendar months of the Deployment, as applicable, so that Customer will only be charged for the portion of such months during which the Via Solution was available to be used for the Deployment.

The above fees do not include any fees owed to the third party payment processor. Via will facilitate an introduction to its recommended payment processor and Customer is responsible for entering an agreement with such payment processor in order to be able to process credit card payments.

4. Branding

The Deployment will be branded as WeGo powered by Via. The “powered by Via” banner must be used only in the exact format provided by Via, and will be prominent on all assets promoting the Deployment, including (but not limited to) printed collateral, digital materials, websites, and any vehicle wraps. The “powered by Via” banner will have equal prominence on all marketing materials to any additional partner logos or trademarks. Via may provide pre-approved brand assets and guidelines that must be complied with in all marketing communications distributed by the Customer.

5. Marketing and Communications Planning and Execution

Customer will maintain a high level of communication across its own Marketing and Communications/Public Relations teams, and the corresponding Via teams.

Customer and Via will work together in good faith on press announcements relating to the Deployment. This will include a joint press release to be reviewed and approved by both parties

in advance of launch and/or service announcements. In the event it receives any inbound press reach out relating to the Deployment, Customer will notify Via if it has spoken to or will be speaking to media. Customer will direct any questions specifically about Via or the Via Solution directly to the Via Press Office.

Customer shall work collaborate with Via in good faith toward the creation by Via of case study relating to the Deployment, including by providing relevant information and quotes from relevant personnel.

6. Terms and Conditions

This order shall be governed by the terms and conditions set forth at <https://ridewithvia.com/platform-terms-of-service/>. [Notwithstanding the foregoing, Section 9(b) of the terms and conditions shall not apply to this Agreement.]

7. Via Response to Request for Proposal #40-019

Via's response to Request for Proposal #40-019 is hereby incorporated as exhibit A hereto. In the event of a conflict between Exhibit A and this Order or the terms and condition, such conflict will be resolved in favor of this Order or the terms and conditions, as applicable. For the avoidance of doubt, conflicts between the terms and conditions and this Order with respect to amounts or timing of payments will be resolved in favor of this Order. All other conflicts will be resolved in favor of the terms and conditions, including in the event of a conflict with Exhibit A.

8. Relationship Managers

- Via: Rebecca Rubin; additional Partner Success Team members designated by Via (the "**Via Manager**")
- Customer: City of Gainesville, CSC Director Phillippa Lewis Moss (the "**Customer Manager**")

VIA: <u>VIA MOBILITY LLC</u>	CUSTOMER: CITY OF GAINESVILLE
_____ AUTHORIZED SIGNATURE	_____ AUTHORIZED SIGNATURE
_____ PRINTED NAME	_____ PRINTED NAME
_____ TITLE	_____ TITLE
_____ DATE SIGNED	_____ DATE SIGNED

Appendix 1 to Service Order

Data Sharing

Authorized Users - Contract

The below exhibit sets forth the members of the Customer's "Core Team" who are designated authorized users of the Via Solution and Deployment data. Any usage beyond the members of the Core Team would be in violation of the confidentiality provisions in the Terms.

Exhibit 1.

Core Team	
City of Gainesville, CSC Director	770-503-3340
Phillippa Lewis Moss	pmoss@gainesville.org ;

Authorized Operators

Customer may not provide access to the Via Solution to any third party except with Via's prior written consent. In the event that Customer wishes to engage a third-party operator ("Operator") to operate the Deployment, Customer shall provide to Via a copy of an Operator Acknowledgement Form in the form required by Via, duly executed by such Operator, as a prerequisite for Via's allowing the Operator access to the Via Solution. For the avoidance of doubt, no Operator will be allowed access to the Via Solution without having signed the aforementioned Operator Acknowledgement Form.

Data Sharing Plan - Appendix

As part of the Deployment, Via will make below data available to members of the Customer's Core Team, for the purpose of research and program evaluation. The data to be shared will be uploaded to a Tableau server and protected by Via's VPN. Each of the individuals listed as members of the Core Team will be provided their own VPN credentials and team credentials for access to Tableau. Access to the Tableau server will be available through the VPN only and might require appropriate software to connect. Underlying data may not be shared through any other method. The data is considered trade secret by Via, and is subject to the confidentiality and other protective provisions set forth in the Terms.

To protect Via's intellectual property and the privacy of riders, Via will provide the following data tables and dashboards in the form of aggregated Tableau reports that will be provided for Customer's access. These reports will be refreshed daily. The reports are aggregated, deidentified and do not include any personal information of Riders.

STANDARD REPORTING SET	
Data Point	Level of Detail
rider ID	per request
ride ID	per request
request date + time	per request and truncated to minute
request origin lat/long	per request and truncated to 3rd decimal

request destination lat/long	per request and truncated to 3rd decimal
pickup date + time	per request and truncated to minute
dropoff date + time	per request and truncated to minute
WAV	per request
number of riders per request	per request
ride distance (miles)	per request
ride duration (minutes)	per request
ride rating	per request
fare paid	per request
ride status (completed, no-showed, cancelled, not accepted, seat unavailable, out of zone, or out of hours)	per request
completed rides	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
no-showed rides	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
cancelled rides	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
non-accepted rides	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
non-accepted rides with ETA<5min	daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
non-accepted rides with ETA between 5 and 10min	daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
non-accepted rides with ETA>10min	daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
seat unavailable requests	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
out of zone requests	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
out of hours requests	hourly, daily, weekly, monthly and avg. per hour (absolute # and % of all requests)
sessionized requests	daily, weekly, monthly and avg. per hour
utilization	hourly, daily, weekly and monthly

ETA (waiting time) (minutes)	per request, daily, weekly, monthly and avg. per hour
ETA error (lateness) (minutes)	daily, weekly and monthly
avg. walking distance to pickup (meters)	daily, weekly and monthly
supply hours	daily, weekly, monthly and avg. per hour
unique riders	daily, weekly and monthly
new unique riders (for the period selected)	daily, weekly and monthly
rider signups	daily, weekly, monthly and aggregated by date range selected
riders with no requests made	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with no ride taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with 1 and 2 rides taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with 3 to 5 rides taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with 6 to 10 rides taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with 10+ rides taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)
riders with at least one ride taken	daily, weekly, monthly and aggregated by date range selected (absolute # and % of all rider signups)

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/10/2020
Presenter: Rusty Ligon
Item of Business: Resolution: Tax Allocation District (TAD) Funding for Enclave Phase II
Meeting Date: 7/16/2020

Purpose of Request:

Resolution to approve TAD Funding in the amount of \$93,298 for the Enclave Phase II project. The Enclave Phase II project will be the construction of 7 townhouse style rental units at 890 Wills Street SW. This project is across the street from the Enclave Phase I.

History/Background:

The TAD Advisory Committee met on June 4, 2020 and approved the TAD Application with conditions as presented in the attached resolution.

Facts & Issues for Consideration:

Department Recommendation:

Approve the resolution.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

TAD

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ TAD Project Presentation (Enclave II & G-4)	Powerpoint Presentation
☐ Authorize TAD Funding for Enclave Phase II	Resolution

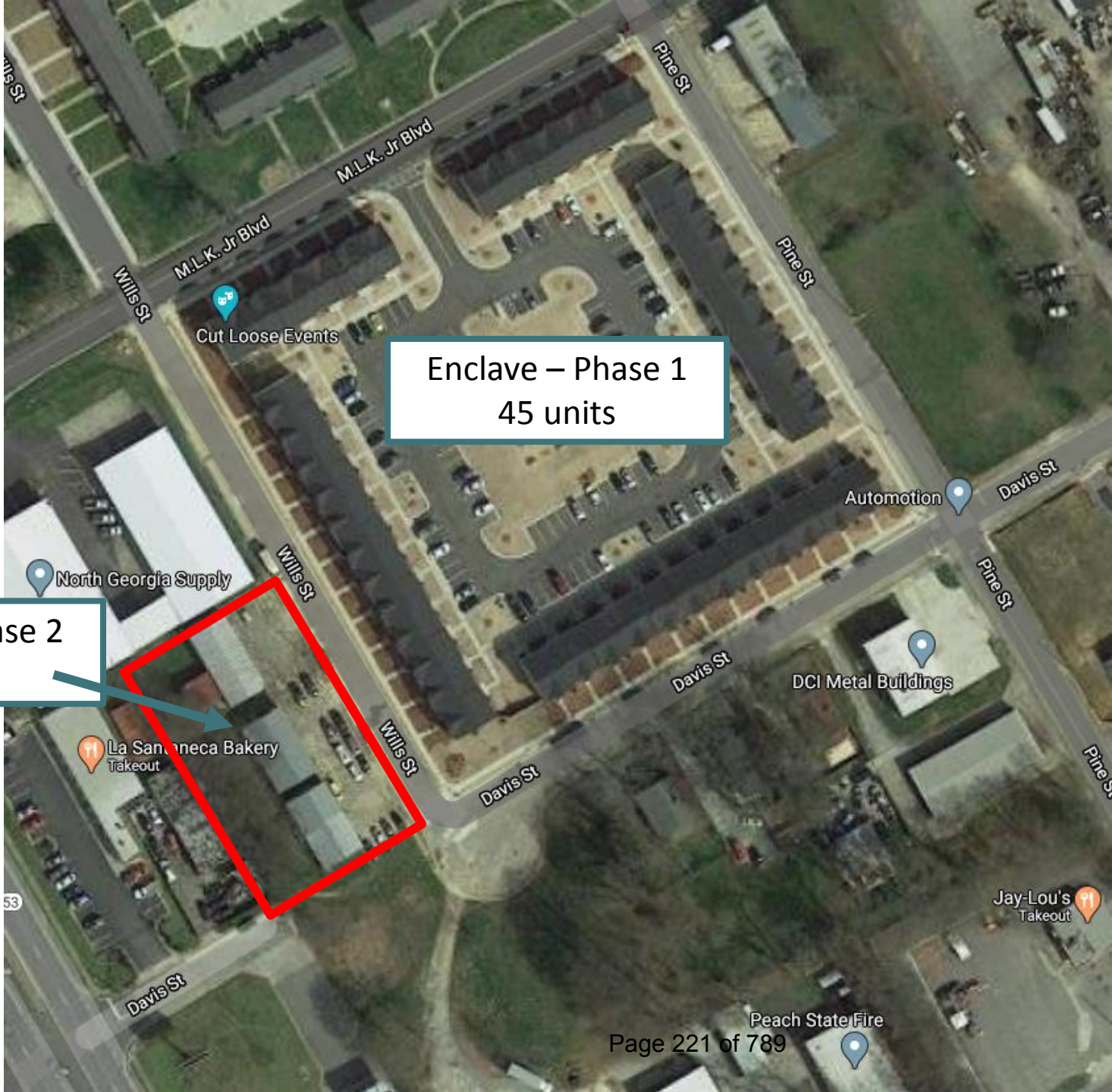
CITY OF
GAINESVILLE

TAD FUNDING RECOMMENDATION

ENCLAVE - PHASE 2

G-4 DEVELOPMENT GROUP

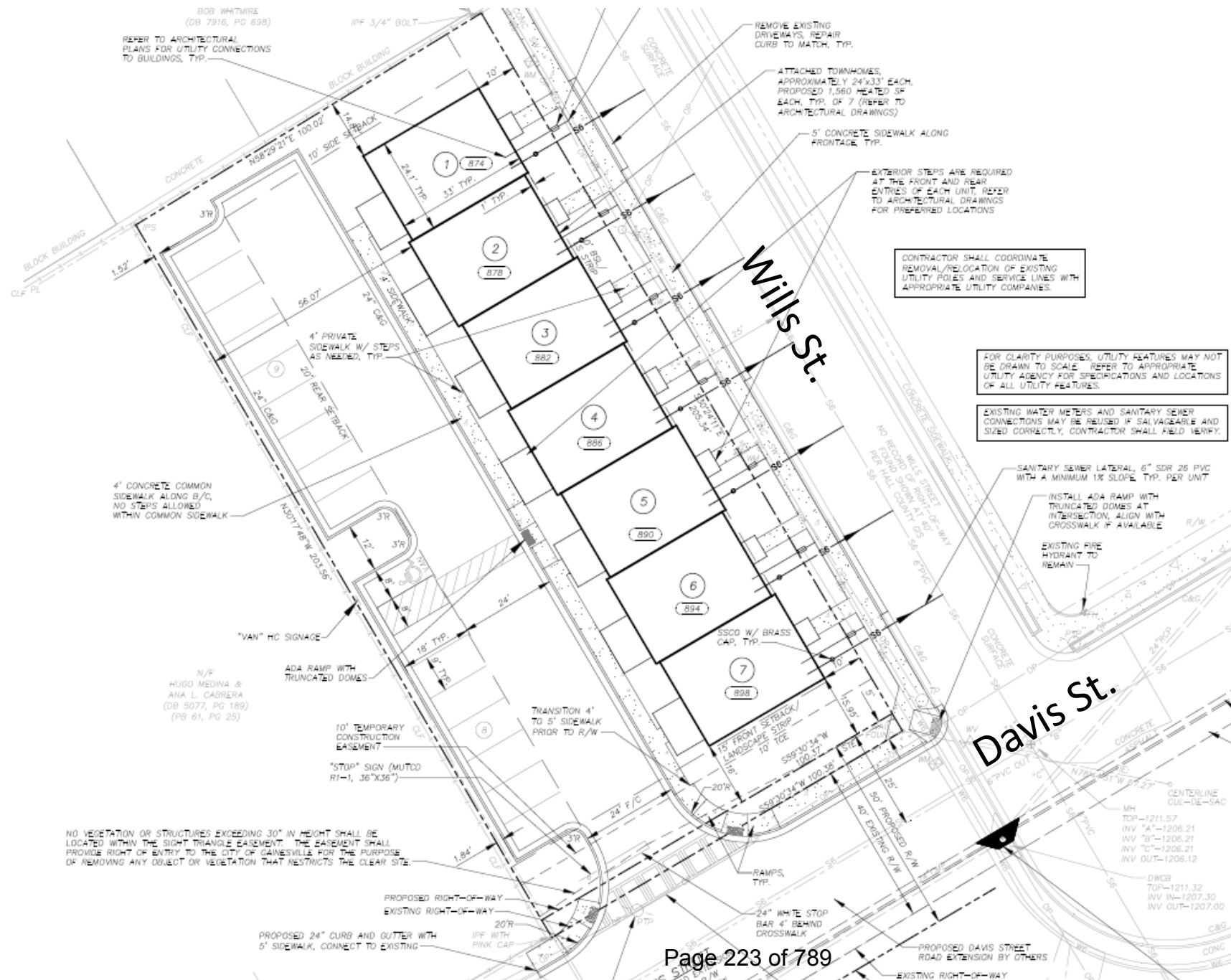
ENCLAVE - PHASE 2



Enclave – Phase 1
45 units

Enclave – Phase 2
7 units





ENCLAVE - PHASE 2

- 7 townhouse-style apartments, 1,584 sq. ft. in size – monthly rent of \$1,100
- Total project cost is \$1,142,395 (includes \$193,772 for land)
- TAD request is \$93,298, which is 8.1% of the total project cost

TAD ITEM	COST
Asbestos Study	\$2,355
Demolition & Grading	\$25,000
Fencing	\$17,728
Landscaping	\$15,134
Phase 1 Environmental	\$1,625
Removal of Trees	\$3,000
Sidewalks – Perimeter	\$16,956
Water & Sewer Improvements	\$11,500
TOTAL	\$93,298

TAD ADV. COMMITTEE - RECOMMENDATION

- TAD funding in the amount of \$93,298
- Pay \$25,000 for demolition and grading up front, then pay-as-you-go annually until you reach \$68,298 or 15 years, whichever comes first

Conditions:

- Architecture shall be identical to Phase 1, with units offset at least one foot between each unit.

CITY OF
GAINESVILLE

G-4 DEVELOPMENT GROUP

743 Main Street &
722 Bradford Street



NOTES:

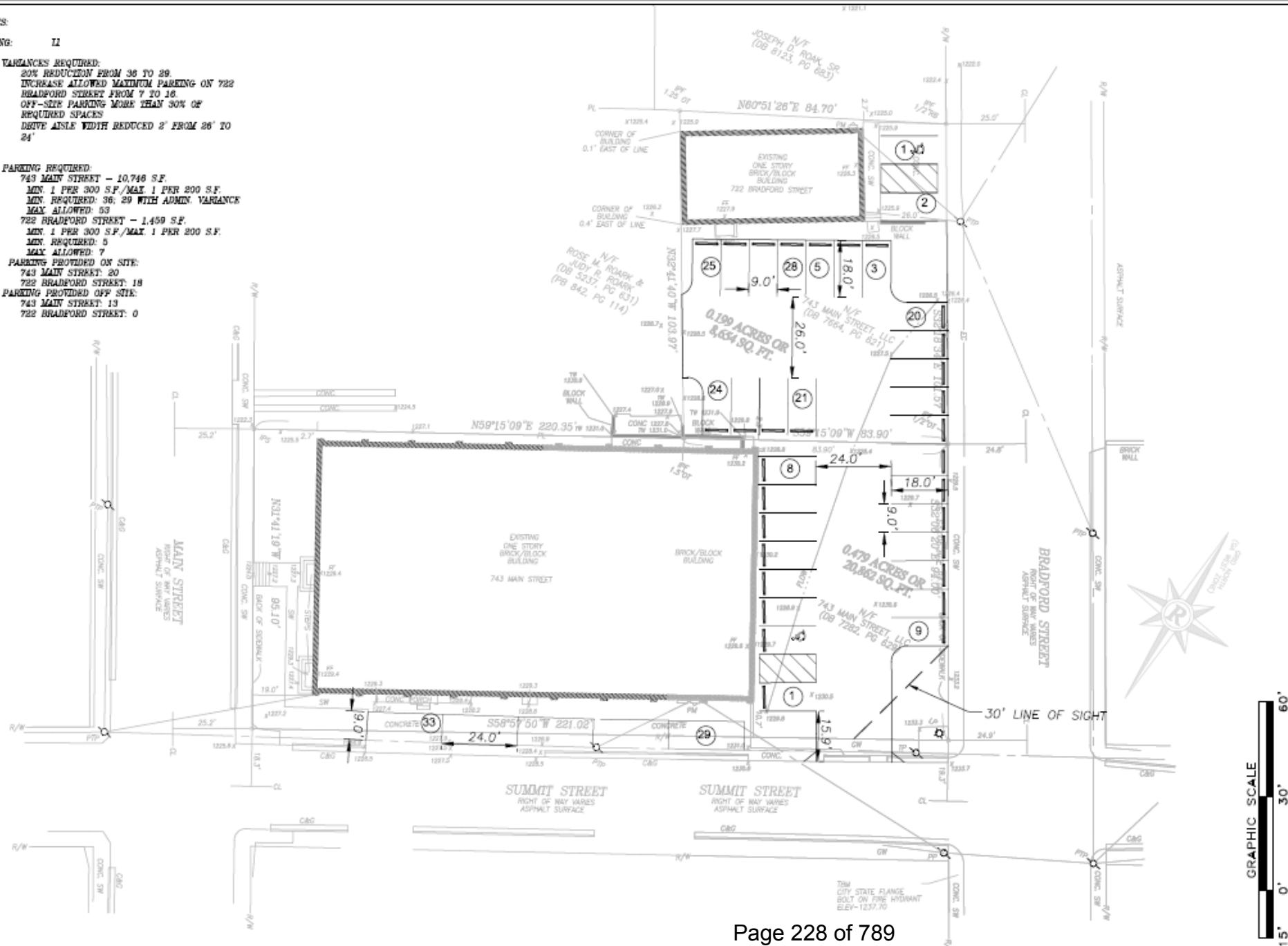
ZONING: I1

1. VARIANCES REQUIRED:

- 1.1. 20% REDUCTION FROM 36 TO 29.
- 1.2. INCREASE ALLOWED MAXIMUM PARKING ON 722 BRADFORD STREET FROM 7 TO 16.
- 1.3. OFF-SITE PARKING MORE THAN 30% OF REQUIRED SPACES.
- 1.4. DRIVE AISLE WIDTH REDUCED 2' FROM 26' TO 24'.

2. PARKING REQUIRED:

- 2.1. 743 MAIN STREET - 10,740 S.F.
MIN. 1 PER 300 S.F./MAX. 1 PER 200 S.F.
MIN. REQUIRED: 36; 29 WITH ADJ. VARIANCE
MAX. ALLOWED: 53
- 2.2. 722 BRADFORD STREET - 1,459 S.F.
MIN. 1 PER 300 S.F./MAX. 1 PER 200 S.F.
MIN. REQUIRED: 5
MAX. ALLOWED: 7
3. PARKING PROVIDED ON SITE:
- 3.1. 743 MAIN STREET: 20
- 3.2. 722 BRADFORD STREET: 18
4. PARKING PROVIDED OFF SITE:
- 4.1. 743 MAIN STREET: 13
- 4.2. 722 BRADFORD STREET: 0



Rochester
& Associates, Inc.

425 Oak Street N.W. □ Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax □ www.rochester-assoc.com

CONCEPT SITE PLAN
FOR:
**743 MAIN STREET
REDEVELOPMENT**

LOCATED IN
LAND LOT 149
DISTRICT 9
CITY OF GAINESVILLE, GEORGIA

SHEET
1 OF
1

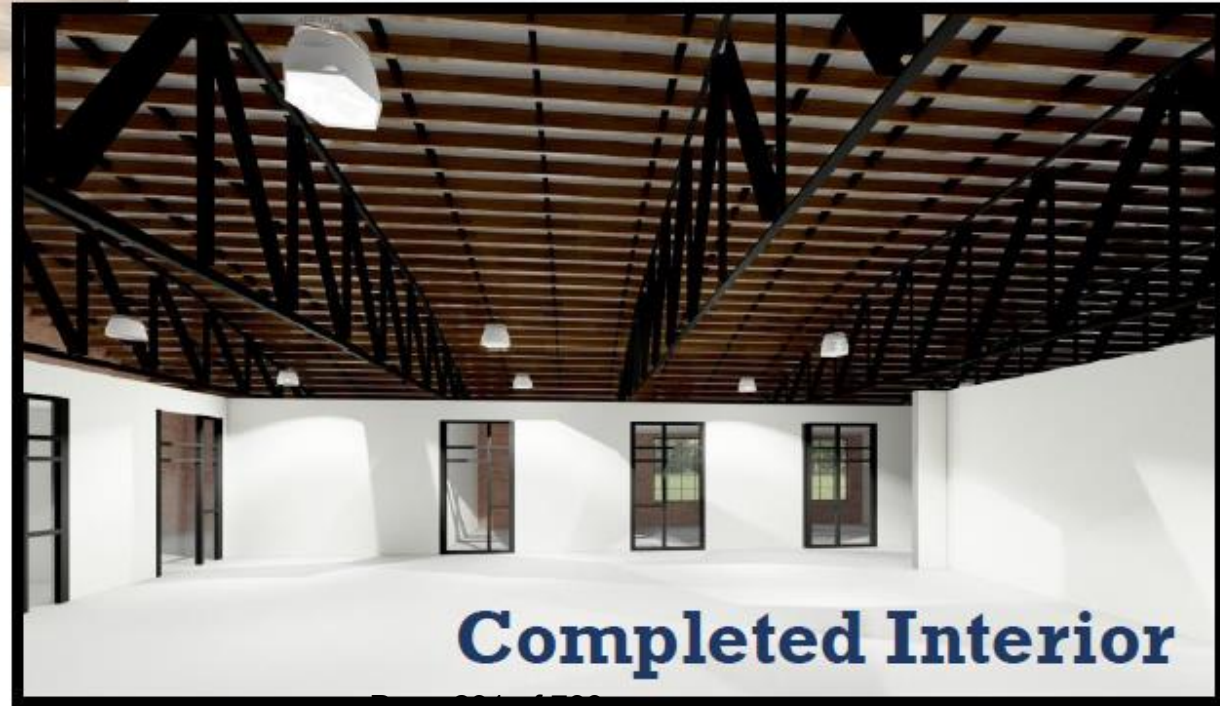
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JOB#: G220071.GD\$
FILE: G220071.GD4
DRAWN BY: EMH

G-4 DEVELOPMENT GROUP

- Revitalization of vacant 11,044 sf building into modern professional office space
- 20 employees with potential growth to 30 over ten years
- Add parking, refinish sidewalks and relocate power underground







G-4 DEVELOPMENT GROUP

- Total project cost – \$1,490,549 (includes \$530,000 for land)
- TAD request is \$284,786, which is 19.1% of the total project cost

TAD ITEM	COST
Demo, Grading & Paving	\$81,875
Masonry Columns, Decorative Fencing & Gates	\$86,658
Bldg. Façade, Masonry Improvements & Concrete	\$27,408
Handrails	\$5,250
Overhead Door	\$3,750
Storefront Entry & Windows	\$32,970
Lime White Wash Exterior Façade	\$10,000
Canopies	\$10,835
Site Lighting	\$11,040
Relocate Bldg. Power Underground	\$15,000
TOTAL	\$284,786

TAD ADV. COMMITTEE - RECOMMENDATION

- Reimbursement of \$75,000 in lump-sum up front after receipt of eligible expenses.
- After the \$75,000 has been replenished to the special fund by the TAD increment generated, applicant retains any remaining TAD increment generated during the funding period, which funding period shall not exceed 15 years.

Conditions:

- Permitted project is in substantial conformance with the architectural renderings and budget submitted with the application.
- Applicant agrees to re-zone the property to O-I.
- The site must be professionally landscaped. The final landscaping plan is to be approved by the Community & Economic Development Director.
- Sidewalks must be installed along Summit Street.

RESOLUTION BR-2020 - ____

**TAX ALLOCATION DISTRICT (TAD) FUNDING FOR “ENCLAVE PHASE II”
AT 890 WILLS STREET SW**

WHEREAS, the governing body of the City of Gainesville is committed to the success of the redevelopment of Midtown Gainesville into a live, work and play area; and

WHEREAS, on October 17, 2006 the governing body of the City of Gainesville adopted the Midtown Redevelopment Plan and created Tax Allocation District (TAD) Number One – Midtown pursuant to the Georgia Redevelopment Powers Law (O.C.G.A. § 36-44-1 et seq.) as the next steps in the City’s redevelopment effort to reinvigorate Midtown; and

WHEREAS, the City of Gainesville will only consider applications for TAD financing for purposes or uses that are consistent with the definition of “redevelopment” as defined in the Georgia Redevelopment Powers Law [O.C.G.A. § 36-44-3(5)], with said eligible purposes or uses including public works and utilities, telecommunications infrastructure, street/streetscape improvements, parks and open space amenities, transit facilities and public parking structures, pedestrian amenities and safety improvements, and site preparation; and

WHEREAS, upon approval of a request for TAD funding, a TAD Development Agreement between the applicant/developer and the City shall be executed, and shall specify the eligible expenses, what method of funding will be utilized (i.e. pay-as-you-go, bank financing, bond financing or other method), and any special conditions and performance standards of the developer; and

WHEREAS, an application involving the construction of seven (7) homes at 890 Wills Street was reviewed by the TAD Advisory Committee and determined to achieve the TAD criteria; and

WHEREAS, the TAD Advisory Committee unanimously recommended approval of the TAD funding request of up to \$93,298 for the following uses with the following conditions and payment schedule:

Use:

- | | |
|-----------------------------------|------------------------------|
| • Asbestos Study | • Tree Removal |
| • Demolition & Grading | • Perimeter Sidewalks |
| • Fencing | • Water & Sewer |
| • Landscaping | • Improvements |
| • Phase One Environmental | |

Conditions:

- **Permitted project must be in substantial conformance with the architectural renderings and budget submitted with the TAD application as well as the site plan approved by the City on May 7, 2020.**

Payment Schedule:

- **Up to \$93,298 in TAD funds shall be made payable upon submittal of paid invoices for the purchase of and/or labor to complete or install the items specified under “Use” above, based upon the schedule listed below:**
 - **Reimbursement of \$25,000 to occur in lump-sum upon submittal of paid invoices for demolition and grading.**

RESOLUTION BR-2020 - ____

**TAX ALLOCATION DISTRICT (TAD) FUNDING FOR “ENCLAVE PHASE II”
AT 890 WILLS STREET SW**

- **Reimbursement of \$68,298 shall be distributed on an annual basis based on the TAD increment generated by Enclave Phase II for that calendar year, which reimbursement shall not exceed a period of 15 calendar years or \$68,298, whichever occurs first.**

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves the TAD application of up to \$93,298 for “Enclave Phase II” at 890 Wills Street SW.

BE IT FURTHER RESOLVED THAT that the governing body for the City of Gainesville hereby approves funding for the redevelopment improvement from the fund balance of the Tax Allocation District Fund, as well as from the increment generated by the Enclave Phase II project that is deposited into the Tax Allocation District Fund, as further detailed above.

BE IT FURTHER RESOLVED THAT the governing body authorizes the City Manager and City Attorney to prepare and execute a TAD Development Agreement to effectuate the terms and conditions of the funding, use and payment schedule.

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/10/2020
Presenter: Rusty Ligon
Item of Business: Resolution: Tax Allocation District (TAD) Funding for G-4 Development Group
Meeting Date: 7/16/2020

Purpose of Request:

Resolution to approve TAD Funding in the amount of \$284,786 for G-4 Development Group. This project will consist of the revitalization of vacant office buildings at 743 Main Street and 722 Bradford Street.

History/Background:

The TAD Advisory Committee met on June 4, 2020 and approved the TAD Application with conditions as presented in the attached resolution.

Facts & Issues for Consideration:

Department Recommendation:

Approve the resolution.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

TAD

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ TAD Project Presentation (Enclave II & G-4)	Powerpoint Presentation
☐ Authorize TAD Funding for G-4 Development Group	Resolution

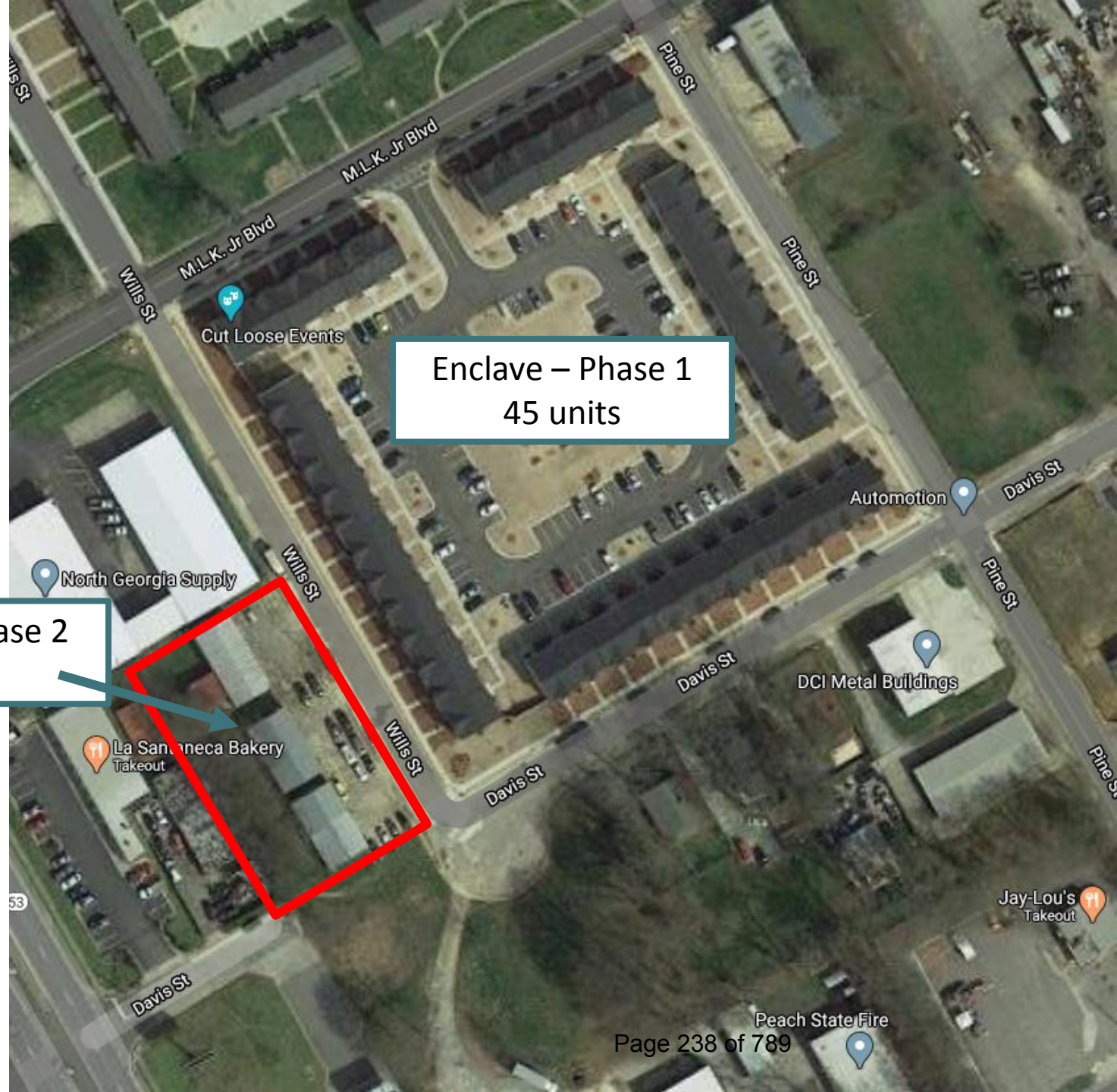
CITY OF
GAINESVILLE

TAD FUNDING RECOMMENDATION

ENCLAVE - PHASE 2

G-4 DEVELOPMENT GROUP

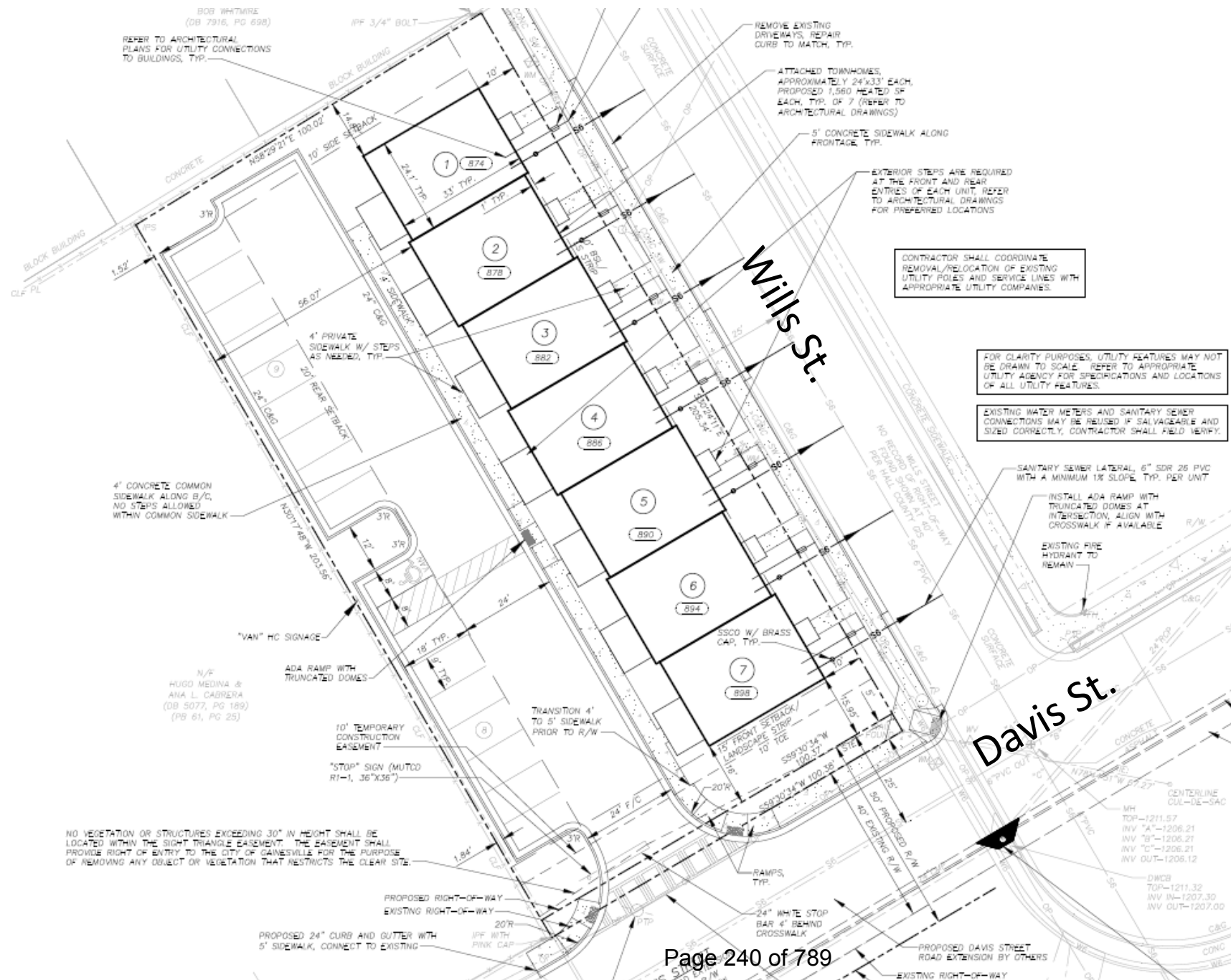
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Conditions:

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CITY OF
GAINESVILLE

G-4 DEVELOPMENT GROUP

743 Main Street &
722 Bradford Street



NOTES:

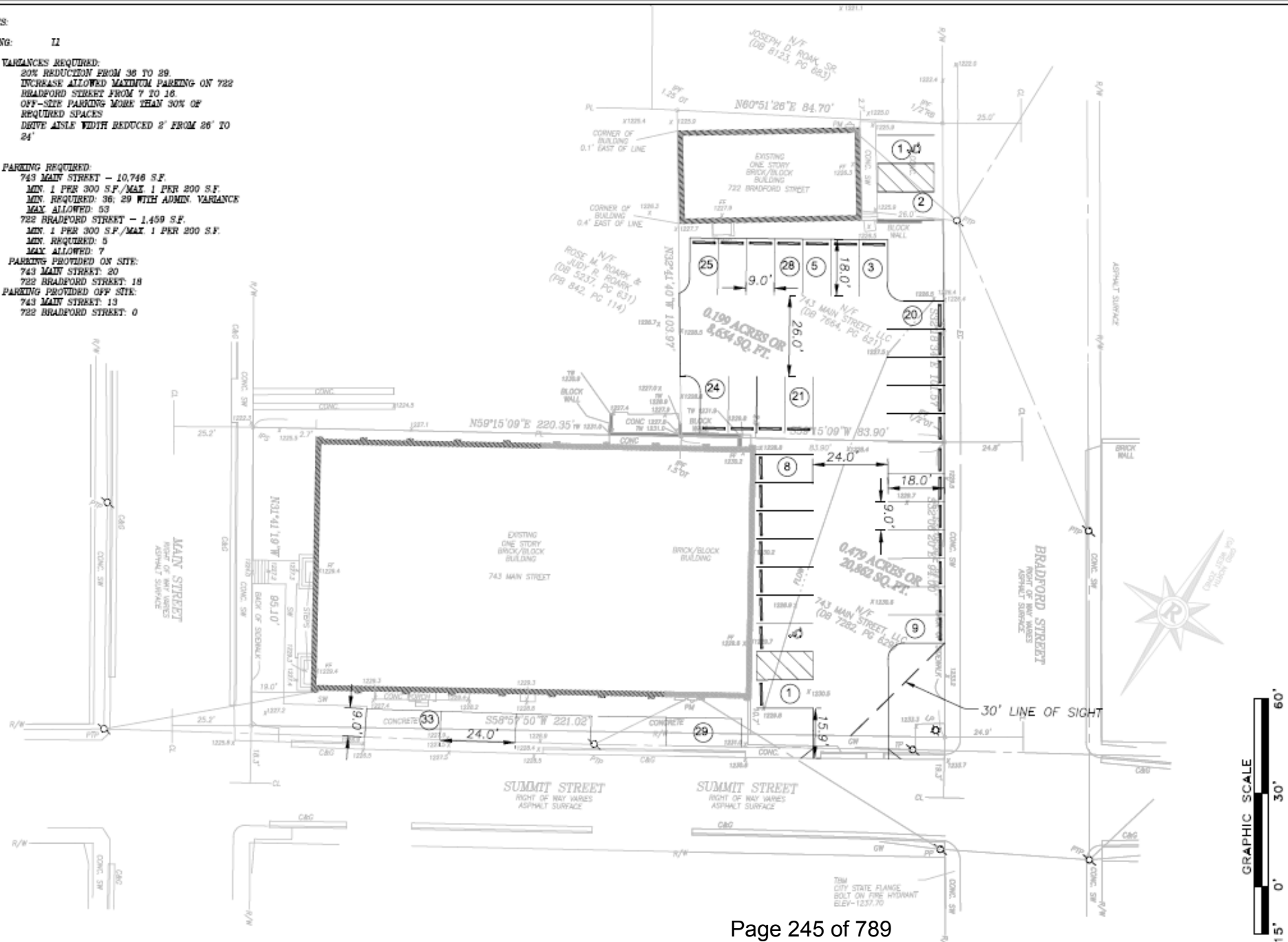
ZONING: 12

1. VARIANCES REQUIRED:

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CONCEPT SITE PLAN
FOR:
**743 MAIN STREET
REDEVELOPMENT**

LOCATED IN
LAND LOT 149
DISTRICT 9
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SHEET
1 OF
1

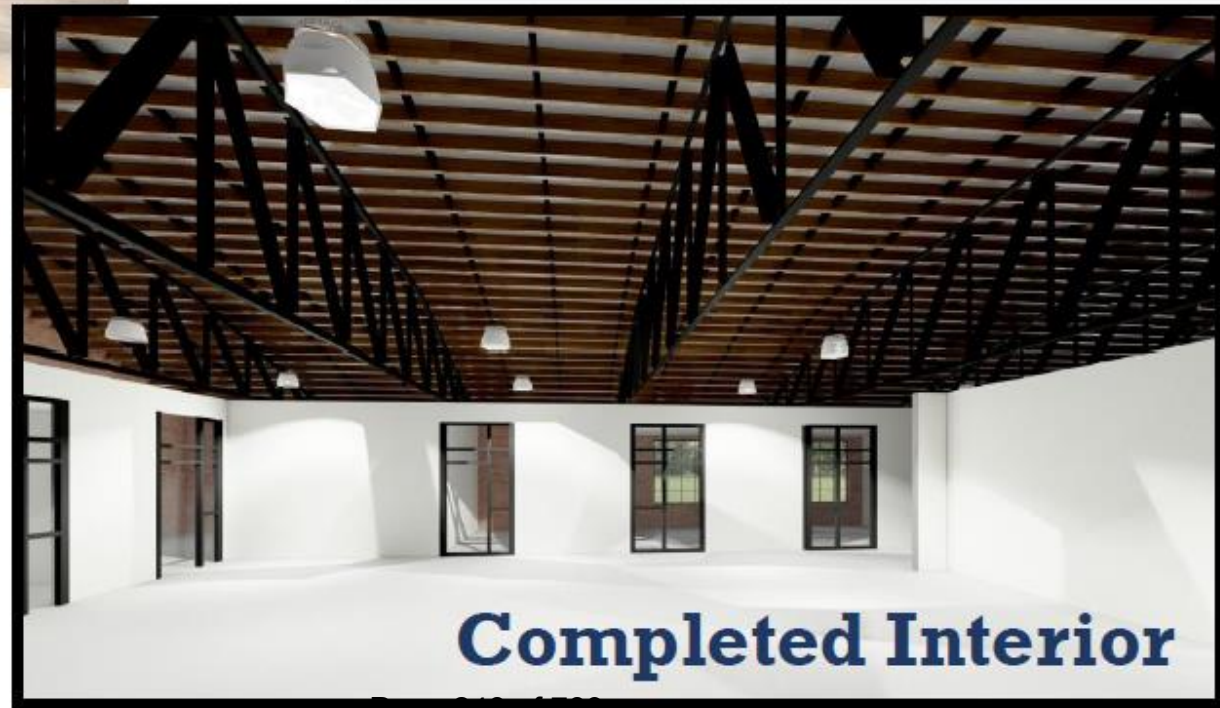
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G-4 DEVELOPMENT GROUP

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G-4 DEVELOPMENT GROUP

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TOTAL	\$284,786

TAD ADV. COMMITTEE - RECOMMENDATION

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- After the \$75,000 has been replenished to the special fund by the TAD increment generated, applicant retains any remaining TAD increment generated during the funding period, which funding period shall not exceed 15 years.

Conditions:

- Permitted project is in substantial conformance with the architectural renderings and budget submitted with the application.
- Applicant agrees to re-zone the property to O-I.
- The site must be professionally landscaped. The final landscaping plan is to be approved by the Community & Economic Development Director.
- Sidewalks must be installed along Summit Street.

RESOLUTION BR-2020 - ____

TAX ALLOCATION DISTRICT (TAD) FUNDING FOR “G-4 DEVELOPMENT GROUP” AT 743 MAIN STREET SW AND 722 BRADFORD STREET SW

WHEREAS, the governing body of the City of Gainesville is committed to the success of the redevelopment of Midtown Gainesville into a live, work and play area; and

WHEREAS, on October 17, 2006 the governing body of the City of Gainesville adopted the Midtown Redevelopment Plan and created Tax Allocation District (TAD) Number One – Midtown pursuant to the Georgia Redevelopment Powers Law (O.C.G.A. § 36-44-1 et seq.) as the next steps in the City’s redevelopment effort to reinvigorate Midtown; and

WHEREAS, the City of Gainesville will only consider applications for TAD financing for purposes or uses that are consistent with the definition of “redevelopment” as defined in the Georgia Redevelopment Powers Law [O.C.G.A. § 36-44-3(5)], with said eligible purposes or uses including public works and utilities, telecommunications infrastructure, street/streetscape improvements, parks and open space amenities, transit facilities and public parking structures, pedestrian amenities and safety improvements, and site preparation; and

WHEREAS, upon approval of a request for TAD funding, a TAD Development Agreement between the applicant/developer and the City shall be executed, and shall specify the eligible expenses, what method of funding will be utilized (i.e. pay-as-you-go, bank financing, bond financing or other method), and any special conditions and performance standards of the developer; and

WHEREAS, an application involving the revitalization of vacant office buildings at 743 Main Street and 722 Bradford Street was reviewed by the TAD Advisory Committee and determined to achieve the TAD criteria; and

WHEREAS, the TAD Advisory Committee unanimously recommended approval of the TAD funding request of up to \$284,786 for the following uses with the following conditions and payment schedule:

Use:

- **Demolition, Grading & Paving**
- **Decorative Fencing & Gates**
- **Building Façade Masonry Improvements & Site Concrete**
- **New Handrails**
- **New Overhead Door**
- **Storefront Entry & Windows**
- **Lime White Wash Exterior Facade**
- **New Canopies**
- **Site Lighting**
- **Relocate Power to Building Underground**

Conditions:

- **Permitted project must be in substantial conformance with the architectural renderings and budget submitted with the TAD application.**
- **Applicant agrees to pursue and/or consent to rezoning of the property to O-I.**
- **The site must be professionally landscaped. The final landscaping plan must be approved by the Community & Economic Development Director prior to the commencement of landscaping work.**

RESOLUTION BR-2020 - ____

**TAX ALLOCATION DISTRICT (TAD) FUNDING FOR “G-4 DEVELOPMENT GROUP”
AT 743 MAIN STREET SW AND 722 BRADFORD STREET SW**

- New sidewalks must be installed along Summit Street prior to completion of the permitted project.

Payment Schedule:

- Up to \$284,786 in TAD funds shall be made payable upon submittal of paid invoices for the purchase of and/or labor to complete or install the items specified under “Use” above, based upon the schedule listed below:
 - Reimbursement of \$75,000 to occur in lump-sum upon submittal of paid invoices for expenses specified under “Use” above.
 - Reimbursement of \$209,786 shall be distributed on an annual basis based on the TAD increment generated by the G-4 Development Group project for that calendar year, which reimbursement shall not exceed a period of 15 calendar years or \$209,786, whichever occurs first. The reimbursement set forth in the preceding sentence shall not begin until after the total sum of \$75,000 has been replenished into the TAD Special Fund by the annual TAD increment generated by the G-4 Development Group project.
 - The total period for reimbursement of up to the maximum of \$284,786 shall not exceed 15 calendar years, which period shall commence upon the first calendar year in which any reimbursement is paid to the applicant.

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves the TAD application of up to \$284,786 for “G-4 Development Group” at 743 Main Street SW and 722 Bradford Street SW.

BE IT FURTHER RESOLVED THAT that the governing body for the City of Gainesville hereby approves funding for the redevelopment improvement from the fund balance of the Tax Allocation District Fund, as well as from the increment generated by the G-4 Development Group project that is deposited into the Tax Allocation District Fund, as further detailed above.

BE IT FURTHER RESOLVED THAT the governing body authorizes the City Manager and City Attorney to prepare and execute a TAD Development Agreement to effectuate the terms and conditions of the funding, use and payment schedule.

Adopted this ____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

RESOLUTION BR-2020 - ____

**TAX ALLOCATION DISTRICT (TAD) FUNDING FOR “G-4 DEVELOPMENT GROUP”
AT 743 MAIN STREET SW AND 722 BRADFORD STREET SW**

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/6/2020

Presenter: Abb Hayes

Item of Business: **Public Hearing Item: July 21, 2020 Council Meeting**
Request from the **City of Gainesville** to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**) and to establish zoning as Planned Unit Development (P-U-D). **Ward Number: Three.** Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125. **Request: Business Park.**

Meeting Date: 7/16/2020

Purpose of Request:

To provide an overview of the following annexation/zoning request as presented at the June 9, 2020 Planning and Appeals Board Meeting:

The City of Gainesville is proposing to annex the subject property as part of an overall 1,324.4± acres planned development known as the Gainesville 85 Business Park. The property is adjacent to and east of the city limits and is zoned Agricultural Residential-IV (AR-IV) and Residential-II (R-II) within unincorporated Hall County. The subject property consists of three tracts of land and a portion of Smallwood Road that will be improved and used to provide access from Athens Highway (US 129) to the business park. The business park is located east of Interstate 985 between Exits 20 & 22 and will consist of a network of existing and new roads that will serve approximately 19-lots varying in size from 2 acres to over 100 acres. The overall concept plan proposes 5,000,000 square feet of light and heavy industrial uses as well as ancillary uses. The project has an expected built-out over a period of 15 to 20 years. The property is heavily wooded with rolling topography and streams. Adjacent uses include mostly industrial uses within Gainesville and Hall County and some residential uses located to the east along Smallwood Road within the County.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Staff and PAB recommended approval with two conditions. See PAB Recommendation Report for details and excerpts from the meeting minutes

SAMPLE MOTIONS

Approval of Ordinance 2020-

I move to approve the ordinance to annex the subject property for a business park as presented.

Approval of Ordinance 2020-

I move to approve the ordinance to establish zoning as Planned Unit Development (P-U-D) for the subject property with two conditions as presented.

Denial of the Request:

I move to deny this request.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description		Type
☐	Legal Ad	Legal Ad
☐	PAB Recommendation Report	Report
☐	Proposed Annexation Ordinance	Ordinance
☐	Proposed Zoning Ordinance	Ordinance
☐	Exhibit A to Proposed Zoning Ordinance - Narrative	Attachments/Exhibits
☐	Exhibit B to Proposed Zoning Ordinance - Site Plan	Attachments/Exhibits
☐	Exhibit C to Proposed Zoning Ordinance - Architectural Renderings	Attachments/Exhibits
☐	Location Maps	Backup Material
☐	Narrative	Backup Material
☐	Community Benefit Statement	Backup Material
☐	Survey	Backup Material
☐	Site Plans - Phasing Plan	Backup Material
☐	Surveyor's Buffer Diagram Labeled Exhibit F	Backup Material
☐	Architectural Photos	Backup Material
☐	Traffic Impact Study	Backup Material

LEGAL AD
Gainesville City Council

Publish Saturday, July 4, 2020
THE TIMES

**NOTICE OF PUBLIC HEARING ON PROPOSED
AMENDMENTS TO THE GAINESVILLE ZONING MAP**

Notice is hereby given that the **Gainesville City Council** will conduct a public hearing on **Tuesday, July 21, 2020 at 5:30 p.m.** in the **Gainesville Justice Center** (Municipal Courtroom at the Public Safety Complex), 701 Queen City Parkway in midtown Gainesville on the following requests:

- 1) Request from the **City of Gainesville** to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125
Request: Business Park
- 2) Request from the **City of Gainesville** to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-023-000-167 (Part)
Request: Business Park
- 3) Request from **Kevin Pethel** to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a **2092 Crow Road and 2005 White Sulphur Road**) from Residential-I (R-I) to Light Industrial (L-I).
Ward Number: Two
Tax Parcel Number(s): 09-124-000-038 (Part)
Request: Plumbing and electrical contractor office/warehouse
- 4) Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037
Request: 20 multi-family apartments

Additional information is available from the Community and Economic Development Department, Planning Division, by calling 770-531-6570.

NOTE: In accordance with Georgia law, anyone who wishes to express opposition to the proposed zoning action, and has made, within two years immediately preceding the filing of the proposed zoning action, campaign contributions aggregating \$250 or more to a local government official who will consider the application, shall file a disclosure of contribution(s) with the Planning Division at least five (5) days prior to the first reading of the proposed zoning action by the City Council. (OCGA § 36-67A-3 3 {c})

**GAINESVILLE PLANNING and APPEALS BOARD
RECOMMENDATION**

Applicant and Property Owner..... City of Gainesville
Location..... Annexation: 0 and 2221 Smallwood Road;
2306 and 2312 Athens Highway
..... Rezoning: 1701 Fulenwider Road, SW
Request..... Annex with P-U-D zoning
..... Rezone from R-I-A and H-I to P-U-D
Total Acres Annexation: 4.4± acres
..... Rezoning: 1,320± acres
Ward..... Three
Proposed Use..... Business Park
Planning Division Staff Recommendation **Approval, with conditions**
Planning & Appeals Board Recommendation..... **Approval, with conditions**
Date..... June 9, 2020

▪ **Applicant's Proposal and Background Information**

The City of Gainesville is proposing to annex and rezone the subject property for a 1,324.4± acres planned development known as the Gainesville 85 Business Park. The subject property is located east of Interstate 985 between Exits 20 & 22 and is heavily wooded with rolling topography and streams. The development is to include 5,000,000 square feet of light and heavy industrial uses as well as ancillary uses developed over a period of 15 to 20 years. The development will consist of a network of existing and new roads that will serve approximately 19-lots varying in size from 2 acres to over 100 acres. The overall concept plan anticipates three phases to provide necessary infrastructure for the development sites.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fulenwider Road and extension of Fulenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monument Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fulenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fulenwider Road and SR 60.
- Construction of entrance monument Fulenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.

- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monument at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

Annexation

The property is 4.4± acres in size and is adjacent to and east of the city limits and is currently zoned Agricultural Residential-IV (AR-IV) and Residential-II (R-II) within unincorporated Hall County. The property consists of part or all of five tracts of land and a portion of Smallwood Road that will be improved and will serve as the 85-Business Park access from Athens Highway (US 129). There are two existing residential structures located on the property that will be removed.

Rezoning

The property is 1,320± acres in size and is currently zoned Residential-I-A (R-I-A) and Heavy Industrial (H-I). A large portion of the property was originally annexed and zoned in 1991 for a land application farm for wastewater which was never constructed. The current uses within the property include the Gainesville Public Lands and Buildings maintenance facility and the Kubota ATV / RTV test track, which will all be removed. Access to the property is currently from Allen Creek Road, Fulenwider Road and Monroe Drive.

A full description of the overall development standards is described within the narrative provided with the application which include the permitted uses, dimensional requirements, architectural, landscape/buffer/tree protection, stormwater management, grading and erosion control, signage requirements and infrastructure improvements such as roads and utilities.

▪ **Adjacent Land Use and Zoning**

Adjacent uses include mostly industrial uses within Gainesville and Hall County and some residential uses located to the east along Smallwood Road within the County.

Location	Use	Zoning
North	Allen Creek Soccer Complex; Gainesville Police Gun Range	Residential-I (R-I-A) City
South	Numerous Industrial Uses; Residential Home	Heavy Industrial (I-II); Agricultural Residential-IV (AR-IV) County
East	Hall County Fire Training Facility, Hall County Sheriff Gun Range; Undeveloped Land	Agricultural Residential-IV (AR-IV) County Residential-I (R-I-A) City
West	Various Industrial uses; Cottrell, Volvo Truck Repair Facility, Hall County Landfill, Residential Home	Light Industrial (I-I), Heavy Industrial (I-II); Agricultural Residential-III (AR-III); Agricultural Residential-IV (AR-IV) County

▪ **Traffic Impact Study**

A traffic impact study was completed for this development on January 31, 2020. The study area included the following intersections:

- Signalized intersection of Athens Highway US 129 (SR 11) & Monroe Drive.
- Unsignalized intersection of Candler Road SR 60 & Fulenwider Road.
- Unsignalized intersection of Monroe Drive & Allen Creek Road.
- Unsignalized intersection of Athens Highway US 129 (SR 11) & Highlands Village Road / Smallwood Road.
- Unsignalized intersection of Highlands Village Road & Smallwood Road.
- Proposed internal access at Allen Creek Road
- Proposed internal access south of Allen Creek Road.
- Proposed internal access at Fulenwider Road.

Traffic counts were collected on Thursday, October 24, 2019, Tuesday, November 19, 2019, and Wednesday, December 4, 2019 at the studied intersections that exist. The below table is a breakdown of the project trip generation as based on a 2.5% annual growth rate per year.

	Total Trips	Inbound Trips	Outbound Trips	Car Trips	Truck Trips
Daily	16,850	8,425	8,425		
AM	2,000	1,620	380	1,780	220
PM	2,000	420	1,580	1,859	141

Based on the results of this traffic impact study, all studied intersections are projected to continue to operate at a Level of Service (LOS) E or F which is less than desirable. The addition of turn lanes at the studied intersections will help traffic movements but will still experience heavy traffic volumes. A GDOT Intersection Control Evaluation (ICE) procedure and a traffic signal warrant study will be required for the intersections at SR 60 and US 129 and Monroe Drive that are either new or involve changes. Once the ICE is determined, the mitigation needed to provide adequate Level of Service (LOS) can be determined, such as improved signalization and other offsite improvements.

▪ **Other Departmental Comments**

The Georgia Mountains Regional Commission Development of Regional Impact Study (DRI) finds the project does *not* present any potential adverse inter-jurisdictional impacts. Additional measures for environmental and transportation management would be ideal but could limit the scope of the development. Consideration should also be given to examine any potential adverse impacts on the neighboring residential properties.

The Hall County Environmental Health Department commented that any abandoned well shall be properly closed as per Water Well Standards Act. Any abandoned septic tank shall be pumped by a State certified pumper/hauler and crushed/filled.

There were no departmental comments for this request.

▪ **Zoning History**

The following zoning actions have taken place in the immediate area during the last ten years:

2019- A request by City of Gainesville to rezone 395.69± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Heavy Industrial (H-I) was approved with conditions for future industrial uses.

Analysis

(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?

The subject property is adjacent to industrial and public uses located along Fulenwider Road, Monroe Drive, Allen Creek Road, Athens Highway and Candler Road. The industrial uses are supportive of the proposed request. There are also limited residential and agricultural zoned properties to the northeast in the County which touch the subject property along Smallwood Road and to the southwest near Candler Road.

(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?

It is anticipated the proposed 85-Business Park will be developed over a period of 15 to 20 years. Properties most impacted by the proposal include existing industrial uses and patrons of the nearby Allen Creek Soccer Complex. As well, the existing residential homes located off of Smallwood Road in the County will experience increased traffic movements at the planned intersection of Athens Highway and Smallwood Road. The proposal includes water, sewer and road improvements that will directly serve the proposed business park. The road improvements are designed to allow for alternative points of ingress and egress in order to more evenly distribute employee and truck traffic along Allen Creek Road, Athens Highway, Candler Road, Fulenwider Road and Monroe Drive. In addition, appropriate stormwater measures will be required to protect the existing streams and Allen Creek Watershed.

(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?

It is staff's opinion that the proposal is consistent with the Comprehensive Plan.

The Future Development Map for the City of Gainesville places most of the 1,320± acres property to be rezoned within the *Industrial* land use category. This industrial land use category includes areas containing or planned for a wide range of office, business, light industrial, manufacturing, research and development uses; and commercial uses that directly support or are otherwise linked to the dominant business use. As well, a small portion of the property is adjacent to the Allen Creek Soccer Complex and is located within the Parks / Recreation / Conservation land use category which is intended for park space, open space and conservation areas.

The 4.4± acres annexation portion of property is planned as the Athens Highway 85-Business Park entrance. This property is located within the *Retail Commercial* and *Low-Medium Density Residential* land use category which is intended for uses such as grocery, bank, restaurants, theatres, hotels and automotive related businesses and single-family housing at densities of up to 4 dwelling units per acre.

According to the Character Area map for the City of Gainesville, the subject properties are located within the *Economic Development Gateways* character area which support the applicant's proposal. This character area represents the industrial, warehousing and other commercial enterprises that parallel the I-985 and Norfolk-Southern railroad corridor. The primary vision for the area is to continue to support economic development while preserving and strengthening important natural and cultural resources. These areas include a wide range of office, business, light industrial, manufacturing, research, and development uses.

(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?

The subject property is currently zoned for residential and industrial purposes. Based on the Comprehensive Plan and the existing development located off of Allen Creek Road, Fulenwider Road and Monroe Drive, the property appears to be more conducive for industrial purposes. The proposed zoning of Planned Unit Development (P-U-D) is a site-specific zoning that includes consistent and improved development standards unlike the existing industrial development located along Fulenwider Road and Monroe Drive.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

Public facilities and services are adequate but will require improvements to access, roads, stormwater and water/sewer utilities. The Gainesville Fire and Police Departments currently respond to the property. Gainesville Fire Station #1 is located off of Queen City Parkway and is 3.5± miles from the proposed access at Fulenwider Road. Hall County Fire Station #1 is located off of Athens Highway and is approximately 1.5± miles from the proposed Athens Highway/Smallwood Road access. There will be no impacts to the City school system in regards to increasing the number of children attending City schools.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

It is staff's opinion the proposed use is consistent with the Comprehensive Plan. The subject property and much of the surrounding area have been planned for public and industrial uses for over 30 years. As well, the surrounding area has experienced mostly industrial growth partly due to Exit 20 /I-985, Lee Gilmer Memorial Airport and CSX Railroad being located nearby.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Based on the subject property's close proximity to other industrial properties, the proposal with the zoning conditions recommended by staff appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare, and the right to unrestricted use of property.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this annexation and rezoning request with a **zoning of Planned Unit Development (P-U-D)**, based on the Comprehensive Plan and the adjacent and nearby industrial uses.

Conditions

- 1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.**
- 2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**

Excerpts from the June 9, 2020 PAB Meeting Minutes

Applicant Presentation: None

FAVOR: None

OPPOSE: None

Planning and Appeals Board Comments: Chairman Carter reminded the Board to vote on the requests separately and in the order it was presented.

There was a motion to recommend conditional approval of the request to annex the subject property and to establish zoning as Planned Unit Development (P-U-D) with the following conditions:

Conditions

1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.
2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.

Motion made by Board Member Martin

Motion seconded by Board Member Fleming

Vote – 6 favor, 1 absent (Thompson)

There was a motion to recommend conditional approval to rezone the subject property from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) with the following conditions:

Conditions

1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.
2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.

Motion made by Board Member Delgado

Motion seconded by Board Member Simmons

Vote – 6 favor, 1 absent (Thompson)

Passed: _____

AN ORDINANCE

No. 2020-

AN ORDINANCE ANNEXING A 4.4± ACRES TRACT LOCATED ON THE WEST SIDE OF ATHENS HIGHWAY AND SMALLWOOD ROAD TO INCLUDE PROPERTY LOCATED ON THE NORTH, SOUTH AND WEST SIDE OF SMALLWOOD ROAD (A/K/A 0 AND 2221 SMALLWOOD ROAD; 2306 AND 2312 ATHENS HIGHWAY); ADJACENT TO BUT NOT NOW WITHIN THE CORPORATE LIMITS OF THE CITY OF GAINESVILLE, GEORGIA; REPEALING CONFLICTING ORDINANCES; TO PROVIDE FOR SEVERABILITY; TO PROVIDE FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

(Amendment to City Limit Boundary)

WHEREAS, a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**), lies within the unincorporated lands of Hall County and adjoins the existing corporate limits of the City of Gainesville; and

WHEREAS, the hereinafter described lands be incorporated and annexed into the City of Gainesville.

NOW, THEREFORE, BE IT HEREBY ORDAINED BY THE GOVERNING BODY OF THE CITY OF GAINESVILLE, GEORGIA, AS FOLLOWS:

SECTION I.

That from and after the passage of this Ordinance the following described lands are and shall be annexed into the existing corporate limits of the City of Gainesville, Georgia, so that said lands shall constitute a part of the land within the corporate limits of the City of Gainesville, Georgia, as fully and completely as if the limits had been so defined by the General Assembly of Georgia.

Legal Description

Parcel: 15032 000002

All that tract or parcel of land lying and being in G.M.D 268 (Tadmire), Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence South 59°27'47" East, a distance of 64.39 feet to a point on the eastern right-of-way of said Smallwood Road and the True Point of Beginning; thence leaving said right-of-way and into the property now or formerly belonging to Carol T. Aiken and Malcom C. Tyner 51.25 feet along the arc of a curve to the right having a radius of 150.00 feet and a chord bearing and distance of South 01°33'05" East 51.00 feet to a point; thence South 08°14'09" West, a distance of 25.04 feet to a point on the eastern right-of-way of said Smallwood Road; thence along said right-of-way North 06°32'40" West, a distance of 2.77 feet to a point; thence 73.33 feet along the arc of a curve to the right having a radius of 246.48

ORDINANCE NO. 2020-

feet and a chord bearing and distance of North 01°58'43" East 73.06 feet to the True Point of Beginning.

Said tract contains 0.008 acre or 330 square feet.

Parcel: 15032 000113

All that tract or parcel of land lying and being in the Tadmore GMD 268 of Hall County, Georgia, and containing 1.467 acres per plat of survey prepared on March 15, 2003 by Don Williams and Associates and being more fully described as follows:

BEGINNING at a point common with the lands herein conveyed, the Southerly right-of-way of Athens Highway, being U.S. Highway 129, and the Westerly right-of-way of Smallwood Road; thence South 07° 52' 37" West 45.94 feet to an iron pin; thence ARC 80.94' RAD 326.49' CH. 80.73'; South 41° 33' 01" West to an iron pin; thence the following courses and distances: North 78° 59' 09" West 65 feet to an iron pin; North 19° 06' 34" West 96.06 feet; North 24° 17' 52" West 118.17 feet; North 29° 33' 13" West 105.44 feet; North 32° 09' 29" West 97.14 feet; North 28° 53' 28" West 95.47 feet; North 26° 37' 59" West 47.10 feet; North 24° 21' 41" West 84.02 feet; North 18° 42' 06" West 42.14 feet; North 03° 25' 37" West 61.40 feet; North 03° 09' 14" East 72.05 feet to an iron pin on the Athens Highway right-of-way; thence along Athens Highway ARC 622.29' RAD 1827.63' CH. 619.29'; South 30° 54' 57" East to a point; thence South 40° 18' 50" East 161.32 feet to the point of beginning.

Reference to said plat is had and made for a more complete description of the property herein conveyed.

Parcel: 15032 000125

All that tract or parcel of land lying and being in G.M.D 268 (Tadmore), Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence North 65°40'02" West, a distance of 94.56 feet to a point on the western right-of-way of said Smallwood Road and the True Point of Beginning, thence along said right-of-way South 15°34'17" East, a distance of 14.02 feet to a point; thence South 13°44'00" East, a distance of 109.82 feet to a point; thence 42.85 feet along the arc of a curve to the left having a radius of 306.87 feet and a chord bearing and distance of South 03°01'39" East 42.82 feet to a point; thence South 06°28'12" East, a distance of 68.12 feet to a point; thence leaving said right-of-way and along the property now or formerly belonging to Salvador Velasquez South 81°34'51" West, a distance of 195.15 feet to a point; thence along the property now or formerly belonging to Maria Zamora North 07°55'08" West, a distance of 49.83 feet to a point; thence South 76°17'14" West, a distance of 26.12 feet to a point; thence South 63°52'12" West, a distance of 20.29 feet to a point; thence along the properties now or formerly belonging to Maria Zamora and Jose D. Velasquez South 64°20'19" West, a distance of 310.51 feet to a point; thence along the properties now or formerly belonging to Jose D. Velasquez and Kristy Martin Hollis South 13°45'08" East, a distance of 315.99 feet to a point on the Hall County Line/City of Gainesville Line; thence along said County/City line and along the property now or formerly belonging to City of Gainesville North 56°38'56" West, a distance of 453.87 feet to a point; thence leaving said County/City line and along the property now or formerly belonging to Benny Samuel Martin, Sr. 9.45 feet along the arc of a curve to the right having a radius of 490.00 feet and a chord bearing and distance of North 63°47'11" East 9.45 feet to a point; thence along the properties now or formerly belonging to Benny Samuel Martin, Sr. and Benny Samuel Martin, Jr and Ronnie G. Williamson North 64°20'19" East, a distance of

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523.19 feet to a point; thence along the property now or formerly belong to Ronnie G. Williamson North 60°59'42" East, a distance of 266.47 feet to a point; thence 93.78 feet along the arc of a curve to the left having a radius of 1160.00 feet and a chord bearing and distance of North 52°37'59" East 93.75 feet to the True Point of Beginning.

Said tract contains 2.940 acres.

The annexation is to include all that portion of right-of-way known as Smallwood Road as shown on the location map.

SECTION II.

The Community and Economic Development Department of the City of Gainesville is directed to make and file with the Department of Community Affairs of the State of Georgia a certified copy of this Ordinance together with a plat describing lands annexed to the City of Gainesville by this Ordinance.

SECTION III.

All Ordinances and parts of Ordinances in conflict herewith are hereby repealed.

SECTION IV.

If any portion of this Ordinance shall be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect or impair the remaining portions unless it clearly appears that such other parts are wholly and necessarily dependent upon the part held to be invalid or unconstitutional.

SECTION V.

The effective date of this Ordinance shall be the first day of the month following approval by the governing body of the City of Gainesville, Georgia.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

Passed: _____

AN ORDINANCE

No. 2020-

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF GAINESVILLE, GEORGIA BY ESTABLISHING THE ZONING ON A 4.4± ACRES TRACT LOCATED ON THE WEST SIDE OF ATHENS HIGHWAY AND SMALLWOOD ROAD TO INCLUDE PROPERTY LOCATED ON THE NORTH, SOUTH AND WEST SIDE OF SMALLWOOD ROAD (A/K/A 0 AND 2221 SMALLWOOD ROAD; 2306 AND 2312 ATHENS HIGHWAY) AT THE TIME OF ANNEXATION AS PLANNED UNIT DEVELOPMENT, WITH CONDITIONS (P-U-D-c); REPEALING CONFLICTING ORDINANCES; TO PROVIDE FOR SEVERABILITY; TO PROVIDE FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

(Amendment to Zoning Map)

BE IT HEREBY ORDAINED BY THE GOVERNING BODY OF THE CITY OF GAINESVILLE, GEORGIA, AS FOLLOWS:

SECTION I.

That from and after the passage of this Ordinance the following described lands shall be zoned and so designated on the Zoning Map of the City of Gainesville as **Planned Unit Development, with conditions (P-U-D-c)**.

Conditions

- 1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.**
- 2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**

Legal Description

Parcel: 15032 000002

All that tract or parcel of land lying and being in G.M.D 268 (Tadmor), Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence South 59°27'47" East, a distance of 64.39 feet to a point on the eastern right-of-way of said Smallwood Road and the True Point of Beginning; thence leaving said right-of-way and into the property now or formerly belonging to Carol T.

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Aiken and Malcom C. Tyner 51.25 feet along the arc of a curve to the right-having a radius of 150.00 feet and a chord bearing and distance of South 01°33'05" East 51.00 feet to a point; thence South 08°14'09" West, a distance of 25.04 feet to a point on the eastern right-of-way of said Smallwood Road; thence along said right-of-way North 06°32'40" West, a distance of 2.77 feet to a point; thence 73.33 feet along the arc of a curve to the right having a radius of 246.48 feet and a chord bearing and distance of North 01°58'43" East 73.06 feet to the True Point of Beginning.

Said tract contains 0.008 acre or 330 square feet.

Parcel: 15032 000113

All that tract or parcel of land lying and being in the Tadmire GMD 268 of Hall County, Georgia, and containing 1.467 acres per plat of survey prepared on March 15, 2003 by Don Williams and Associates and being more fully described as follows:

BEGINNING at a point common with the lands herein conveyed, the Southerly right-of-way of Athens Highway, being U.S. Highway 129, and the Westerly right-of-way of Smallwood Road; thence South 07° 52' 37" West 45.94 feet to an iron pin; thence ARC 80.94' RAD 326.49' CH. 80.73'; South 41° 33' 01" West to an iron pin; thence the following courses and distances: North 78° 59' 09" West 65 feet to an iron pin; North 19° 06' 34" West 96.06 feet; North 24° 17' 52" West 118.17 feet; North 29° 33' 13" West 105.44 feet; North 32° 09' 29" West 97.14 feet; North 28° 53' 28" West 95.47 feet; North 26° 37' 59" West 47.10 feet; North 24° 21' 41" West 84.02 feet; North 18° 42' 06" West 42.14 feet; North 03° 25' 37" West 61.40 feet; North 03° 09' 14" East 72.05 feet to an iron pin on the Athens Highway right-of-way; thence along Athens Highway ARC 622.29' RAD 1827.63' CH. 619.29'; South 30° 54' 57" East to a point; thence South 40° 18' 50" East 161.32 feet to the point of beginning.

Reference to said plat is had and made for a more complete description of the property herein conveyed.

Parcel: 15032 000125

All that tract or parcel of land lying and being in G.M.D 268 (Tadmire), Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence North 65°40'02" West, a distance of 94.56 feet to a point on the western right-of-way of said Smallwood Road and the True Point of Beginning, thence along said right-of-way South 15°34'17" East, a distance of 14.02 feet to a point; thence South 13°44'00" East, a distance of 109.82 feet to a point; thence 42.85 feet along a the arc of a curve to the left having a radius of 306.87 feet and a chord bearing and distance of South 03°01'39" East 42.82 feet to a point; thence South 06°28'12" East, a distance of 68.12 feet to a point; thence leaving said right-of-way and along the property now or formerly belonging to Salvador Velasquez South 81°34'51" West, a distance of 195.15 feet to a point; thence along the property now or formerly belonging to Maria Zamora North 07°55'08" West, a distance of 49.83 feet to a point; thence South 76°17'14" West, a distance of 26.12 feet to a point; thence South 63°52'12" West, a distance of 20.29 feet to a point; thence along the properties now or formerly belonging to Maria Zamora and Jose D. Velasquez South 64°20'19" West, a distance of 310.51 feet to a point; thence along the properties now or formerly belonging to Jose D. Velasquez and Kristy Martin Hollis South 13°45'08" East, a distance of 315.99 feet to a point on

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the Hall County Line/City of Gainesville Line; thence along said County/City line and along the property now or formerly belonging to City of Gainesville North 56°38'56" West, a distance of 453.87 feet to a point; thence leaving said County/City line and along the property now or formerly belonging to Benny Samuel Martin, Sr. 9.45 feet along the arc of a curve to the right having a radius of 490.00 feet and a chord bearing and distance of North 63°47'11" East 9.45 feet to a point; thence along the properties now or formerly belonging to Benny Samuel Martin, Sr. and Benny Samuel Martin, Jr and Ronnie G. Williamson North 64°20'19" East, a distance of 523.19 feet to a point; thence along the property now or formerly belong to Ronnie G. Williamson North 60°59'42" East, a distance of 266.47 feet to a point; thence 93.78 feet along the arc of a curve to the left having a radius of 1160.00 feet and a chord bearing and distance of North 52°37'59" East 93.75 feet to the True Point of Beginning.

Said tract contains 2.940 acres.

The annexation is to include all that portion of right-of-way known as Smallwood Road as shown on the location map.

SECTION II.

All Ordinances and parts of Ordinances in conflict herewith are hereby repealed.

SECTION III.

If any portion of this Ordinance shall be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect or impair the remaining portions unless it clearly appears that such other parts are wholly and necessarily dependent upon the part held to be invalid or unconstitutional.

SECTION IV.

This Ordinance is enacted as an amendment to the Code of the City of Gainesville, Georgia, and is to be codified as a part of Section 9-1-1-5.

SECTION V.

The effective date of this Ordinance shall be the first day of the month following approval by the governing body of the City of Gainesville, Georgia.

ORDINANCE NO. 2020-

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

**GAINESVILLE 85 BUSINESS PARK
CONDITIONS OF ZONING
February 28, 2020**

The request is to rezone 1,320 ± acres from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) and to annex 4.4 ± acres with a zoning of Planned Unit Development (P-U-D) for a proposed business park. This document is submitted consistent with requirements of the Unified Development Code of Gainesville, Georgia, Section 9-7-1-1, PUD, Planned Unit Development, as amended 12/17/19. It accompanies other rezoning application submittal material and is an integral part of the rezoning package to be reviewed by staff and to be subject to the public hearing process. As such it may be modified by mutual agreement of the City of Gainesville, Georgia ("City") and the Applicant, City of Gainesville, Georgia (hereinafter "Developer") up to the point of approval by the City Council. Upon approval it shall become an integral part of the zoning approval for the properties herein described and depicted in the accompanying Conceptual Plan (hereinafter "Concept Plan"). Additional terms are provided for its interpretation or modification after approval.

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RELATIONSHIP TO CITY ZONING ACTION

This narrative explains and clarifies the Concept Plan and related development standards specific to the Gainesville 85 Business Park Planned Unit Development district (hereinafter "Project"). This method is common for large, complex developments that will be built over a period of several years. It gives the City, adjacent property owners, the general public and Developer, including its successors and assigns, certainty with respect to development standards, while also providing flexibility to the Developer to be able to respond to changes in market conditions and preferences consistent with the intent of the Planned Unit Development Section of the City's Zoning Ordinance as it exists at the time of initial application.

This document is intended to detail and clarify the conditions of zoning and slight modifications to the Gainesville Unified Land Development Code for the Project as described herein and as reflected in the accompanying Exhibits. Due to the complexity of the Project, its projected build-out over a period of 15 to 20 years, and uncertainty of future economic considerations, the City acknowledges the significant rights vested to the applicant based on this approval, and the need for the Developer to be able to rely on these conditions of approval over the life of the project, as long as the project proceeds in general conformance with the program discussed herein. After approval, the conditions of zoning shall be recorded in the public records of Hall County, Georgia and reference to recording information shall be included on any and all plats created for the development.

It is intended that the submitted boundary perimeter of the Project (hereinafter "Project Boundary") and corresponding acreage of the PUD district will be as shown in submittal material. However, zoning conditions of the Project may be applied to additional property outside the initial Project Boundary, if the Applicant acquires additional property and with City Council approval via the rezoning process. Consideration of different conditions for the addition of property(ies) after approval(s) shall not prompt or require a re-review of conditions of zoning for the Project as it then exists, but shall apply only to additional lands, if any.

CONCEPT PLAN

The development of the Project shall be controlled by the Concept Plan, attached hereto as Exhibit "A", the Project Narrative and other exhibits provided as modified in the final approval. The Plan is considered conceptual in nature, and certain modifications to that Plan are anticipated as reflected in the specific language herein. Beyond such specific language, modifications of the location and arrangement of lots, roads, amenities and other improvements that do not materially conflict with specific standards and requirements of these conditions may be made by the Developer, so long as such modification does not materially alter the location or nature of improvements or change the land use or increase density. The current Plan incorporates light industrial and heavy industrial uses.

PUD ZONING DISTRICT - GAINESVILLE 85 BUSINESS PARK

The Project shown in the Concept Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five

(5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The overall Concept Plan requests approval for a maximum of 5,000,000 SF of light and heavy industrial uses as well as additional uses as specified herein. The Developer acknowledges that the specific standards of these conditions and applicable City codes not otherwise modified herein shall control.

DEVELOPMENT

Dimensional Requirements

The dimensional requirements for the project shall be as outlined in Table 1 below:

Table 1

Dimensional Requirements - Gainesville 85 Business Park	
Project Acreage	1330 +/-
Minimum lot size	15,000 SF
Minimum lot width	100'
Maximum building coverage - individual lot	60%
Maximum impervious surface coverage - individual lot	85%
Minimum open space - individual lot	none
Minimum open space - overall	5%
Minimum landscape strip along internal R/W's	20'
Maximum structure height	120'
Maximum number of stories	5
Front setback from R/W	75'
Side setback - internal	20'
Rear setback - internal	20'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to residential uses/zoning districts	50'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to nonresidential uses/zoning districts	none
Parking setback from R/W	10'
Front Building setback from parking lots	10'
Parking ratio - manufacturing, processing, assembling	none
Parking ratio - all other uses	Per UIDC
Driveway width	28'
Minimum driveway radius	25'
Minimum number of off street loading spaces	none

Development Standards

The Developer agrees to comply with all applicable City rules and regulations in effect on the date of approval, except as specifically modified herein. The Developer agrees to comply with future amendments to those rules or regulations, except where specific conflicting standards are approved herein, or such future compliance is specifically waived.

Subsequent actions by the City to change Development Standards for other zoning districts of the City shall not apply to the 85 Gainesville Industrial Park PUD district, unless such changes are city-wide and required by changes in federal or state laws. By approval of the City, the Developer will have substantial vested rights for the Project.

Permitted Uses

This PUD zoning shall allow for the following uses:

- Conservation Area
- Clinic
- Club or Lodge
- College or University
- School for Arts
- Private School
- Professional School
- Special School
- Trade School
- Bank or Financial Establishment
- Broadcasting Studio
- Building Materials Sales
- Business Service Establishment
- Contractor's Establishment
- Custom Order Shop
- Exterminator
- Health Spa
- Museum
- Office
- Parking Lot – off site
- Parking Structure
- Personal Service Establishment – more than 2500 sf
- Restaurant
- Retreat Center
- Bottling or Canning Plant
- Brewery or Distillery
- Bulk Storage
- Cold Storage
- Distribution including truck terminal
- Apparel Manufacturing
- Ceramics Manufacturing
- Cosmetics Manufacturing
- Electronics Manufacturing
- Fiberglass Insulation Manufacturing
- Ice Manufacturing
- Machine Manufacturing
- Metal Products Manufacturing

- Pharmaceutical/Medical Manufacturing
- Office/Warehouse
- Warehouse or Storage Building
- Wholesale Trade Establishment
- Public Use
- Utility Company
- Utility Company Substation
- Accessory Use incidental to principal use
- ATM Machine
- ATM Drive through
- Caretaker's Residence
- Construction Field Office
- Drive Through
- Manufacturing Accessory to Retail use
- Office/Institutional/Industrial Warehouse/Distribution/Manufacturing uses
- Instrument Assembly

In addition, this PUD zoning shall allow for the following specific uses:

- Proving grounds for equipment performance testing
- Gun ranges owned and operated by government agencies
- Equipment maintenance facilities owned and operated by government agencies
- Temporary construction offices housed in trailer or modular buildings

DEVELOPMENT FEES

All applicable fees for water & sewer connections, land disturbance permits and building permits will be administered based on the then current fee schedule for the City of Gainesville.

AESTHETICS

ARCHITECTURE

The Developer has proposed a unified development vernacular of building forms, mass, articulation, exterior treatments, surface materials and finishes, complimentary colors and similar details. This approval will guide development of the buildings, with no further architectural approval required outside of the administrative building permit process. Pictorial examples of the intended quality level and character of industrial architecture are provided in Exhibit "B". Review and compliance will be monitored through the covenants to be filed on the property.

Landscape Standards

Landscape standards shall be in accordance with the Declaration of Covenants, Restrictions and Easements for Gainesville 85 Business Park, to be recorded on the property. Any standards not addressed within the covenants shall meet the standards of the ULDC.

SIGNAGE

Signage and graphics design standards, typical for a Planned Unit Development, are developed to establish a cohesive, distinctive and functional system to visually attract and communicate with everyone who visits and works in Gainesville 85 Business Park. A well-coordinated sign system is also one of the most effective ways of creating lasting identity and way-finding clarity. Project signage along public roadways in 85 Gainesville Industrial Park will be designed consistent with a high-quality image. A coordinated program of signage for individual sites shall be approved in conjunction with the site plan approval of the building, similar to pictorial examples provided in Exhibit "C".

All sign square footage criteria are calculated inclusive of the sign monument.

Signage design criteria is requested as follows:

<u>Sign Type</u>	<u>Maximum Area per Face (SF)</u>	<u>Maximum Height (ft)</u>	<u>Frequency</u>
User Sign Types			
Ground Mounted Sign	200 sf	18 ft	One (1) sign per lot per street frontage
Portable Sign	8 sf		One (1) per establishment
Wall Sign	1 sf of wall signage per 1 lf of wall length	3 ft on 1 st & 2nd floor	One (1) per each tenant having an exterior public entrance
Window Sign	32 sf	12 inches	One (1) per establishment
Projecting Blade Sign	16 sf		One (1) per establishment
Entry Signage	32 sf	8 ft	One (1) per bldg. entrance
Grand Opening and Temporary Signage	32 sf		
Developer Sign Types			
Major Parkway Identification	200 sf	18 ft	One (1) @ SR 129 One (1) on Fullenwider Rd
Secondary Parkway Identification	200 sf	18 ft	One (1) @ Monroe Dr
Way-finding Signage	100 sf	15 ft	As needed
Minor Information and Directional Signs	35 sf	8 ft	As needed
Regulatory Signs			As needed

Entry Feature Monuments

A main entrance feature or signage shall be allowed at the entrances from US 129, Fullenwider Road and Monroe Drive. The main entrance features may include extensive walls, fencing, landscaping and signage that is commensurate with the size of the Project and the scale of the entrances.

ENVIRONMENTAL

FLOOD PLAIN MANAGEMENT

Flood plains will remain undisturbed with the exception of roadway crossings and utility placement. A trail system may also be constructed within this zone.

BUFFERS, LANDSCAPING AND TREE PROTECTION

An external buffer of 50' will be imposed where the site adjoins a residential zoning district (Exhibit "F"). Driveway construction for Lot #5 may be constructed within the buffer and is excluded from this requirement. The buffer may be disturbed and replanted in these areas to the satisfaction of the Declarant.

CULTURAL RESOURCES

A cultural resources literature search by R.S. Webb & Associates, dated August 13, 2018, identified five sites that may have eligibility under NHRP. These sites, as shown on Exhibit "D" will be delineated and protected by an additional 25' buffer around the perimeter. A variance to this buffer may not be granted.

STORMWATER MANAGEMENT, GRADING AND EROSION CONTROL

Stormwater Management

A series of storm water management facilities will be designed to serve the project on a basin wide basis, rather than individual sites. However, individual sites will be required to provide water quality elements for their own stormwater runoff.

Grading and Erosion Control

The Project contemplates multiple areas being open to construction activity concurrently. Similarly, over time multiple phases of concurrent road and lot development may be on going in multiple parcels within multiple phases. At the developer's discretion these may be submitted as stand-alone projects or integrated within common sets of construction plans. Proper erosion control measures are to be maintained at all times with particular attention to steep fill or cut slopes, large areas of grading and areas immediately adjacent to stream buffers. Developer will adhere to all State and Federal requirements regarding erosion and sediment controls.

Stream Buffers

The Project contains several small unnamed tributaries to Allen Creek. The Developer has received a US Army Corps of Engineers' Individual Permit for permitting stream & wetland impacts. If these impacts are exhausted and to the degree feasible, the Developer may avoid additional impacts to the stream channel by use of pre-fabricated span structures, such as ConSpan or OmegaSpan, wooden bridges or other types of alternative crossings that meet development regulations, rather than pipe or culvert. In consideration of the extra expense and effort associated with this limitation of impact to streams, the City agrees that variances to the City's required stream buffers (50' undisturbed & 75' impervious) will be considered where dimensional and topographic hardships may exist. Such buffers may be crossed by utility crossings, roads and trails, provided such are placed as perpendicular to the buffer as practical. Pervious surface trails of the Multi-Use Trail system may meander within buffers at distances greater than 25' from top of bank, except at points of crossing or specific focal points of interest. Unless

DEVELOPMENT PHASING

85 Gainesville Industrial Park is anticipated to be developed over a fifteen to twenty year time frame. At present the following phasing, as depicted on Exhibit "E" is planned on a conservative basis, but may be either accelerated or deferred at the discretion of the Developer, depending on market conditions. It is the Developer's desire and intent to develop all phases of the Project, but no guarantee is made by way of this document,

zoning approval, or accompanying Concept Plan that all phases of the Project will be developed.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fullenwider Road and extension of Fullenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monumentation at Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fullenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fullenwider Road and SR 60.
- Construction of entrance monumentation at Fullenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.
- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monumentation at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

INFRASTRUCTURE IMPROVEMENTS

In general, the Developer shall be responsible for providing the timely construction of all on-site project-related infrastructure necessary to serve the Project, and to also accommodate or facilitate specific concurrent or future additional on-site system-related improvements of the City. The Developer shall not be required to oversize roads, facilities or pipe systems at their expense, unless accommodation is made for credits or rebates of fees and charges for the portion of system-related improvements that exceed otherwise required project-related improvements.

The construction and installation of infrastructure improvements shall be conducted in conformance with the applicable codes, ordinances, policies and procedures of the City and the other applicable governmental agencies and service providers, unless specifically modified herein. Modification of the requirements of other agencies or providers may be referenced here, but the authority to make such modifications lays with those other parties by separate agreement.

ROAD IMPROVEMENTS

On-site Improvements

As provided for through the PUD District, it is intended that the on-site roads shall all be constructed to meet the City standards and specification for public roads, with the following modifications:

Fullenwider Road Extension

Minimum design speed – 25 mph, with design values based on AASHTO standards

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Minimum cul-de-sac pavement radius – 52' to back of curb
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

US 129 Entrance Road

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

Allen Creek Road Connector

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

UTILITIES

Water Service

Water service will be provided by the City, through an extension of existing water lines located in Allen Creek Road and Fullenwider Road with a future connection back to US 129.

Sanitary Sewer Service

Sanitary Sewer Service will be provided by the City. Gravity sewers will be constructed throughout the property and will flow to the new 85 Gainesville Business Park pump station located at the southern end of the property. The flow will then be pumped back to the existing Allen Creek pump station located near the soccer complex and eventually to the Flat Creek Water Reclamation Facility for treatment and disposal.

Other Utilities

All utilities are to be placed underground. Electric, gas, phone, cable and/or fiber are to be placed by respective utility providers as available per City of Gainesville standards in common trench or conduit after curbing and prior to driveway/sidewalk installation. Small cell antenna systems for internet and Wi-Fi as an alternative to cable or fiber may be placed in conjunction with street light poles.

AMENDMENTS TO THESE CONDITIONS

It is understood that the Project is being constructed over an extended period of time in a rapidly growing area; therefore, amendments to these conditions are possible and should be anticipated. In order to protect the interests of the parties involved, along with the interests of neighboring property owners and the general public, these conditions shall be amended under the procedures outlined below:

Changes to the Concept Plan

Certain modifications to the Concept Plan are described above, which are exempt because of distance from the original perimeter of the property or can be administered at a staff level and do not require formal amendment of the Concept Plan. However, if a proposed change does not meet the criteria, a formal amendment must be approved through the same public hearing process as required for the original zoning approval. Examples of these would be major changes at the original perimeter of the property, or changes in use or development standards for the property on the whole.

Changes to the Language of these Conditions

Minor changes or clarifications of the language of these conditions may be made as part of a vote by the City Council at any duly called meeting. These include the adjustment of time frames for specific actions while maintaining the overall intent of Project phasing, the modification of technical specifications for infrastructure improvements, and the addition of new language clarifying issues not previously part of this agreement.

Other changes to the language of these conditions must be approved through the same public hearing process as required for the original zoning approval. This specifically includes the deletion of any required improvements, the addition of any permitted land use(s), any increase, above 10%, in the maximum amount of development permitted, or a change to the criteria for buffers or setbacks for development taking place adjacent to the Project Boundary.

EFFECT OF CITY ORDINANCE CHANGES

It is specifically acknowledged that the City may consider changes to its development regulations over the life of this Project's development, construction and occupancy. As such, the parties acknowledge that other development related codes and ordinances change over time, and such changes customarily have different effects on various portions of the Project's development depending upon their stage of completion.

Changes in Conflict with the Concept Plan or these conditions

Changes in City development-related codes, ordinances, policies or practices which are in direct conflict with the details or provisions of the approved Concept Plan or these conditions shall not apply to the continued development of the Project, except where such changes are mandated by State or Federal law, such as changes to standard building codes, or except where such relate to City-wide fees or charges not addressed by the zoning documents.

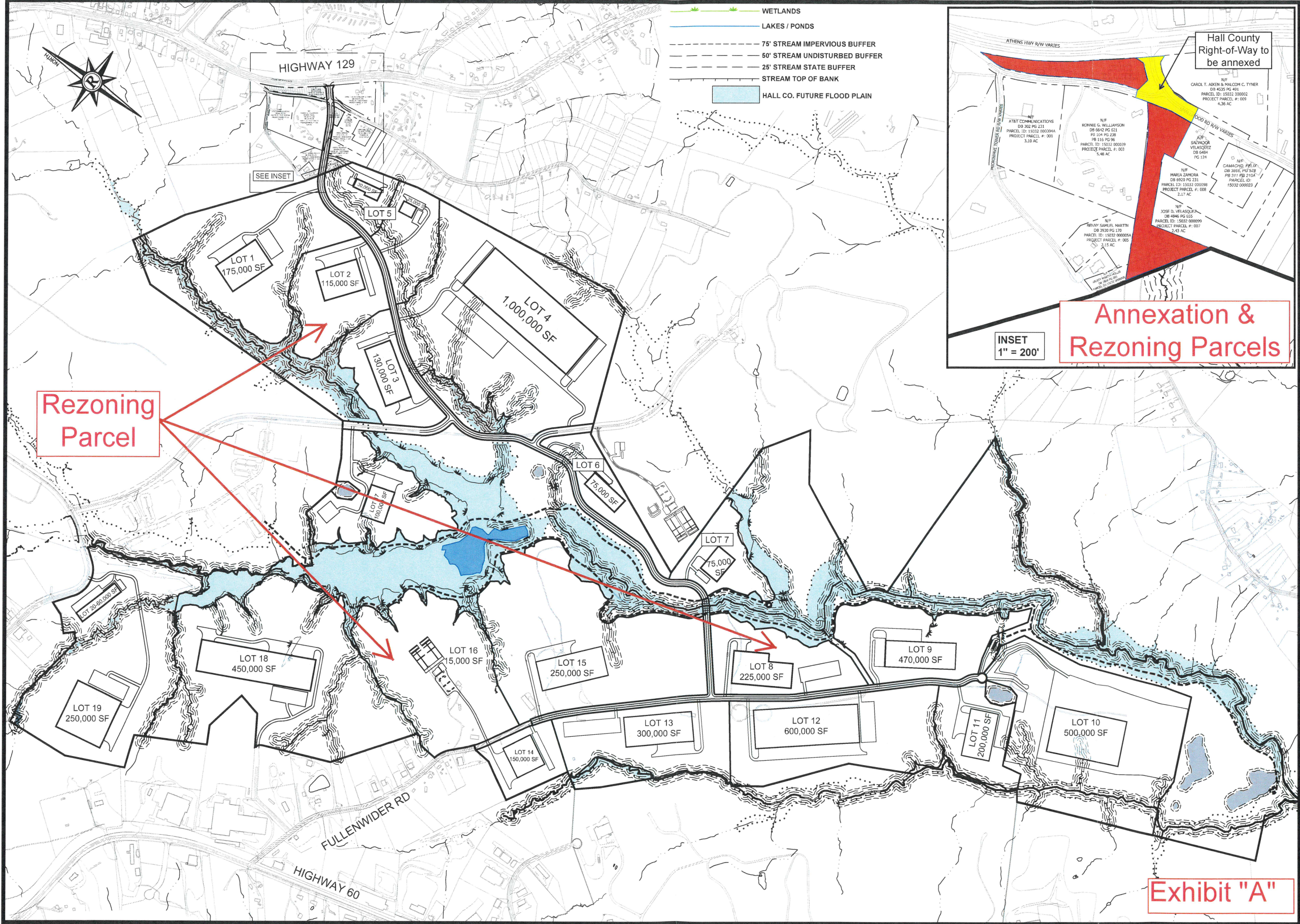
Changes to Dimensional or Development Standards, or Subdivision Regulations

It is the intent of the City to allow the Project to develop with a consistent look and feel, and with a level of predictability in development cost over time. Therefore, changes to dimensional standards (such as height, setback, etc.), development standards (such as parking or landscaping requirements, or sign regulations), shall not apply to the remaining phases of development, unless there is a demonstrated compelling public health, safety, morals or welfare interest to require the new standard. Exceptions to this policy would be standards mandated by State or Federal law.

Other City Codes and Ordinances

Nothing within this agreement shall affect the ongoing enforcement of other City codes, regardless of changes over time, including codes affecting the accessory uses of property or maintenance of property.

Exhibit B - Site Plan



Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

REZONING PLAN FOR:

85 GAINESVILLE BUSINESS PARK

LOCATED IN
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

NO.		DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THIS PLAN SHALL BE THE RESPONSIBILITY OF THE CLIENT. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

GRAPHIC SCALE: 1" = 500'

250' 500' 1000'

SHEET 1 OF 1

DATE: 1/11/2020

SCALE: 1" = 500'

JOB NO. 0190016.COG

DWG NO. *BASE.dwg

DRAWN BY: ATM

Exhibit "A"

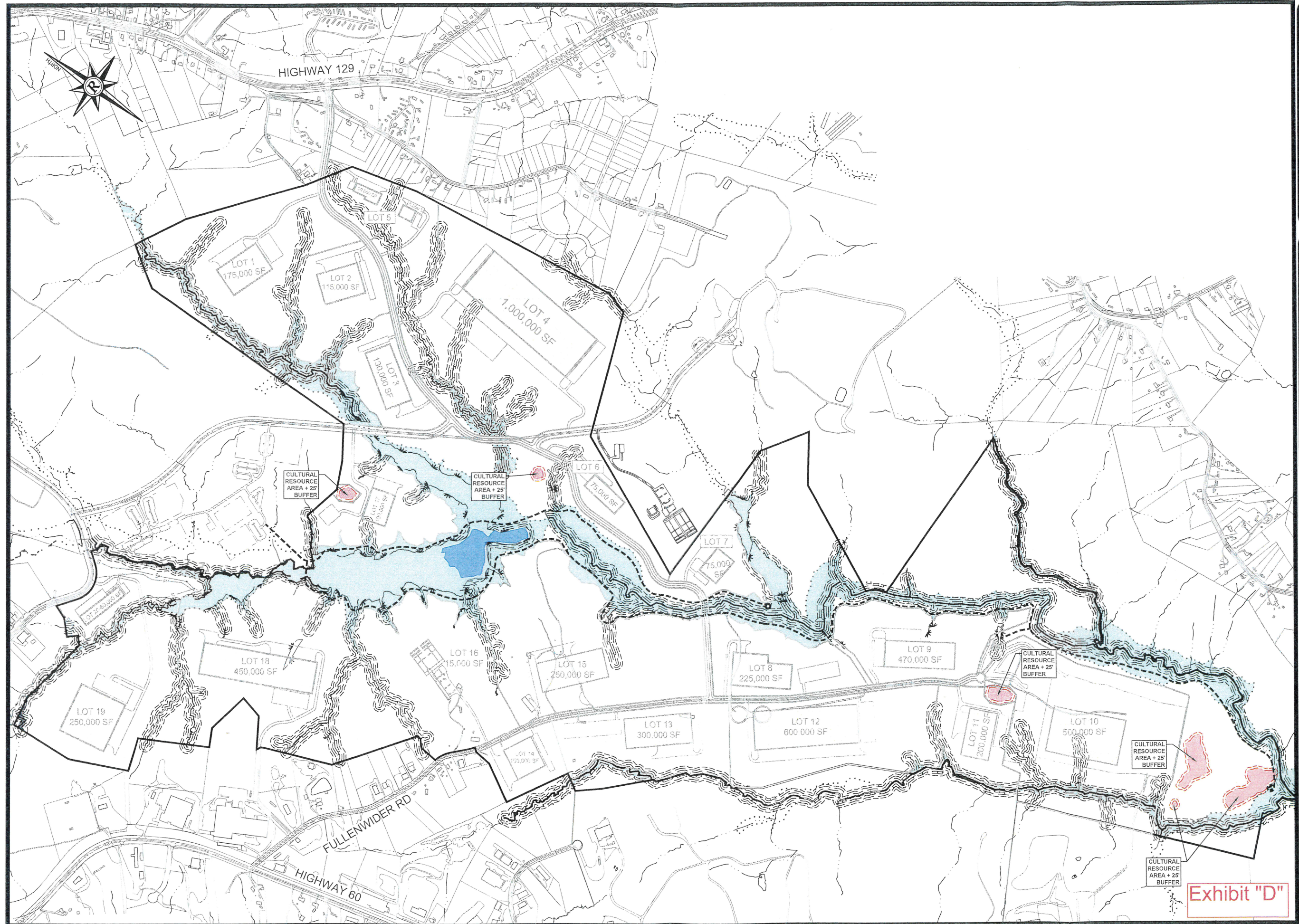


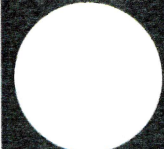
Exhibit "D"

Rochester & Associates, Inc.
 425 Oak Street N.W. • Gainesville, Georgia 30501
 (770) 718-0600 (770) 718-9090 Fax • www.rochester-assoc.com

CULTURAL RESOURCE AREAS
 FOR:
85 GAINESVILLE BUSINESS PARK
 LOCATED IN:
 CITY OF GAINESVILLE
 HALL COUNTY, GEORGIA

NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THESE CONSTRUCTION DRAWINGS WITHOUT THE SIGNATURE OF THE DESIGNER SHALL BE VOID. THE SEAL SHOWN HEREON IS THE SEAL OF THE DESIGNER AND IS NOT TO BE USED FOR ANY OTHER PROJECT. ORIGINAL DRAWINGS ARE KEPT ON FILE FOR VERIFICATION OF ANY CHANGES.



SHEET
1
 OF
1
 DATE: 1/21/2020
 SCALE: 1"=500'
 JOB NO. 0180016.COG
 DRAWN BY: ATM

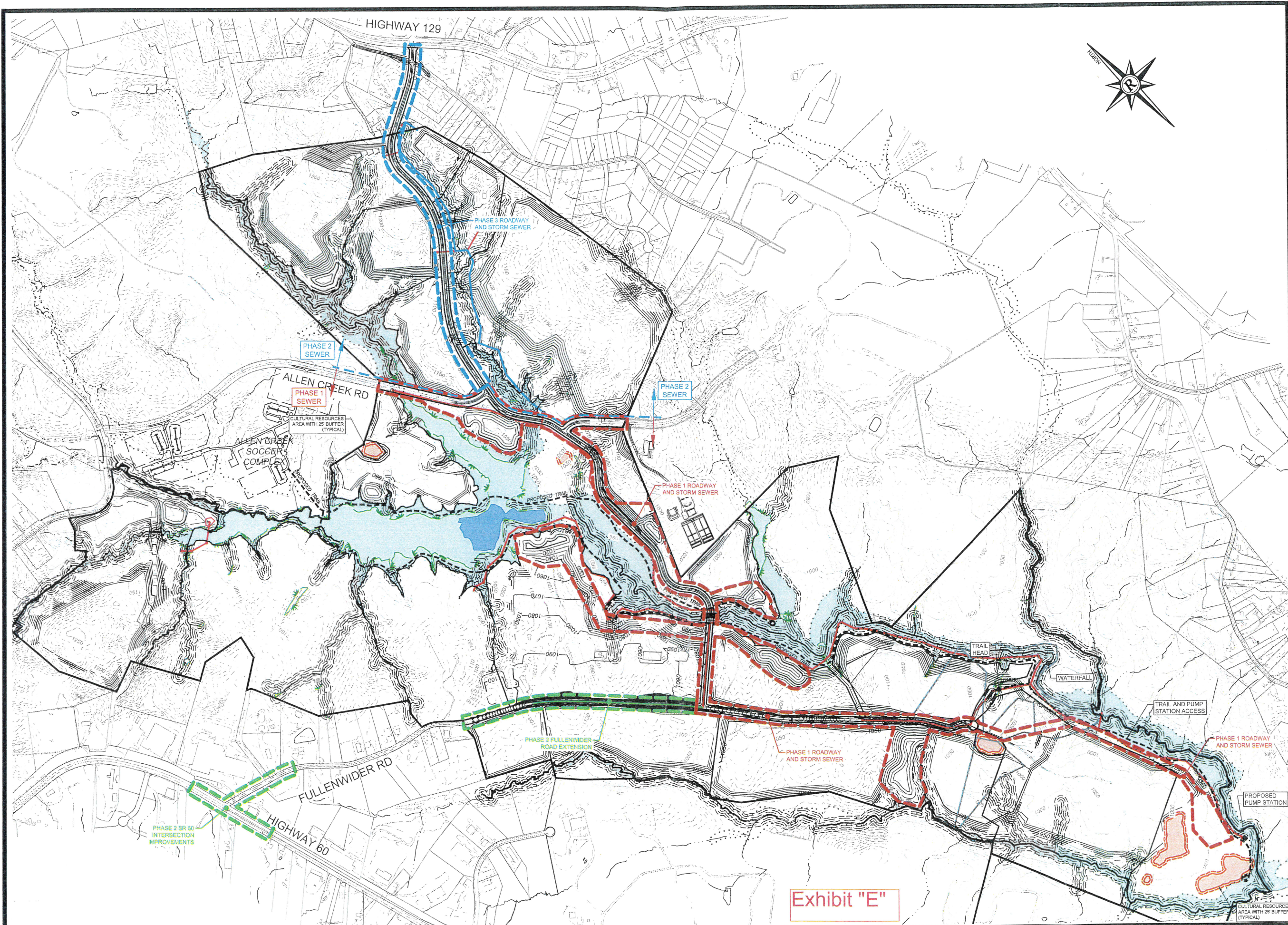


Exhibit "E"

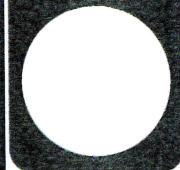
Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

PHASING PLAN FOR:
85 GAINESVILLE BUSINESS PARK
LOCATED IN:
LAND LOT DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THESE CONSTRUCTION DRAWINGS WITHOUT THE WRITTEN APPROVAL OF THE DESIGNER HEREON AND ANY LIABILITY ASSOCIATED WITH SUCH CHANGES OR ALTERATIONS ARE KEPT ON FILE FOR VERIFICATION OF ANY CHANGES.

GRAPHIC SCALE
25' 0' 500' 1000'



SHEET
1
OF
1

DATE: 9/11/19
SCALE: 1"=500'
JOB NO. G190760.COG
DWG NO. CNST.dwg
DRAWN BY: MPP

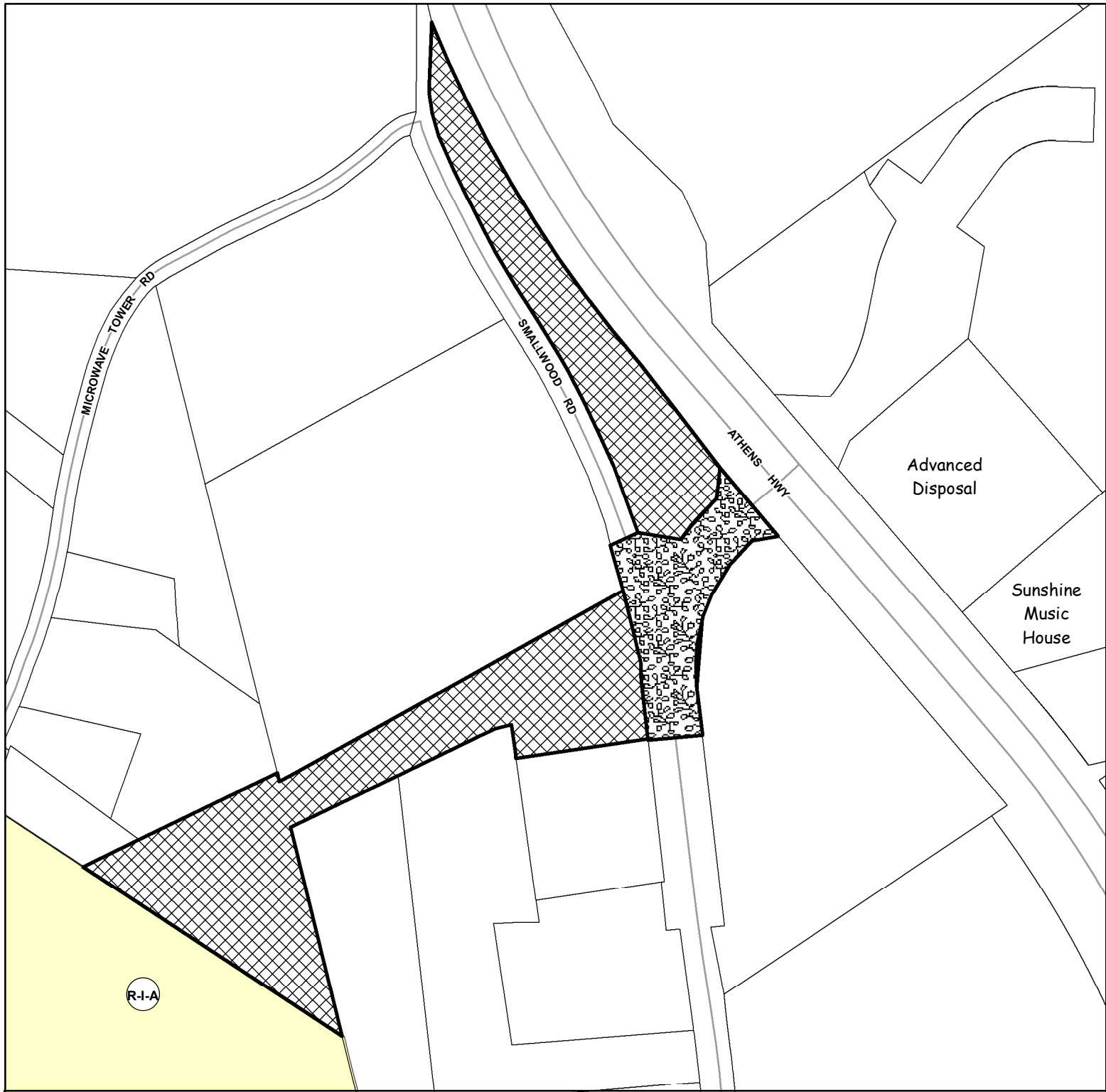
Exhibit C - Architectural Renderings











Applicant:

CITY OF GAINESVILLE

ANNEXATION REQUEST

Request:

Annex 4.4+/- acres and establish zoning as Planned Unit Development (P-U-D) for a business park

Subject Property Address:

0 & 2221 Smallwood Road; and
2306 & 2312 Athens Highway

Tax Parcel:

15-032-000-002 (Part)
15-032-000-113 & 125

Meeting Date: 06/09/2020

Map Prepared: 04/29/2020



Subject Property



Right-of-Way to be Annexed



0 120 240 360 480 Feet

1" = 200'



CITY OF

GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT





Applicant:

CITY OF GAINESVILLE

ANNEXATION REQUEST

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Tax Parcel:

15-032-000-002 (Part)
15-032-000-113 & 125

Meeting Date: 06/09/2020

Map Prepared: 04/29/2020



Subject Property and
Right-of-Way to be Annexed

Aerial from 2018

0 120 240 360 480 Feet



1" = 200'



CITY OF
GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT



GAINESVILLE 85 BUSINESS PARK
CONDITIONS OF ZONING
February 28, 2020

The request is to rezone 1,320 ± acres from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) and to annex 4.4 ± acres with a zoning of Planned Unit Development (P-U-D) for a proposed business park. This document is submitted consistent with requirements of the Unified Development Code of Gainesville, Georgia, Section 9-7-1-1, PUD, Planned Unit Development, as amended 12/17/19. It accompanies other rezoning application submittal material and is an integral part of the rezoning package to be reviewed by staff and to be subject to the public hearing process. As such it may be modified by mutual agreement of the City of Gainesville, Georgia ("City") and the Applicant, City of Gainesville, Georgia (hereinafter "Developer") up to the point of approval by the City Council. Upon approval it shall become an integral part of the zoning approval for the properties herein described and depicted in the accompanying Conceptual Plan (hereinafter "Concept Plan"). Additional terms are provided for its interpretation or modification after approval.

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RELATIONSHIP TO CITY ZONING ACTION

This narrative explains and clarifies the Concept Plan and related development standards specific to the Gainesville 85 Business Park Planned Unit Development district (hereinafter "Project"). This method is common for large, complex developments that will be built over a period of several years. It gives the City, adjacent property owners, the general public and Developer, including its successors and assigns, certainty with respect to development standards, while also providing flexibility to the Developer to be able to respond to changes in market conditions and preferences consistent with the intent of the Planned Unit Development Section of the City's Zoning Ordinance as it exists at the time of initial application.

This document is intended to detail and clarify the conditions of zoning and slight modifications to the Gainesville Unified Land Development Code for the Project as described herein and as reflected in the accompanying Exhibits. Due to the complexity of the Project, its projected build-out over a period of 15 to 20 years, and uncertainty of future economic considerations, the City acknowledges the significant rights vested to the applicant based on this approval, and the need for the Developer to be able to rely on these conditions of approval over the life of the project, as long as the project proceeds in general conformance with the program discussed herein. After approval, the conditions of zoning shall be recorded in the public records of Hall County, Georgia and reference to recording information shall be included on any and all plats created for the development.

It is intended that the submitted boundary perimeter of the Project (hereinafter "Project Boundary") and corresponding acreage of the PUD district will be as shown in submittal material. However, zoning conditions of the Project may be applied to additional property outside the initial Project Boundary, if the Applicant acquires additional property and with City Council approval via the rezoning process. Consideration of different conditions for the addition of property(ies) after approval(s) shall not prompt or require a re-review of conditions of zoning for the Project as it then exists, but shall apply only to additional lands, if any.

CONCEPT PLAN

The development of the Project shall be controlled by the Concept Plan, attached hereto as Exhibit "A", the Project Narrative and other exhibits provided as modified in the final approval. The Plan is considered conceptual in nature, and certain modifications to that Plan are anticipated as reflected in the specific language herein. Beyond such specific language, modifications of the location and arrangement of lots, roads, amenities and other improvements that do not materially conflict with specific standards and requirements of these conditions may be made by the Developer, so long as such modification does not materially alter the location or nature of improvements or change the land use or increase density. The current Plan incorporates light industrial and heavy industrial uses.

PUD ZONING DISTRICT - GAINESVILLE 85 BUSINESS PARK

The Project shown in the Concept Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five

(5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The overall Concept Plan requests approval for a maximum of 5,000,000 SF of light and heavy industrial uses as well as additional uses as specified herein. The Developer acknowledges that the specific standards of these conditions and applicable City codes not otherwise modified herein shall control.

DEVELOPMENT

Dimensional Requirements

The dimensional requirements for the project shall be as outlined in Table 1 below:

Table 1

Dimensional Requirements - Gainesville 85 Business Park	
Project Acreage	1330 +/-
Minimum lot size	15,000 SF
Minimum lot width	100'
Maximum building coverage - individual lot	60%
Maximum impervious surface coverage - individual lot	85%
Minimum open space - individual lot	none
Minimum open space - overall	5%
Minimum landscape strip along internal R/W's	20'
Maximum structure height	120'
Maximum number of stories	5
Front setback from R/W	75'
Side setback - internal	20'
Rear setback - internal	20'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to residential uses/zoning districts	50'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to nonresidential uses/zoning districts	none
Parking setback from R/W	10'
Front Building setback from parking lots	10'
Parking ratio - manufacturing, processing, assembling	none
Parking ratio - all other uses	Per UIDC
Driveway width	28'
Minimum driveway radius	25'
Minimum number of off street loading spaces	none

Development Standards

The Developer agrees to comply with all applicable City rules and regulations in effect on the date of approval, except as specifically modified herein. The Developer agrees to comply with future amendments to those rules or regulations, except where specific conflicting standards are approved herein, or such future compliance is specifically waived.

Subsequent actions by the City to change Development Standards for other zoning districts of the City shall not apply to the 85 Gainesville Industrial Park PUD district, unless such changes are city-wide and required by changes in federal or state laws. By approval of the City, the Developer will have substantial vested rights for the Project.

Permitted Uses

This PUD zoning shall allow for the following uses:

- Conservation Area
- Clinic
- Club or Lodge
- College or University
- School for Arts
- Private School
- Professional School
- Special School
- Trade School
- Bank or Financial Establishment
- Broadcasting Studio
- Building Materials Sales
- Business Service Establishment
- Contractor's Establishment
- Custom Order Shop
- Exterminator
- Health Spa
- Museum
- Office
- Parking Lot – off site
- Parking Structure
- Personal Service Establishment – more than 2500 sf
- Restaurant
- Retreat Center
- Bottling or Canning Plant
- Brewery or Distillery
- Bulk Storage
- Cold Storage
- Distribution including truck terminal
- Apparel Manufacturing
- Ceramics Manufacturing
- Cosmetics Manufacturing
- Electronics Manufacturing
- Fiberglass Insulation Manufacturing
- Ice Manufacturing
- Machine Manufacturing
- Metal Products Manufacturing

- Pharmaceutical/Medical Manufacturing
- Office/Warehouse
- Warehouse or Storage Building
- Wholesale Trade Establishment
- Public Use
- Utility Company
- Utility Company Substation
- Accessory Use incidental to principal use
- ATM Machine
- ATM Drive through
- Caretaker's Residence
- Construction Field Office
- Drive Through
- Manufacturing Accessory to Retail use
- Office/Institutional/Industrial Warehouse/Distribution/Manufacturing uses
- Instrument Assembly

In addition, this PUD zoning shall allow for the following specific uses:

- Proving grounds for equipment performance testing
- Gun ranges owned and operated by government agencies
- Equipment maintenance facilities owned and operated by government agencies
- Temporary construction offices housed in trailer or modular buildings

DEVELOPMENT FEES

All applicable fees for water & sewer connections, land disturbance permits and building permits will be administered based on the then current fee schedule for the City of Gainesville.

AESTHETICS

ARCHITECTURE

The Developer has proposed a unified development vernacular of building forms, mass, articulation, exterior treatments, surface materials and finishes, complimentary colors and similar details. This approval will guide development of the buildings, with no further architectural approval required outside of the administrative building permit process. Pictorial examples of the intended quality level and character of industrial architecture are provided in Exhibit "B". Review and compliance will be monitored through the covenants to be filed on the property.

Landscape Standards

Landscape standards shall be in accordance with the Declaration of Covenants, Restrictions and Easements for Gainesville 85 Business Park, to be recorded on the property. Any standards not addressed within the covenants shall meet the standards of the ULDC.

SIGNAGE

Signage and graphics design standards, typical for a Planned Unit Development, are developed to establish a cohesive, distinctive and functional system to visually attract and communicate with everyone who visits and works in Gainesville 85 Business Park. A well-coordinated sign system is also one of the most effective ways of creating lasting identity and way-finding clarity. Project signage along public roadways in 85 Gainesville Industrial Park will be designed consistent with a high-quality image. A coordinated program of signage for individual sites shall be approved in conjunction with the site plan approval of the building, similar to pictorial examples provided in Exhibit "C".

All sign square footage criteria are calculated inclusive of the sign monument.

Signage design criteria is requested as follows:

<u>Sign Type</u>	<u>Maximum Area per Face (SF)</u>	<u>Maximum Height (ft)</u>	<u>Frequency</u>
User Sign Types			
Ground Mounted Sign	200 sf	18 ft	One (1) sign per lot per street frontage
Portable Sign	8 sf		One (1) per establishment
Wall Sign	1 sf of wall signage per 1 lf of wall length	3 ft on 1 st & 2nd floor	One (1) per each tenant having an exterior public entrance
Window Sign	32 sf	12 inches	One (1) per establishment
Projecting Blade Sign	16 sf		One (1) per establishment
Entry Signage	32 sf	8 ft	One (1) per bldg. entrance
Grand Opening and Temporary Signage	32 sf		
Developer Sign Types			
Major Parkway Identification	200 sf	18 ft	One (1) @ SR 129 One (1) on Fullenwider Rd
Secondary Parkway Identification	200 sf	18 ft	One (1) @ Monroe Dr
Way-finding Signage	100 sf	15 ft	As needed
Minor Information and Directional Signs	35 sf	8 ft	As needed
Regulatory Signs			As needed

Entry Feature Monuments

A main entrance feature or signage shall be allowed at the entrances from US 129, Fullenwider Road and Monroe Drive. The main entrance features may include extensive walls, fencing, landscaping and signage that is commensurate with the size of the Project and the scale of the entrances.

ENVIRONMENTAL

FLOOD PLAIN MANAGEMENT

Flood plains will remain undisturbed with the exception of roadway crossings and utility placement. A trail system may also be constructed within this zone.

BUFFERS, LANDSCAPING AND TREE PROTECTION

An external buffer of 50' will be imposed where the site adjoins a residential zoning district (Exhibit "F"). Driveway construction for Lot #5 may be constructed within the buffer and is excluded from this requirement. The buffer may be disturbed and replanted in these areas to the satisfaction of the Declarant.

CULTURAL RESOURCES

A cultural resources literature search by R.S. Webb & Associates, dated August 13, 2018, identified five sites that may have eligibility under NHRP. These sites, as shown on Exhibit "D" will be delineated and protected by an additional 25' buffer around the perimeter. A variance to this buffer may not be granted.

STORMWATER MANAGEMENT, GRADING AND EROSION CONTROL

Stormwater Management

A series of storm water management facilities will be designed to serve the project on a basin wide basis, rather than individual sites. However, individual sites will be required to provide water quality elements for their own stormwater runoff.

Grading and Erosion Control

The Project contemplates multiple areas being open to construction activity concurrently. Similarly, over time multiple phases of concurrent road and lot development may be on going in multiple parcels within multiple phases. At the developer's discretion these may be submitted as stand-alone projects or integrated within common sets of construction plans. Proper erosion control measures are to be maintained at all times with particular attention to steep fill or cut slopes, large areas of grading and areas immediately adjacent to stream buffers. Developer will adhere to all State and Federal requirements regarding erosion and sediment controls.

Stream Buffers

The Project contains several small unnamed tributaries to Allen Creek. The Developer has received a US Army Corps of Engineers' Individual Permit for permitting stream & wetland impacts. If these impacts are exhausted and to the degree feasible, the Developer may avoid additional impacts to the stream channel by use of pre-fabricated span structures, such as ConSpan or OmegaSpan, wooden bridges or other types of alternative crossings that meet development regulations, rather than pipe or culvert. In consideration of the extra expense and effort associated with this limitation of impact to streams, the City agrees that variances to the City's required stream buffers (50' undisturbed & 75' impervious) will be considered where dimensional and topographic hardships may exist. Such buffers may be crossed by utility crossings, roads and trails, provided such are placed as perpendicular to the buffer as practical. Pervious surface trails of the Multi-Use Trail system may meander within buffers at distances greater than 25' from top of bank, except at points of crossing or specific focal points of interest. Unless

DEVELOPMENT PHASING

85 Gainesville Industrial Park is anticipated to be developed over a fifteen to twenty year time frame. At present the following phasing, as depicted on Exhibit "E" is planned on a conservative basis, but may be either accelerated or deferred at the discretion of the Developer, depending on market conditions. It is the Developer's desire and intent to develop all phases of the Project, but no guarantee is made by way of this document,

zoning approval, or accompanying Concept Plan that all phases of the Project will be developed.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fullenwider Road and extension of Fullenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monumentation at Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fullenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fullenwider Road and SR 60.
- Construction of entrance monumentation at Fullenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.
- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monumentation at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

INFRASTRUCTURE IMPROVEMENTS

In general, the Developer shall be responsible for providing the timely construction of all on-site project-related infrastructure necessary to serve the Project, and to also accommodate or facilitate specific concurrent or future additional on-site system-related improvements of the City. The Developer shall not be required to oversize roads, facilities or pipe systems at their expense, unless accommodation is made for credits or rebates of fees and charges for the portion of system-related improvements that exceed otherwise required project-related improvements.

The construction and installation of infrastructure improvements shall be conducted in conformance with the applicable codes, ordinances, policies and procedures of the City and the other applicable governmental agencies and service providers, unless specifically modified herein. Modification of the requirements of other agencies or providers may be referenced here, but the authority to make such modifications lays with those other parties by separate agreement.

ROAD IMPROVEMENTS

On-site Improvements

As provided for through the PUD District, it is intended that the on-site roads shall all be constructed to meet the City standards and specification for public roads, with the following modifications:

Fullenwider Road Extension

Minimum design speed – 25 mph, with design values based on AASHTO standards

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Minimum cul-de-sac pavement radius – 52' to back of curb
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

US 129 Entrance Road

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

Allen Creek Road Connector

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

UTILITIES

Water Service

Water service will be provided by the City, through an extension of existing water lines located in Allen Creek Road and Fullenwider Road with a future connection back to US 129.

Sanitary Sewer Service

Sanitary Sewer Service will be provided by the City. Gravity sewers will be constructed throughout the property and will flow to the new 85 Gainesville Business Park pump station located at the southern end of the property. The flow will then be pumped back to the existing Allen Creek pump station located near the soccer complex and eventually to the Flat Creek Water Reclamation Facility for treatment and disposal.

Other Utilities

All utilities are to be placed underground. Electric, gas, phone, cable and/or fiber are to be placed by respective utility providers as available per City of Gainesville standards in common trench or conduit after curbing and prior to driveway/sidewalk installation. Small cell antenna systems for internet and Wi-Fi as an alternative to cable or fiber may be placed in conjunction with street light poles.

AMENDMENTS TO THESE CONDITIONS

It is understood that the Project is being constructed over an extended period of time in a rapidly growing area; therefore, amendments to these conditions are possible and should be anticipated. In order to protect the interests of the parties involved, along with the interests of neighboring property owners and the general public, these conditions shall be amended under the procedures outlined below:

Changes to the Concept Plan

Certain modifications to the Concept Plan are described above, which are exempt because of distance from the original perimeter of the property or can be administered at a staff level and do not require formal amendment of the Concept Plan. However, if a proposed change does not meet the criteria, a formal amendment must be approved through the same public hearing process as required for the original zoning approval. Examples of these would be major changes at the original perimeter of the property, or changes in use or development standards for the property on the whole.

Changes to the Language of these Conditions

Minor changes or clarifications of the language of these conditions may be made as part of a vote by the City Council at any duly called meeting. These include the adjustment of time frames for specific actions while maintaining the overall intent of Project phasing, the modification of technical specifications for infrastructure improvements, and the addition of new language clarifying issues not previously part of this agreement.

Other changes to the language of these conditions must be approved through the same public hearing process as required for the original zoning approval. This specifically includes the deletion of any required improvements, the addition of any permitted land use(s), any increase, above 10%, in the maximum amount of development permitted, or a change to the criteria for buffers or setbacks for development taking place adjacent to the Project Boundary.

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Changes in Conflict with the Concept Plan or these conditions

Changes in City development-related codes, ordinances, policies or practices which are in direct conflict with the details or provisions of the approved Concept Plan or these conditions shall not apply to the continued development of the Project, except where such changes are mandated by State or Federal law, such as changes to standard building codes, or except where such relate to City-wide fees or charges not addressed by the zoning documents.

Changes to Dimensional or Development Standards, or Subdivision Regulations

It is the intent of the City to allow the Project to develop with a consistent look and feel, and with a level of predictability in development cost over time. Therefore, changes to dimensional standards (such as height, setback, etc.), development standards (such as parking or landscaping requirements, or sign regulations), shall not apply to the remaining phases of development, unless there is a demonstrated compelling public health, safety, morals or welfare interest to require the new standard. Exceptions to this policy would be standards mandated by State or Federal law.

Other City Codes and Ordinances

Nothing within this agreement shall affect the ongoing enforcement of other City codes, regardless of changes over time, including codes affecting the accessory uses of property or maintenance of property.

COMMUNITY BENEFIT STATEMENT

For Gainesville 85 Business Park

The Gainesville 85 Business Park is proposed as a Planned Unit Development (PUD) under the City of Gainesville's Unified Land Development Code (Sec. 9-7-1-1) as amended 12/17/19, with specific conditions as proposed in the zoning request. The Project shown in the Conceptual Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five (5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The historical use of the land has been mostly agricultural with recent municipal use for a small portion of the site as the gun range for the Gainesville City Police Department. The site has been owned by the City since 2000. The site is bisected by Allen Creek.

The Gainesville 85 Business Park will be a master planned business park with multiple development opportunities for small, medium and large users. The mix of development opportunities will be attractive to a range of industrial uses as well as ancillary support businesses. The superior location and site features will make for a unique opportunity to continue the City's industrial growth in a measured and manageable pattern.

Over 300 acres of the site will be devoted to open space that will include a trail system and protection of at least 5 cultural resource sites. The cultural resource sites will include a 25' buffer area and will be fenced for protection. These sites may contain house ruins and lithic scatter.

The site is designated in the City's Comprehensive Plan dated June 20, 2017 as an "Economic Development Gateways" Character Area. The Character Area vision is included below:

Because many of these industrial / business parks and facilities were built over the last 35 to 45 years, they exhibit modern industrial development norms such as single-story large footprint buildings, extensive parking / loading areas, and reliance on truck transportation. Common site design patterns include campus-style master plans or light industrial subdivisions with low-rise office or office-warehouse buildings. They also are highly visible to motorists entering the city from the south and east, and therefore, act as gateways to Gainesville. The character area also features large, forested tracts of natural land and coexists with recreation and conservation landmarks like the Allen Creek Soccer Complex, the Elachee Nature Science Center, and the Chicopee Woods Agricultural Center. It reaches to the Athens Street corridor, which was once a primary entry to the city from the south but has struggled with economic disinvestment and creeping blight. It has been the subject of recent revitalization planning efforts. The primary vision for the area is to continue to support economic development, while preserving and strengthening important natural and cultural resources. Other goals include creating a positive impression for visitors entering the city from I-985; supporting the revitalization of the Athens Street corridor; and creating better connections to the Downtown / Midtown area. Green design / sustainability standards should be considered in future modifications to site development regulations or as an overlay for the area.

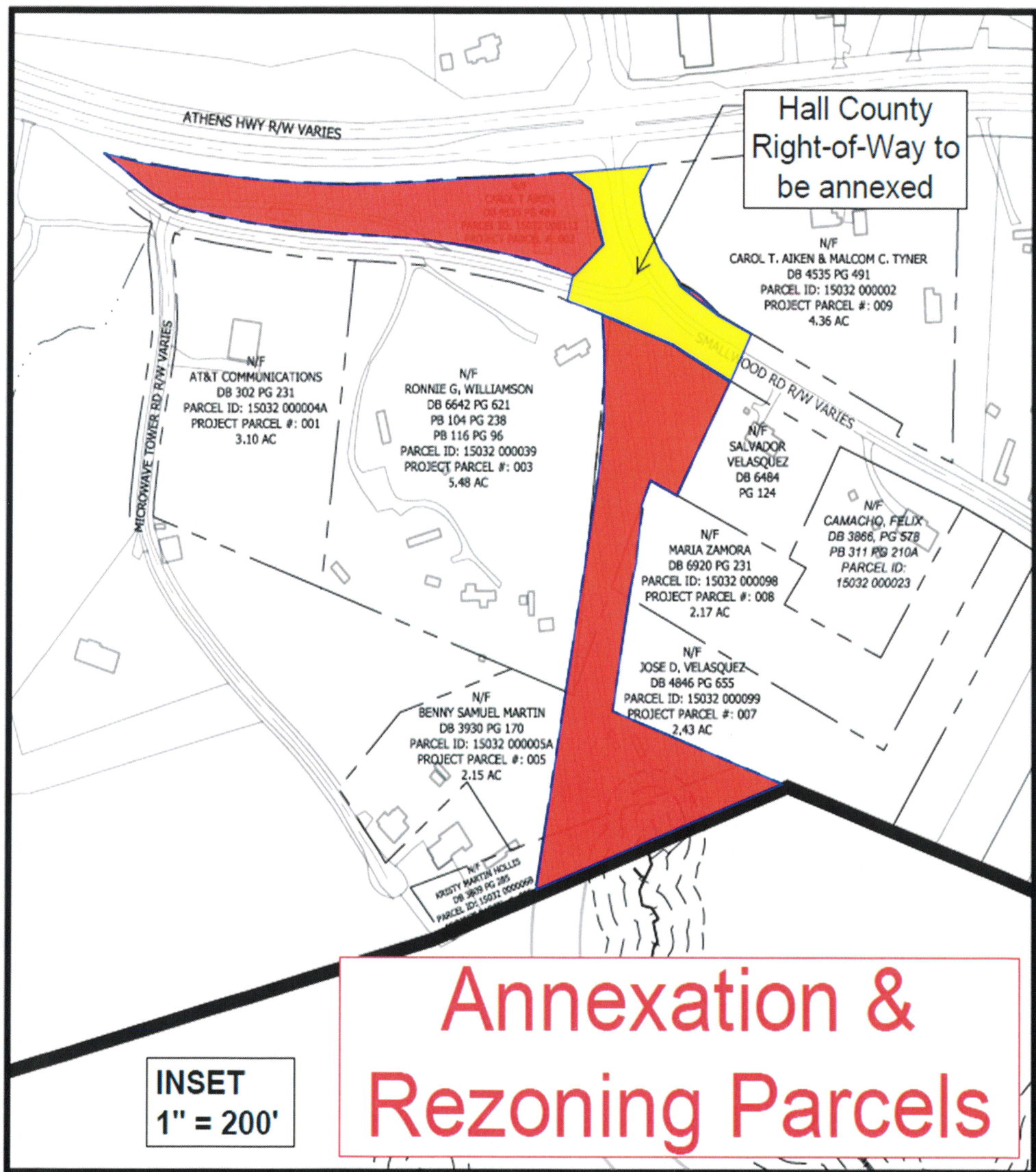
Economic development gateways are located on the city's fringe and are not therefore typical infill development sites. Cutting-edge "green" design and sustainable development practices can open new

opportunities to improve the visual and architectural quality of industrially-zoned development. Expanding pedestrian, bike and transit mobility options should be a priority for all gateway areas. The character area could play a role in an emerging high-tech / green business identity for the region. The Beulah Rucker Museum is located within this character area. Open space preservation should be required in all new industrial or business development, using low-impact design strategies. Protection of sensitive habitat, wildlife corridors, and groundwater recharge areas should be a priority for any new development. Much of the gateway is located within the North Oconee water supply watershed. Most of Gainesville's future economic growth could be accommodated in the gateway areas. Business attraction should be tailored to the skills of Gainesville's diverse population as well as long-term economic sustainability. Maximizing employment options for local residents should be considered in evaluating incentives for new businesses. Aesthetically improving gateways can give this area a competitive advantage and "brand" in attracting new industry and jobs. Cooperation with Hall County and the Greater Hall Chamber of Commerce is essential to realizing the character area's potential.

Land uses allowed in Economic Development Gateways are commercial, industrial, mixed-use, residential (existing uses only), public / institutional, transportation / communications / utilities, and parks / recreation / conservation.

A number of the goals identified in the Comprehensive Plan for this type of development will be achieved through the development of this site. A large amount of open space (approximately 25%), including wetlands, floodplain and cultural resource areas will be retained and protected through the planning and entitlement process. The Developer (City of Gainesville) will control the standards through extensive covenants and oversight for the life of the project. Other quantitative and qualitative benefits include:

- Permanent job creation of approximately 2,500 new jobs at build out;
- Temporary construction jobs during the construction phase of each user;
- New and improved road infrastructure;
- Over \$4,600,000 in annual property tax revenues at build out (not including personal property taxes);
- Increased sales tax revenue based on job growth;
- Approximately \$1,500,000 in Impact Fees over the life of the project;
- Water Meter Fees (estimated at more than \$1,800,000 over the life of the project);
- Sanitary Sewer Tap Fees (estimated at more than \$3,700,000 over the life of the project);
- One time Building Permit Fees (estimated at more than \$1,000,000 over the life of the project);
- Development Impact Fees for public safety improvements (estimated at more than \$2,000,000 over the life of the project); and
- Water & Sewer Use Fees (estimated at more than \$140,000 annually at buildout).
- Gainesville intends to locate a new Maintenance Facility at the Gainesville 85 Business Park that will consolidate several disparate Water Resources and Public Works facilities that currently operate in old buildings poorly designed for their current use. These city facilities support critical city operations including maintenance of water and sewer pipes and pump stations, city vehicle maintenance and fueling, street maintenance and public lands management. The new Maintenance Facility will enhance the City's ability to deliver these services for decades to come.



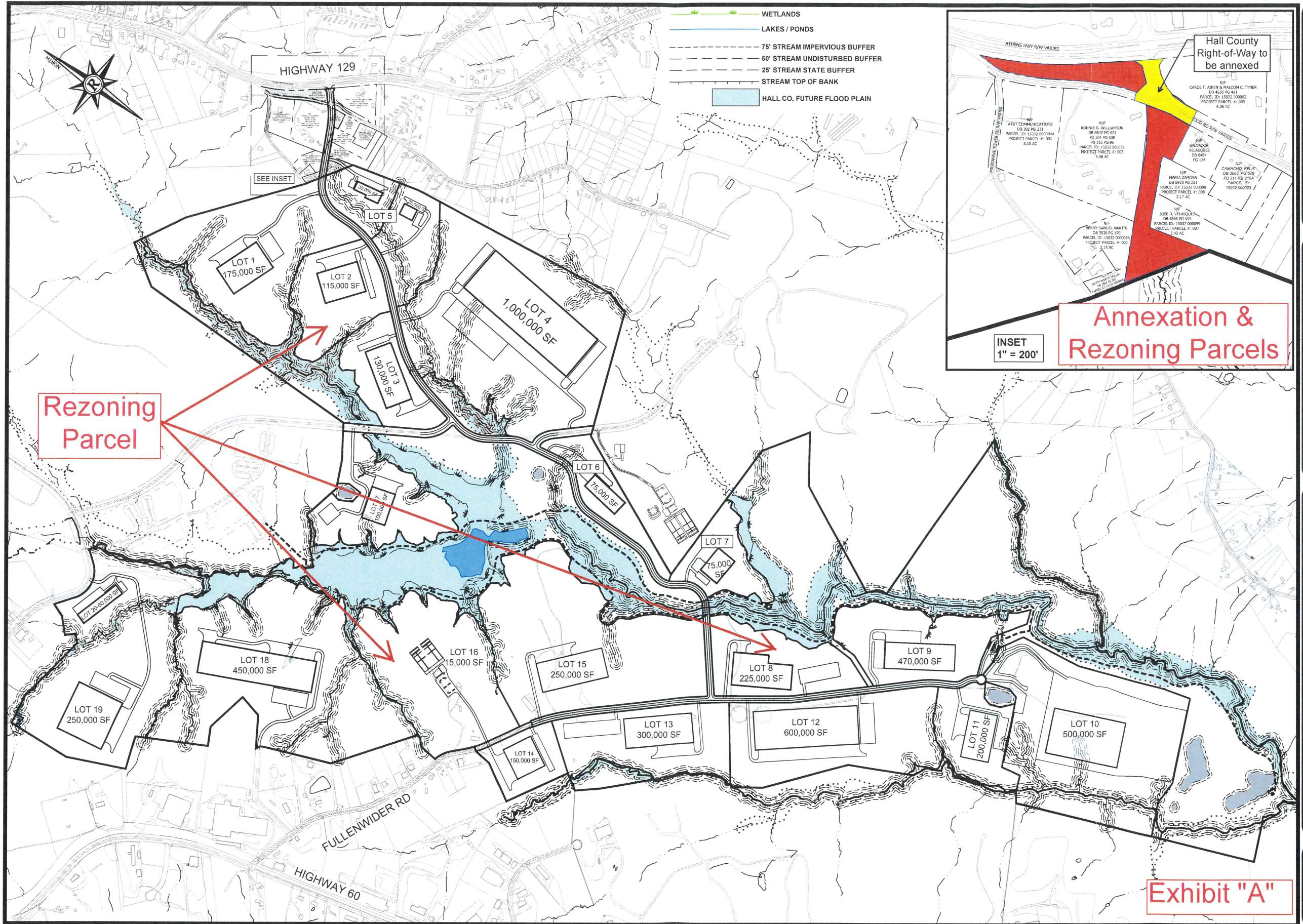
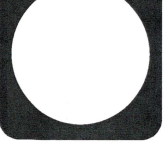


Exhibit "A"

Rochester & Associates, Inc.
 425 Oak Street N.W. • Gainesville, Georgia 30501
 (770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

REZONING PLAN FOR:
85 GAINESVILLE BUSINESS PARK
 LOCATED IN
 CITY OF GAINESVILLE
 HALL COUNTY, GEORGIA

NO.	DATE	DESCRIPTION



SHEET 1 OF 1
 DATE: 1/21/2020
 SCALE: 1"=500'
 JOB NO. G190016.COG
 DWG NO. *BASE.dwg
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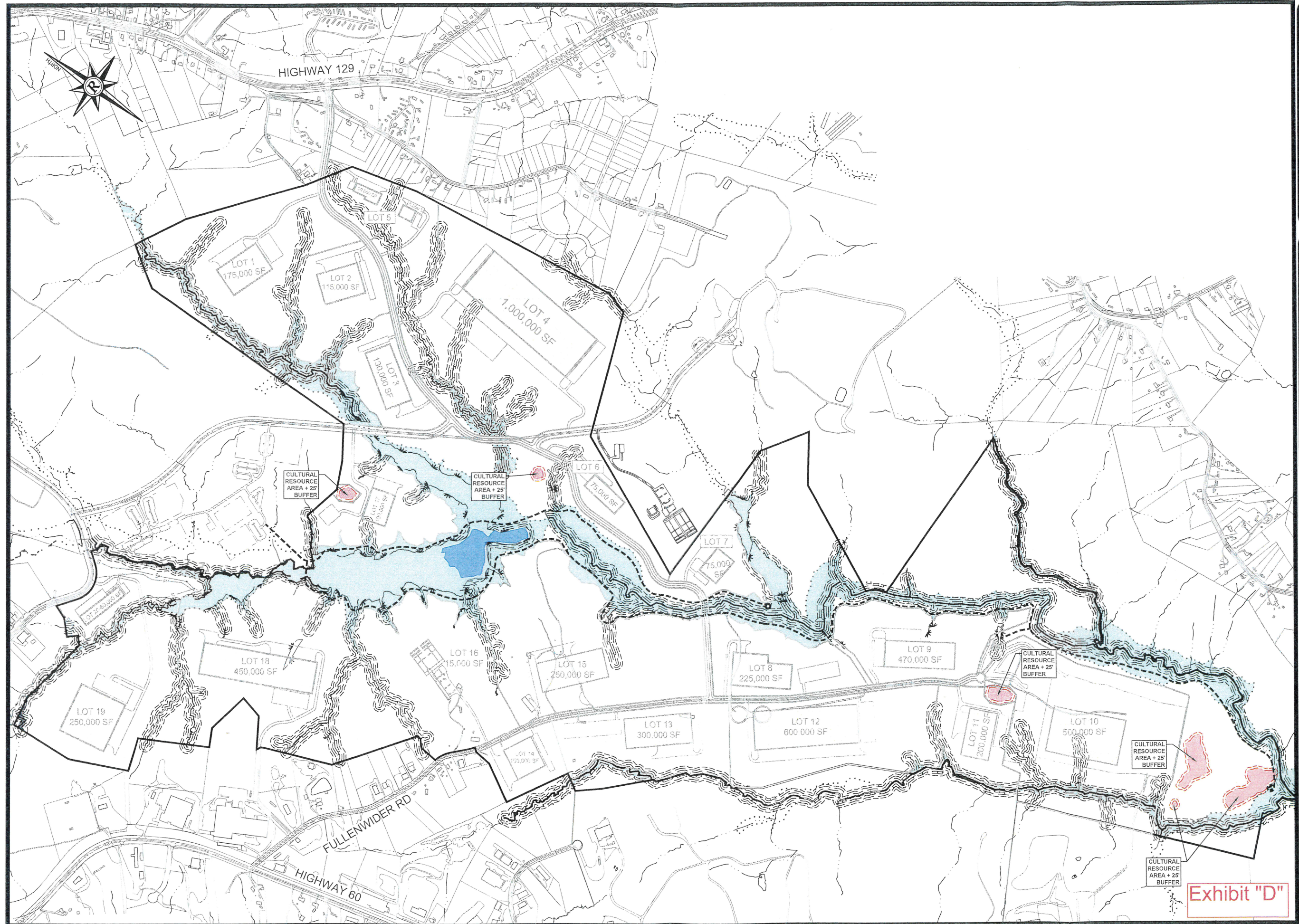


Exhibit "D"

Rochester & Associates, Inc.
 425 Oak Street N.W. • Gainesville, Georgia 30501
 (770) 718-0600 (770) 718-9090 Fax • www.rochester-assoc.com

CULTURAL RESOURCE AREAS
 FOR:
85 GAINESVILLE BUSINESS PARK
 LOCATED IN:
 CITY OF GAINESVILLE
 HALL COUNTY, GEORGIA

NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THESE CONSTRUCTION DRAWINGS WITHOUT THE SIGNATURE OF THE DESIGNER SHALL BE VOID. THE SEAL SHOWN HEREON IS THE SEAL OF THE DESIGNER AND IS NOT TO BE USED FOR ANY OTHER PROJECT. THESE DRAWINGS ARE KEPT ON FILE FOR VERIFICATION OF ANY CHANGES.



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 DATE: 1/21/2020
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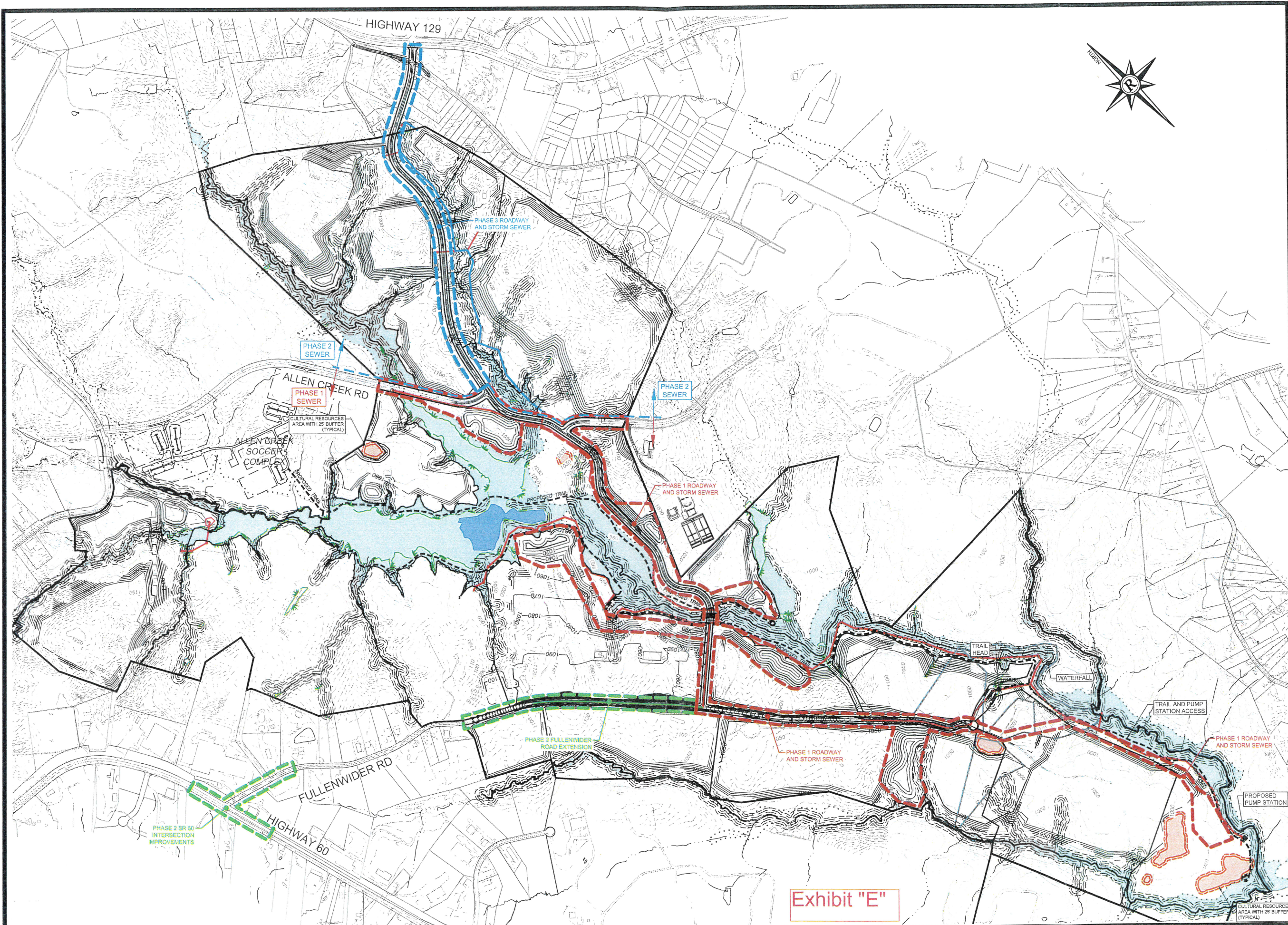


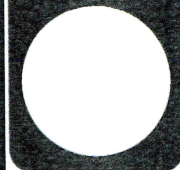
Exhibit "E"

Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

PHASING PLAN
FOR
85 GAINESVILLE BUSINESS PARK
LOCATED IN
LAND LOT DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

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DATE: 9/11/19
SCALE: 1"=500'
JOB NO. G190760.COG
DWG NO. CNST.dwg
DRAWN BY: MPP

HIGHWAY 129

- WETLANDS
- LAKES / PONDS
- 75' STREAM IMPERVIOUS BUFFER
- 50' STREAM UNDISTURBED BUFFER
- 25' STREAM STATE BUFFER
- STREAM TOP OF BANK
- HALL CO. FUTURE FLOOD PLAIN



425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

85 GAINESVILLE BUSINESS PARK

REZONING EXHIBIT - ZONING BUFFER

FOR:

LOCATED IN
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

Exhibit "F"

LOT 1
175,000 SF

LOT 2
115,000 SF

LOT 5

LOT 3
130,000 SF

LOT 4
1,000,000 SF

30,000 SF

25,000 SF

50' ZONING BUFFER

50' ZONING BUFFER

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SCALE: 1"=200'
JOB NO: 16-006
DRAWN BY: ATM









85 Gainesville Business Park Development Traffic Impact Study

Highway 129, Monroe Road, Allen Creek
Road, Fullenwider Road and Highway 60
Gainesville, Georgia

Prepared for: Rochester & Associates, Inc.

Wolverton Project No.

19-TF-057

January 31, 2020



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1. INTRODUCTION

1.1. Study Area

This study was conducted to evaluate the traffic impact of a proposed 5.0 million square foot industrial park in Gainesville, Georgia. The proposed site is on approximately 956.40 acres of land on 20 parcels located north of Chandler Road (State Route 60), west of Monroe Drive, south of Athens Highway (US Route 129 & State Route 11) and straddles both Fullenwider Road and Allen Creek Road. The proposed development is anticipated to be fully open in 2040. A Traffic Impact Analysis was performed to determine how much new traffic would be generated by the proposed development and how the new traffic would impact the existing roadway network. Figure 1 illustrates the location of the site and identifies the roadway network in the vicinity.

The existing intersections that could be impacted by this project include:

1. SR 60 & Fullenwider Road
2. Monroe Drive & Allen Creek Road
3. US 129 (SR 11) & Monroe Drive
4. US 129 (SR 11) & Highlands Village Road / Smallwood Road
5. Highlands Village Road & Smallwood Road

The project site is currently vacant land.

1.2. Proposed Development

The proposed development will consist of a 5.0 million square foot industrial park on 20 parcels totaling approximately 956.40 acres in Gainesville, Georgia. An internal roadway is proposed to intersect at the northern end at the existing intersection of Highlands Village Road & Smallwood Road, continue south and intersect with Allen Creek Road, continuing further south to intersect with Fullenwider Road. As such, the following proposed intersection locations were included for evaluation in this study:

6. Allen Creek Road & Internal Access
7. Internal Access & Street just south of Allen Creek Road
8. Fullenwider & Internal Access

A site plan is included in Appendix A.

1.3. Methodology

Initial evaluations were made to assess the current conditions near the development. Twenty-four (24) hour volume/classification (Automatic Traffic Recorder (ATR)) counts and existing AM and PM peak period turning movement counts (TMC) were conducted at the above noted existing intersections.

The traffic growth rate was obtained from several nearby Georgia Department of Transportation (GDOT) traffic counters, which provide historical count data in the area:

- 1390118, US 129 near Monroe Drive
- 1380116, US 129 near Morgan Drive
- 1390305, SR60 near Calvary Church Road / Old Candler Road
- 1398071 Monroe Drive near Allen Creek Road

Using traffic count data since the year 2010, a growth rate was developed. The traffic growth rate was applied to the existing volumes to estimate the traffic that will exist at the build-out Year 2040 of the site if the proposed development is not developed.

Estimates were made of the traffic that will be generated by the proposed development. These trips were then distributed and assigned to the road network.

The distribution of these new trips was based on the existing peak hour traffic patterns. After the generated traffic for the proposed development was distributed and assigned, it was then superimposed with the future background traffic to provide an estimate of projected traffic once the proposed development is complete.

Capacity analysis was used to evaluate the Existing Year 2019, Future Background Year 2040, and Future with Project Year 2040 conditions for the intersections being studied.

1.4. Planned Transportation Improvements

There are no current or planned transportation improvement or maintenance projects in the study area based on a review of the Georgia Department of Transportation (GDOT) online project database.

Figure 1 - Aerial View of Study Area



2. EXISTING CONDITIONS

Existing conditions in the vicinity of the project were surveyed using a combination of desktop research and on-site data collection. Traffic counts, which included 24-hour volume/classification counts and peak period turning movement counts (TMCs), were performed as follows:

Thursday, October 24, 2019

- 24-hour counts on SR 60, Monroe Drive and US 129 (SR 11)
- TMC's at SR 60 & Fullenwider Road and at Monroe Drive & Allen Creek Road

Tuesday, November 19, 2019

- TMC's at US 129 (SR 11) & Highlands Village Road / Smallwood Road and at Highlands Village Road & Smallwood Road

Wednesday, December 4, 2019

- TMC's at US 129 (SR 11) & Monroe Drive

The counts were performed on different dates due to intersections being added subsequent to the initial counts based upon input from the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO). The counts are included in Appendix B.

2.1. Roadways

US 129 is a four-lane divided roadway that changes orientation and posted speed limit depending on its location. It is classified as an Urban Principal Arterial – Other and provides access to I85 to the east and I95, US 23 to the west. In the vicinity of Highlands Village Road & Smallwood Road, US 129 has a north-south orientation and a posted speed limit of 55 mph. In the vicinity of Monroe Drive, it has an east-west orientation and a posted speed limit of 45 mph. There are no separate pedestrian or bicycle accommodations along US 129 within the project limits.

SR 60 is a two-lane undivided roadway that primarily runs in a north-south direction. SR 60 is classified as an Urban Minor Arterial and has a speed limit of 55 miles per hour (mph) near the site.

Monroe Drive is a two-lane undivided roadway that runs in an east-west direction between Old Candler Road and Allen Creek and runs in north-south direction between Allen Creek and Athens Street. Monroe Drive is classified a Local Road and has a posted speed limit of 45 mph. Monroe Drive intersects at a 4-way unsignalized all-way stop controlled intersection at its westerly limit with Griffin Circle and Old Candler Road. Monroe Drive intersects at an unsignalized "T" intersection with Athens Street at its north limits with Monroe Drive being the stop-controlled approach. Monroe Drive provides access to industrial and commercial businesses, to Allen Creek Road as well as Athens Highway (US 129). There are no separate pedestrian or bicycle accommodations along Monroe Drive.

Fullenwider Road is a two-lane undivided roadway that runs in an east-west direction east of Candler Road and dead ends. Fullenwider Road is classified a Local Road and has a posted speed limit of 35 mph. Fullenwider Road provides access to industrial and commercial businesses. Fullenwider Road crosses railroad tracks at its westerly limit and intersects Candler Road at an unsignalized "T" intersection with

Fullenwider Road being the stop-controlled approach. There are no separate pedestrian or bicycle accommodations along Fullenwider Road.

Allen Creek Road is a two-lane undivided roadway that runs in an east-west direction east of Monroe Drive and dead ends. Allen Creek Road is classified a Local Road and has a posted speed limit of 45 mph and primarily provides access to the Allen Creek Soccer Complex. Allen Creek Road intersects Monroe Drive at an unsignalized “T” intersection with Allen Creek Road being the stop-controlled approach. There are no separate pedestrian or bicycle accommodations along Monroe Drive. However, there is signage alerting motorists to be aware of pedestrians and bicyclists.

2.2. Intersections

The following four unsignalized intersections were identified to be studied:

- SR 60 & Fullenwider Road
- Monroe Drive & Allen Creek Road
- US 129 (SR 11) & Highlands Village Road / Smallwood Road
- Highlands Village Road & Smallwood Road

The following signalized intersection was identified to be studied:

- US 129 (SR 11) & Monroe Drive

The following intersections, which currently do not exist but are proposed as part of the development have also been studied:

- Allen Creek Road & Internal Access
- Internal Access & Street just south of Allen Creek Road
- Fullenwider & Internal Access

Existing geometry and traffic operation control of the existing intersections were inventoried. Figure 2 illustrates the associated geometry and operation control of the study intersections.

2.3. Existing Traffic Flow Patterns

The existing Annual Average Daily Traffic (AADT) volumes on SR 60 north of Fullenwider Road, US 129 north of Gaines Mill Road, and Monroe Drive west of Allen Creek Road were estimated from 24-hour traffic counts collected in October 2019. The estimated AADT is shown in

Table 1. Existing morning and evening peak hour traffic is shown in Figure 2Figure 3 and Figure 4.

Table 1 - Existing Traffic Volumes

ROADWAY	Est. AADT	DHV (AM)	DHV (PM)
	VOLUME	VOLUME	VOLUME
Athens Highway (US 129)	33,675	2,525	2,830
Chandler Road (SR 60)	15,000	1,125	1,215
Monroe Drive	3,075	235	310

Figure 2 – Existing Lane Configuration

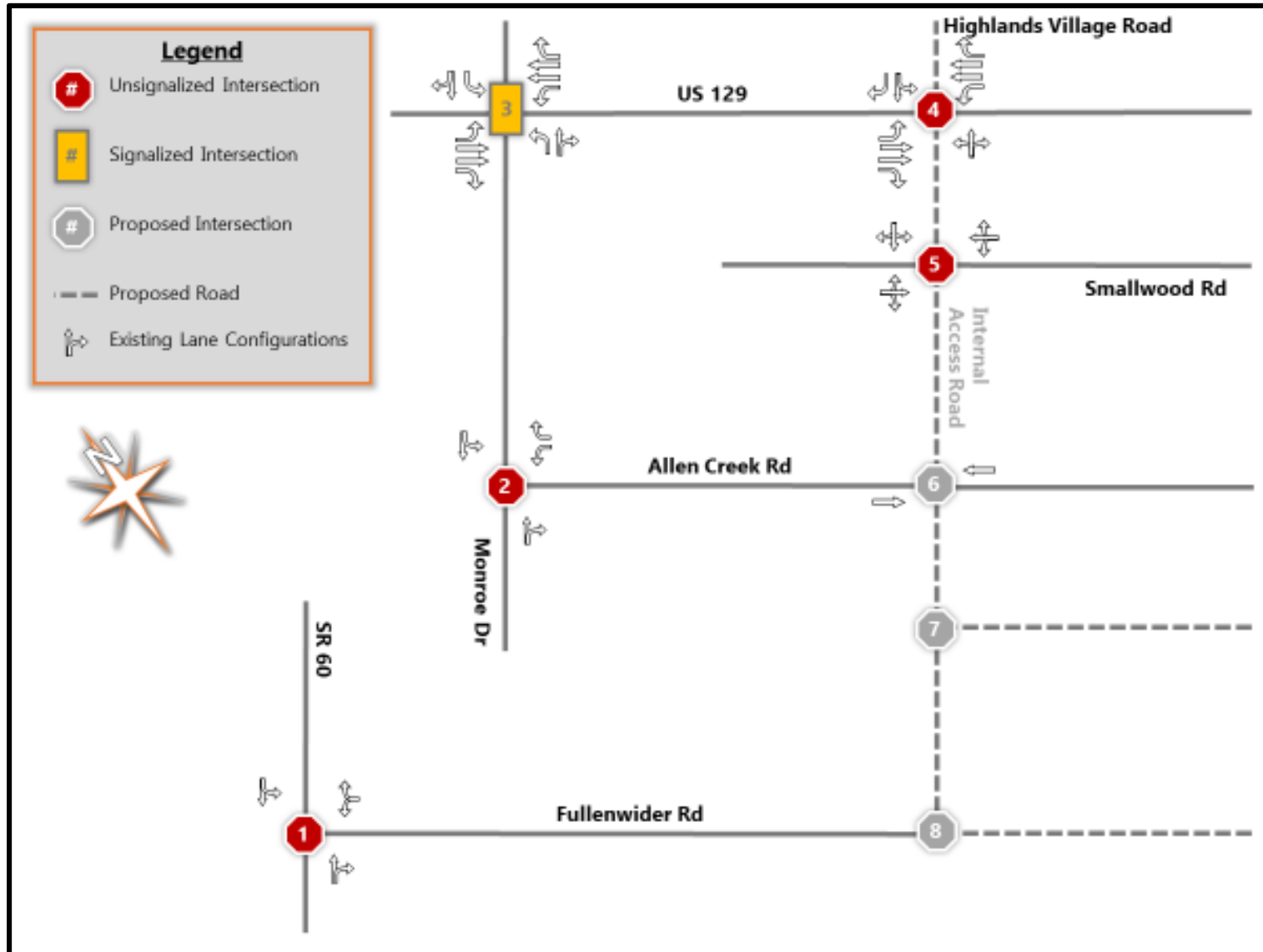


Figure 3 - 2019 Existing Peak Hour Traffic – I

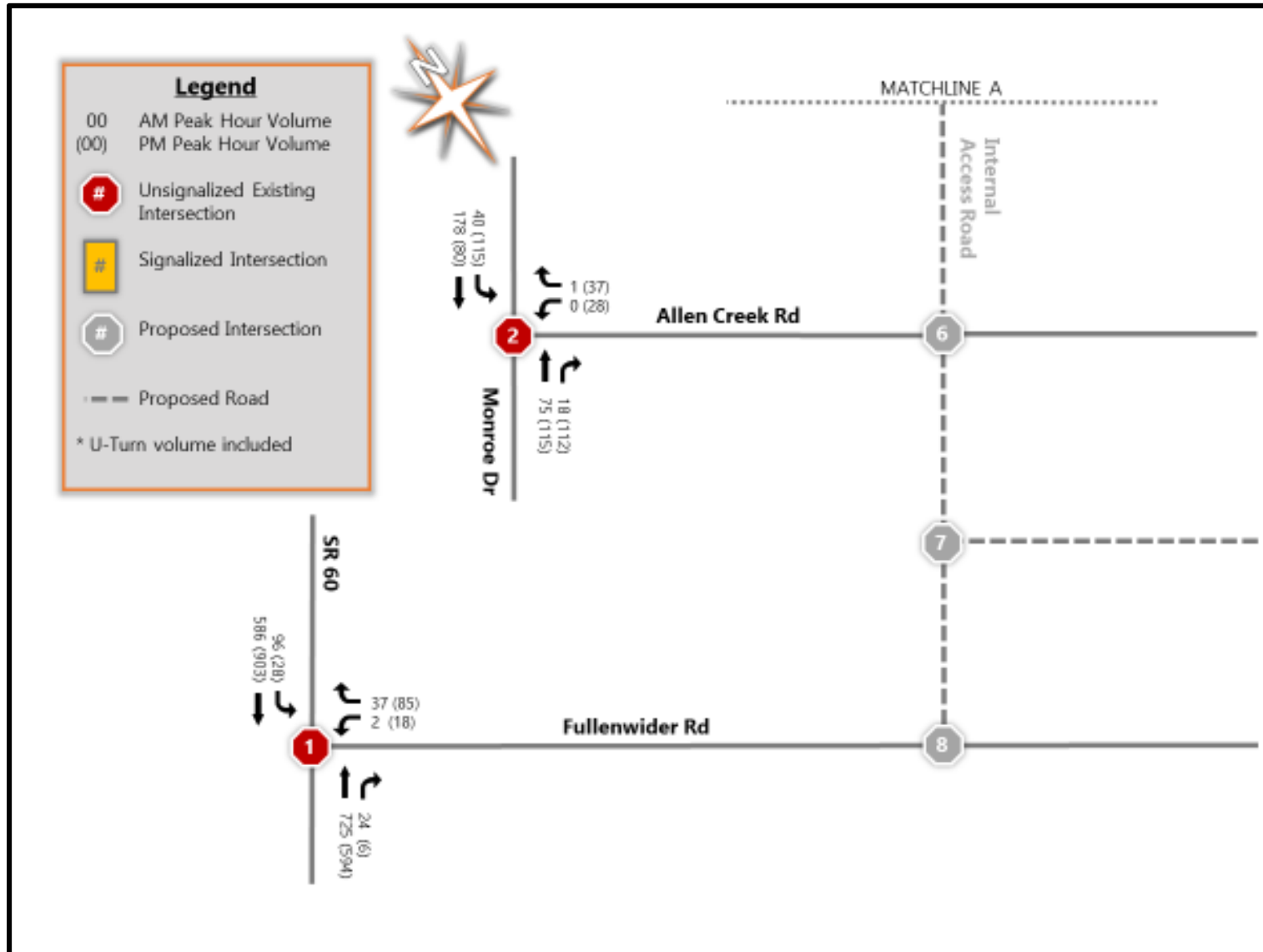
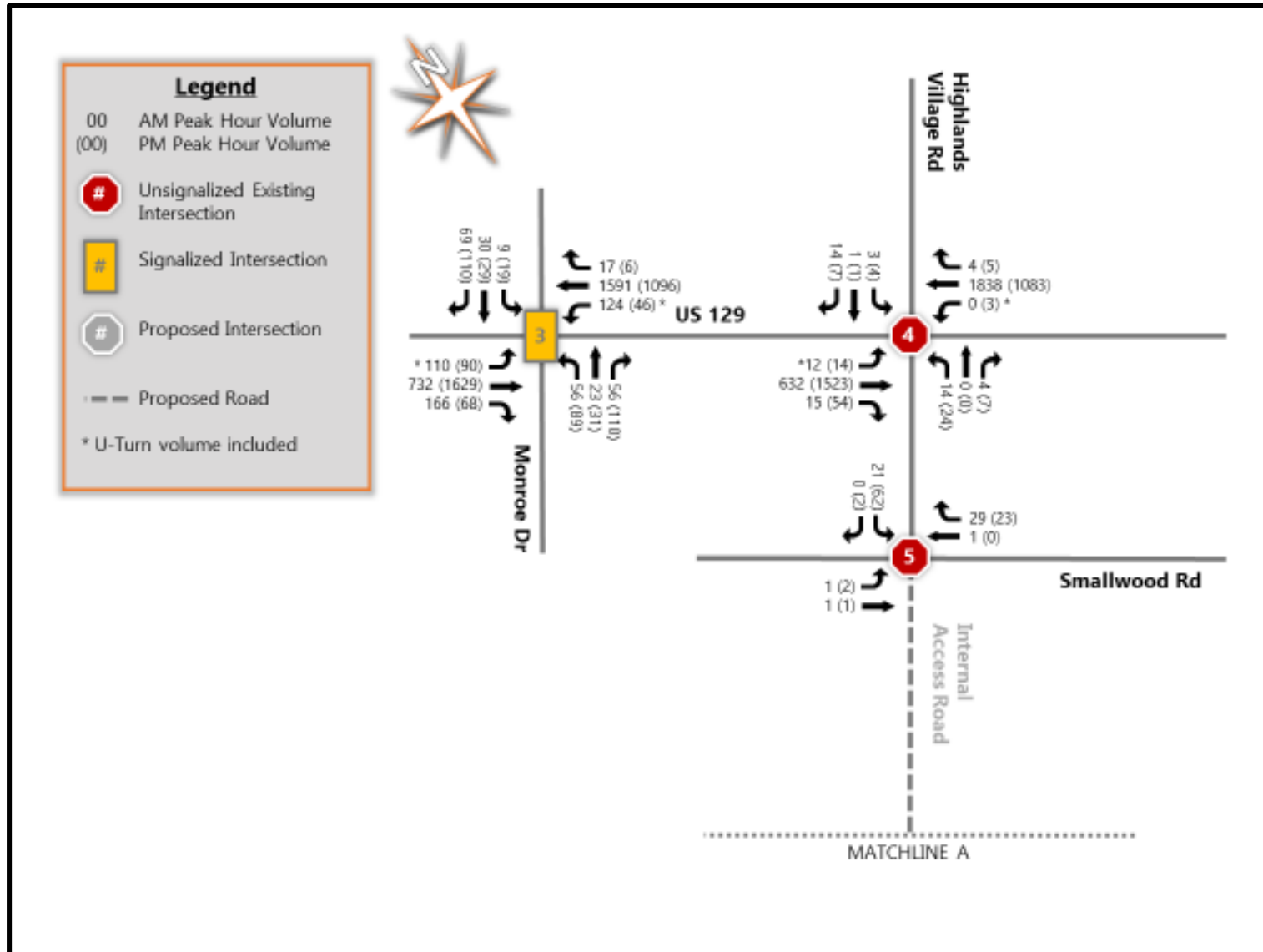


Figure 4 - 2019 Existing Peak Hour Traffic – II



3. TRAFFIC PROJECTIONS

3.1. Future Background Traffic

A build-out year of 2040 was established for the project. An annual growth rate was determined based on a review of traffic volume growth trends from GDOT data, and population growth trends and projections from US Census data.

The average annual growth rate, which was determined to be 2.5 percent per year, was applied to the 2019 traffic at the above noted intersections to establish the 2040 Background Traffic. There are no other known planned/approved development projects in the study area to be considered for the background condition.

The future 2040 Background peak hour traffic is shown in Figure 5 and Figure 6.

3.2. Trip Generation

The traffic that would be generated by the proposed development was estimated using the Institute of Transportation Engineers (ITE) ITE TripGen Web-based App which provides a searchable database of information included in *Trip Generation Manual (TGM) 10th Edition*. The trips that would be generated by the proposed project were estimated using ITE Land Use Code 130 – Industrial Park. The ITE describes an Industrial Park as:

containing a number of industrial or related facilities. It is characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities – some with a large number of small businesses and others with one or two dominant industries.

The total number of project-generated trips was estimated for the typical weekday and the morning and evening peak hours based upon total gross floor area.

Industrial Parks generate new (primary) trips only and do not generate traffic on the adjacent network passing the site (e.g. pass-by traffic). The trip generation results are listed in Table 2. The project may generate 16,850 new trips per day, with 2,000 trips in the morning peak hour and 2,000 trips in the evening peak hour. Industrial Parks typically generate truck trip traffic. There is limited data pertaining to the percentage of truck traffic generated by this type of facility. The ITE 10th Edition reproduced the truck trip generation of the ITE 9th Edition. The ITE Trip Generation Manual, 9th Edition indicates that the truck trips for this land use accounted for 1 to 31 percent of the weekday traffic with the average being approximately 13 percent. In addition to the ITE, the National Cooperative Highway Research Program (NCHRP) Report 739 / National Cooperative Freight Research Program (NCFRP) Report 19, Freight Trip Generation and Land Use, which contains information for estimating truck trips based upon the different land use categories was also reviewed. Lastly, given the proposed location of the site and the existing surrounding land uses which are truck related uses, the existing traffic counts were utilized to estimate the truck trip percentages for this project. The truck trip generation results are listed in Table 3Table 2.

Table 2 - Project Trip Generation Results

Land Use Description	Code	Size	Unit	Weekday			AM Peak Hour			PM Peak Hour		
				Total	Entry	Exit	Total	Entry	Exit	Total	Entry	Exit
Industrial Park	130	6.0	MSF	8,425	8,425	16,850	2,000	1,620	380	2,000	420	1,580

Table 3 - Project Trip Generation Results – by Classification

Mode	AM Peak Hour			PM Peak Hour		
	Total	Entry	Exit	Total	Entry	Exit
Cars	1,780	1,541	239	1,859	332	1,527
Trucks	220	79	141	141	88	53
	2,000	1,620	380	2,000	420	1,580

3.3. Distribution of Project-Generated Trips

Based upon the proposed use, passenger vehicles and truck trips are estimated to have differing distribution patterns. The new trips generated by the proposed project were distributed to the surrounding roadway network based on the location of each access drive, the potential regional distribution, and discussions with the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO). The distribution patterns are shown in

Figure 7 - New Trip Distribution Percentages – Passenger Vehicles



Figure 8 for passenger vehicles and Figure 8 for the truck trips.

3.4. Assignment of Project-Generated Trips

The number of trips were assigned to the project driveways based on the trip distribution determined for the study area and the proximity of each driveway to the existing and future proposed internal roadways. See Figure 9 and Figure 10

The project-generated traffic was superimposed with the 2040 Background traffic to provide an estimate of traffic that would be present when the proposed development opens. The 2040 With Project peak hour traffic is shown in Figure 11 and Figure 14.

Figure 5 - 2040 Background Peak Hour Traffic – I

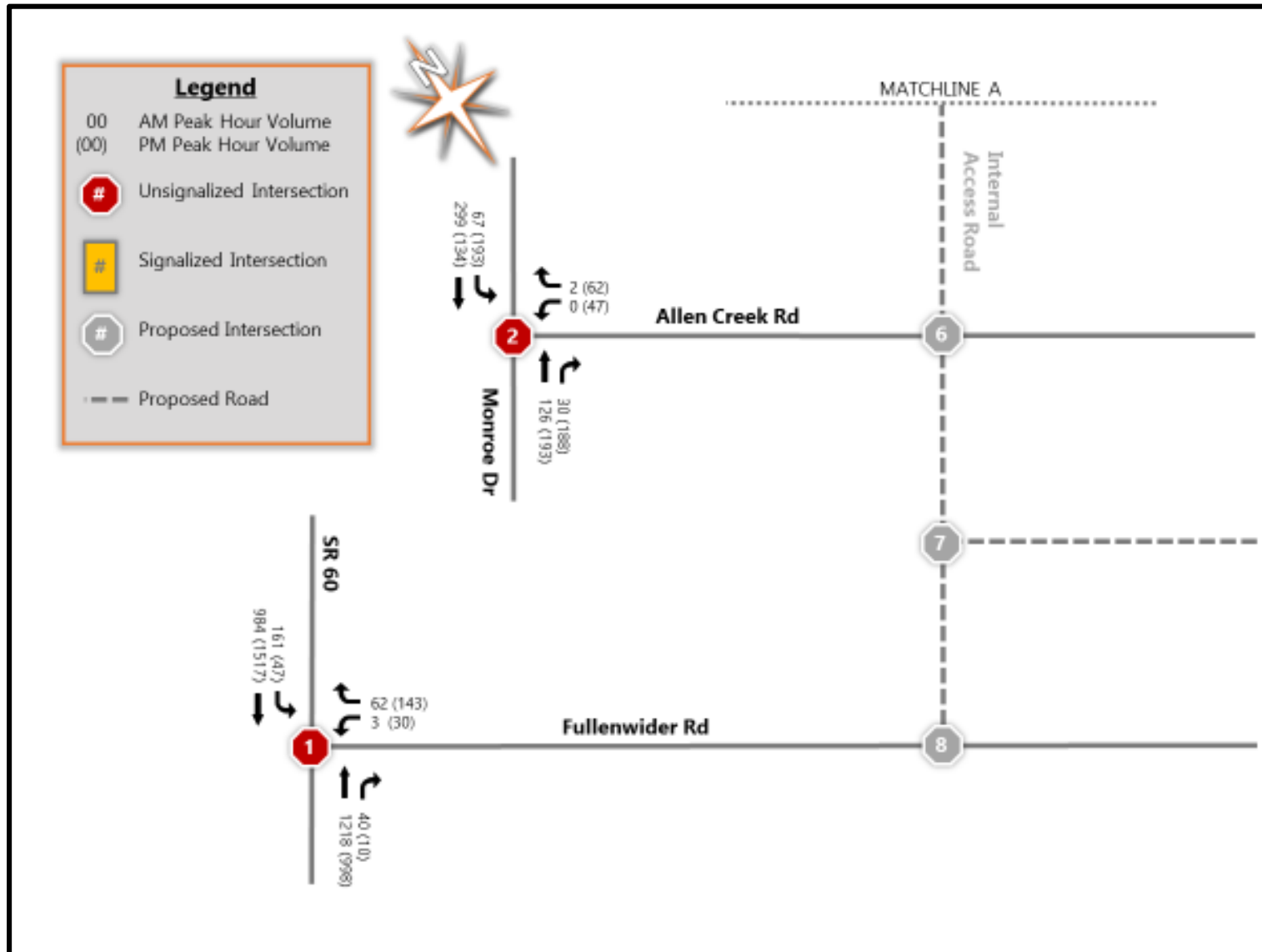


Figure 6 - 2040 Background Peak Hour Traffic – II

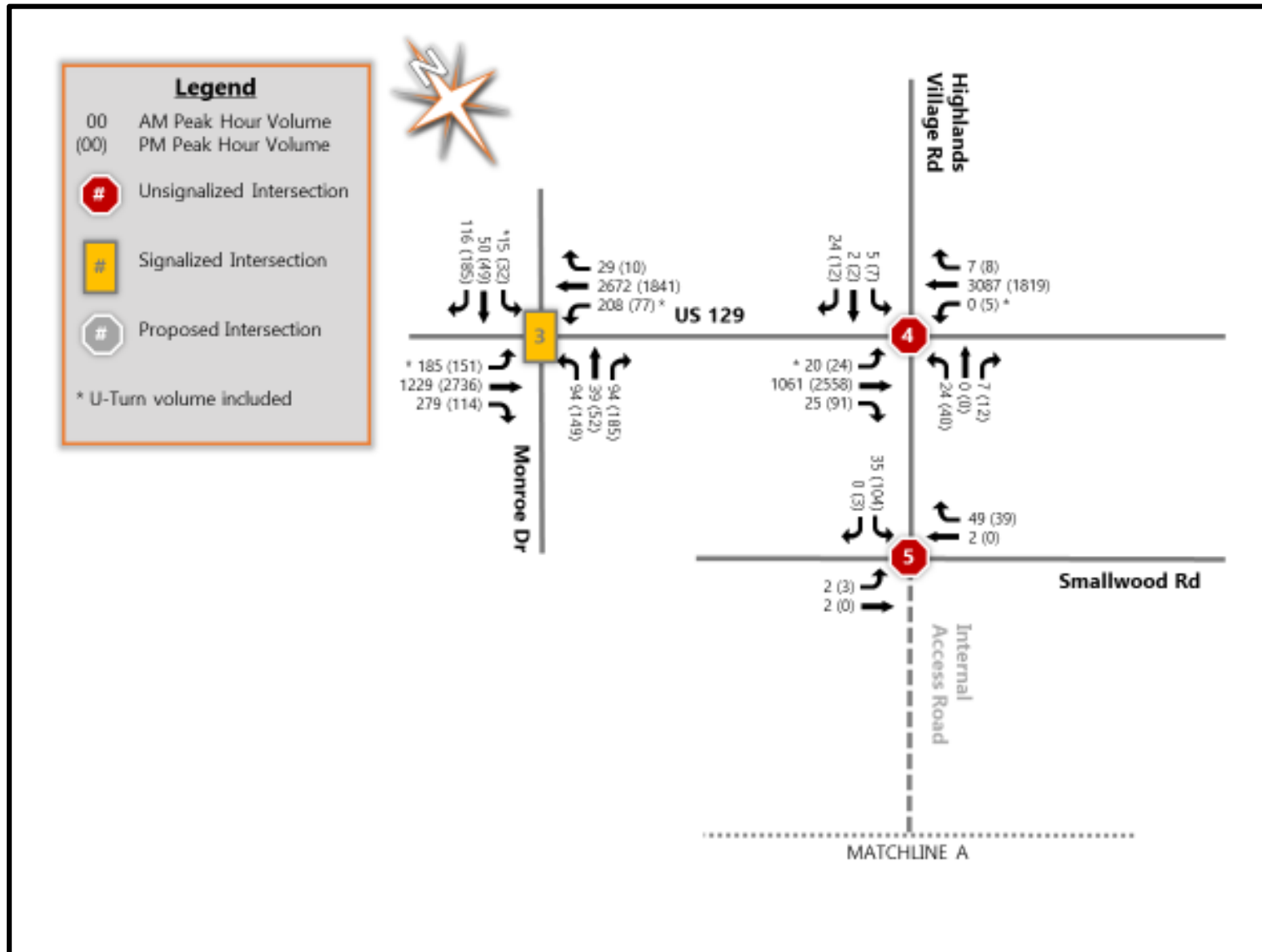


Figure 7 - New Trip Distribution Percentages – Passenger Vehicles



Figure 8 - New Trip Distribution Percentages – Truck Trips



Figure 9 - New Trip Passenger Distribution Volumes – I

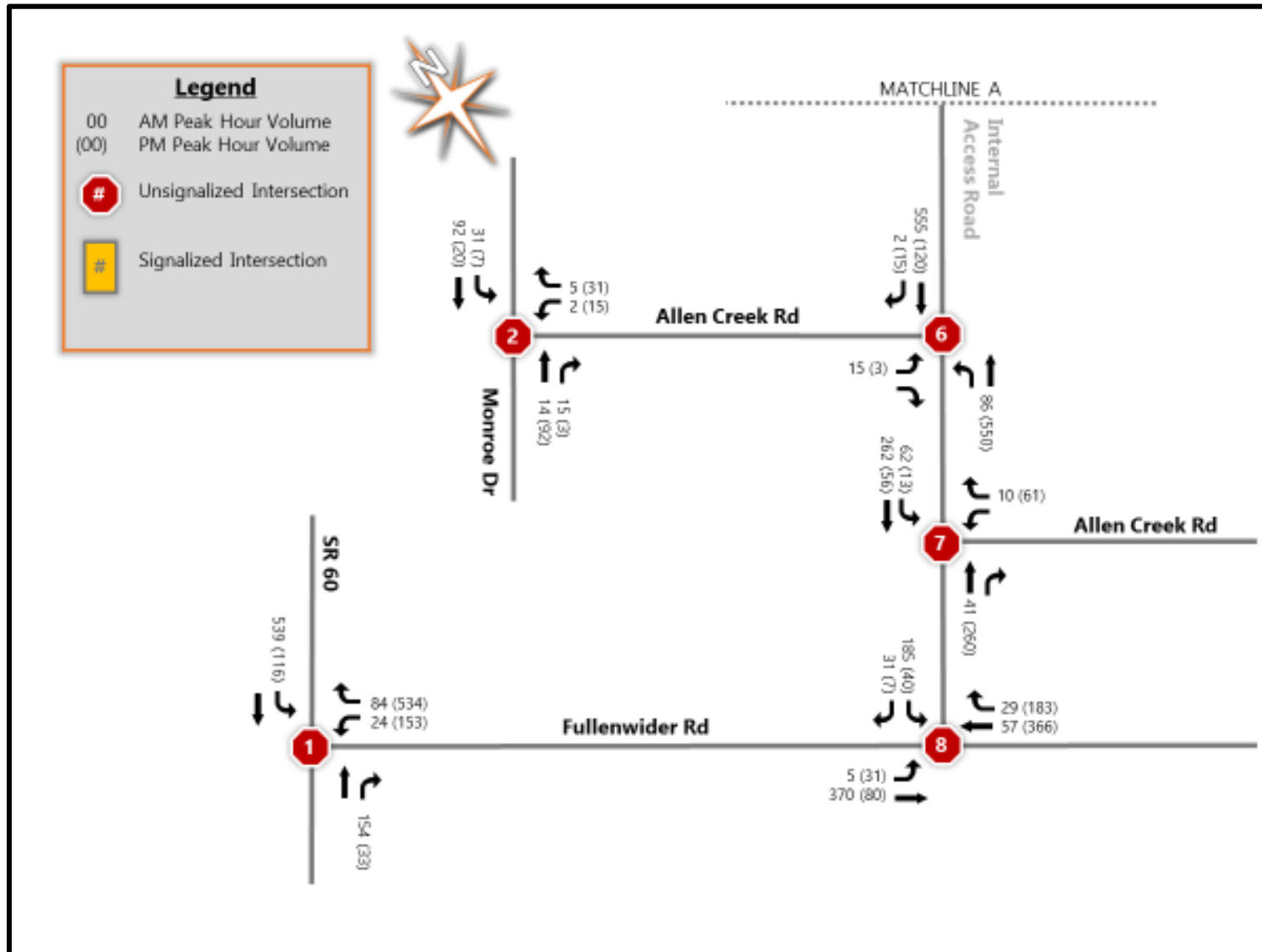


Figure 10 - New Trip Passenger Vehicle Distribution Volumes – II

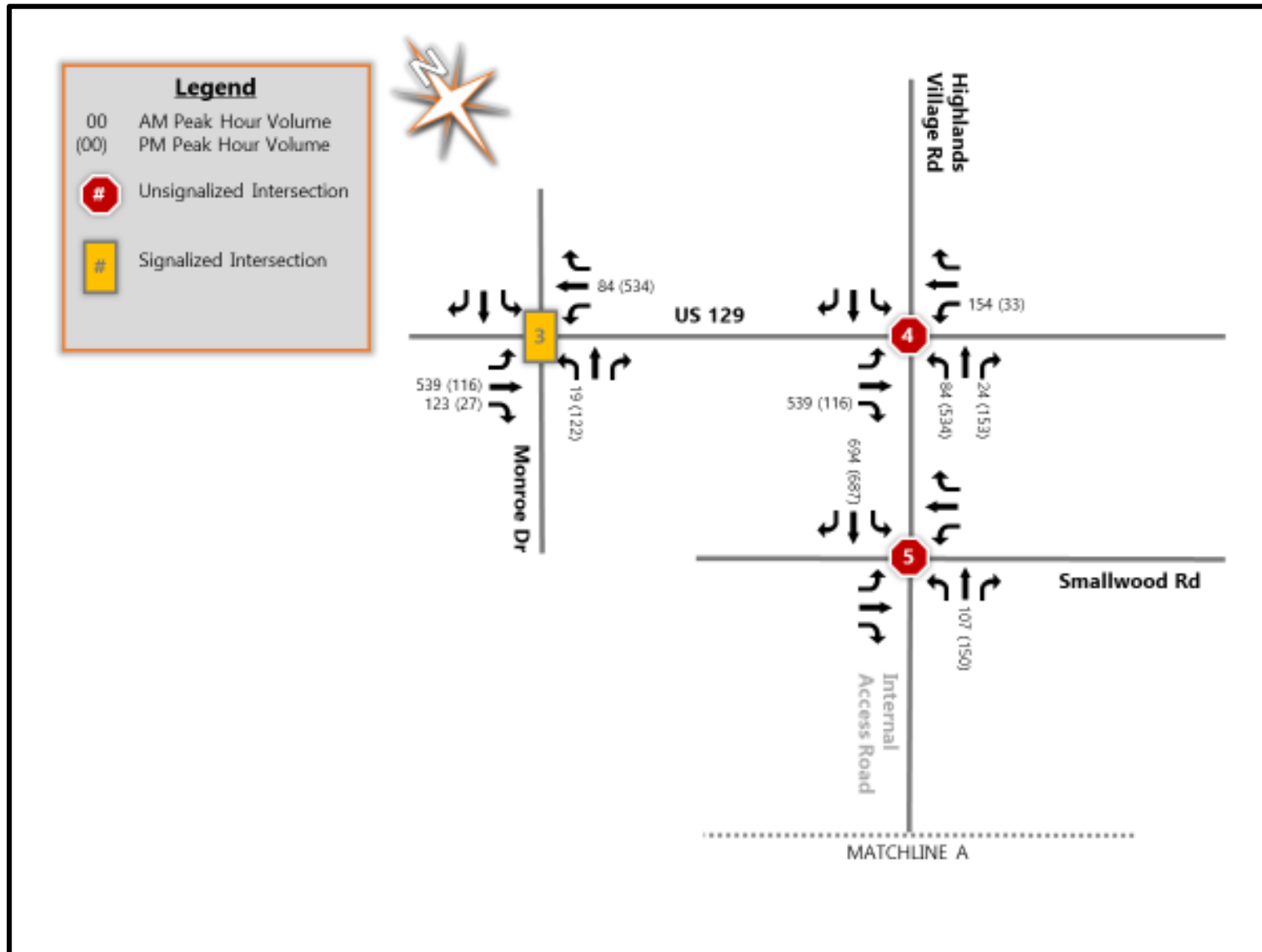


Figure 11 - New Trip Truck Distribution Volumes – I

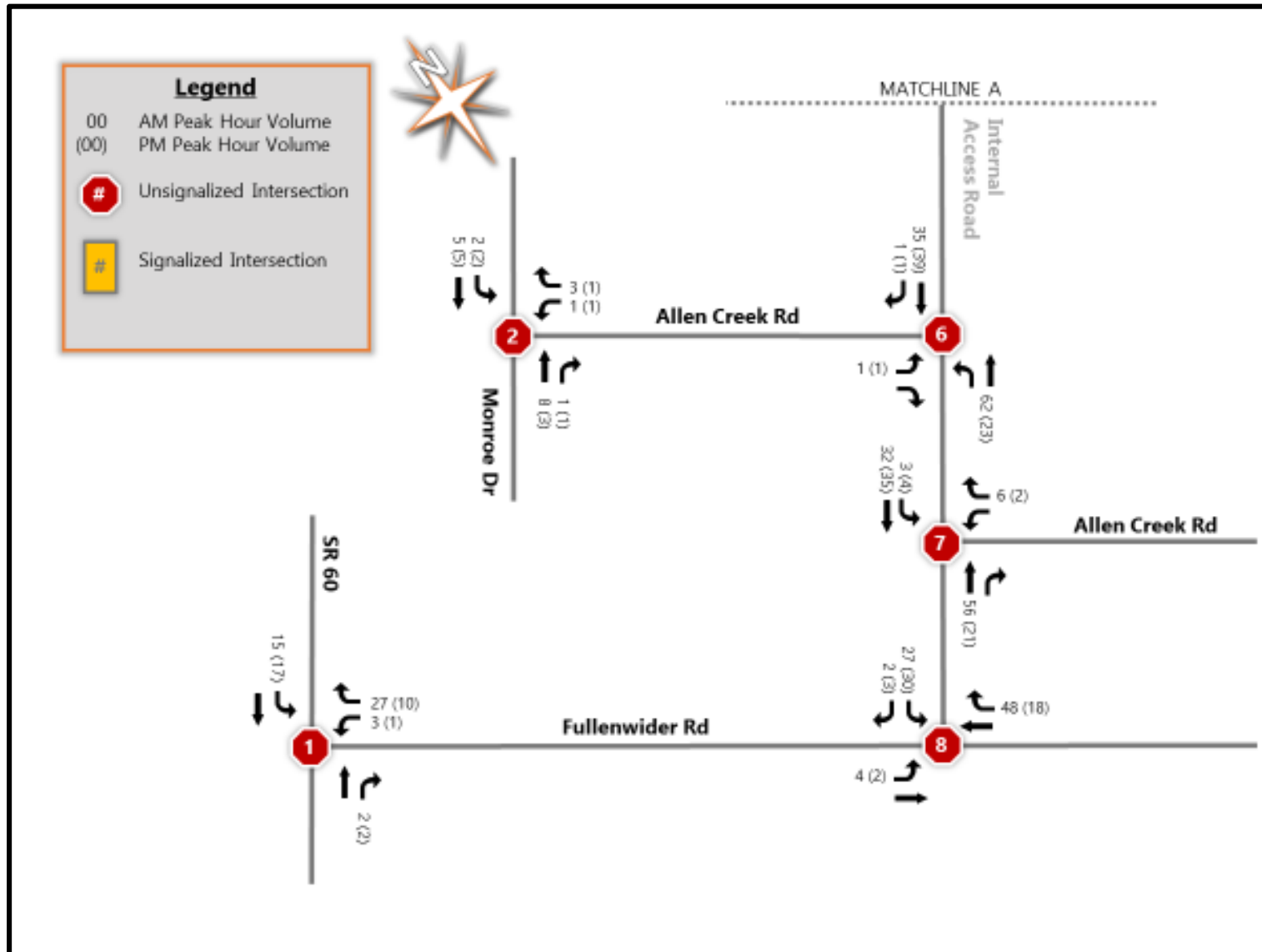


Figure 12 - New Trip Truck Distribution Volumes – II

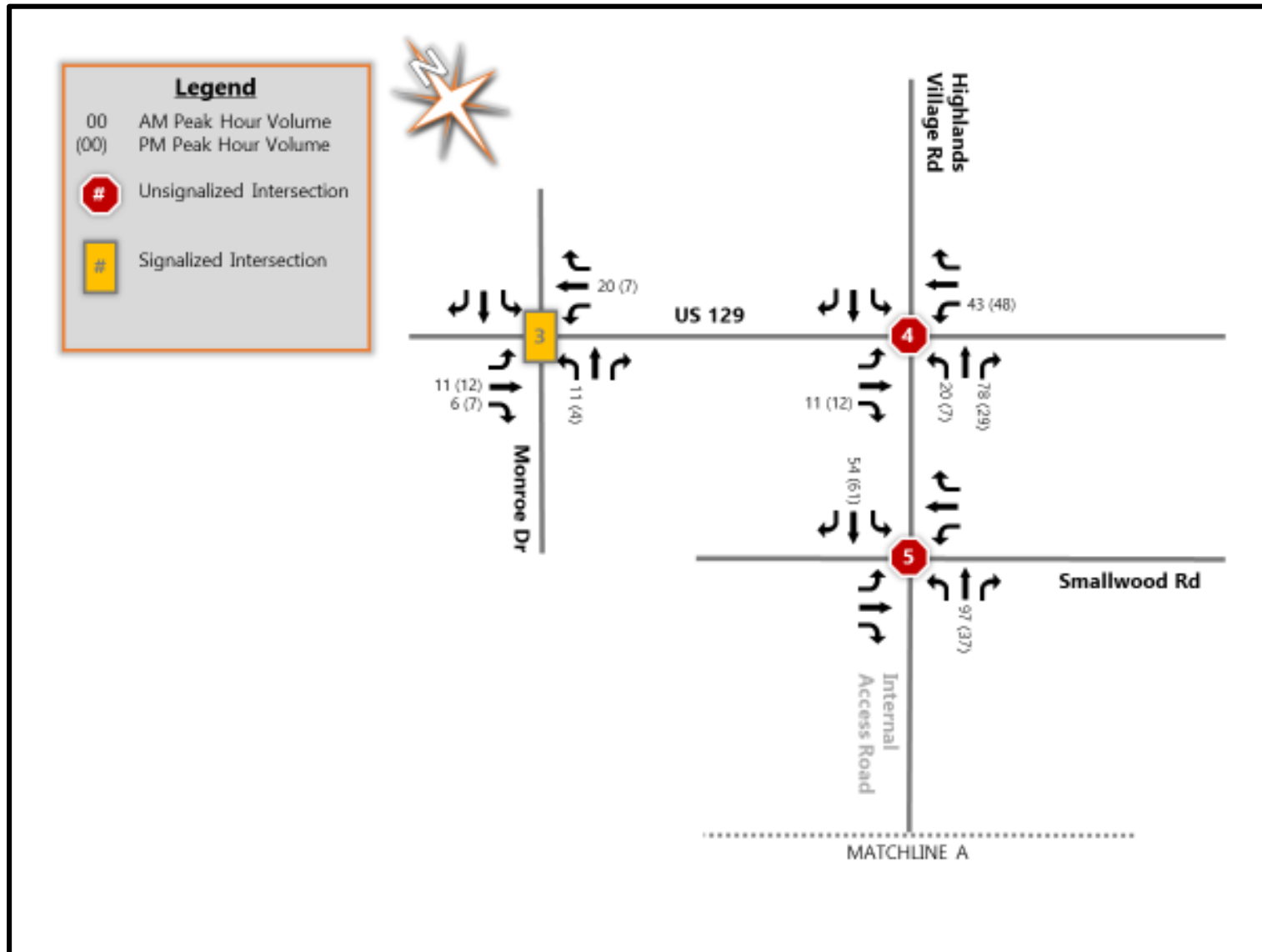


Figure 13 - 2040 With Project Peak Hour Traffic – I

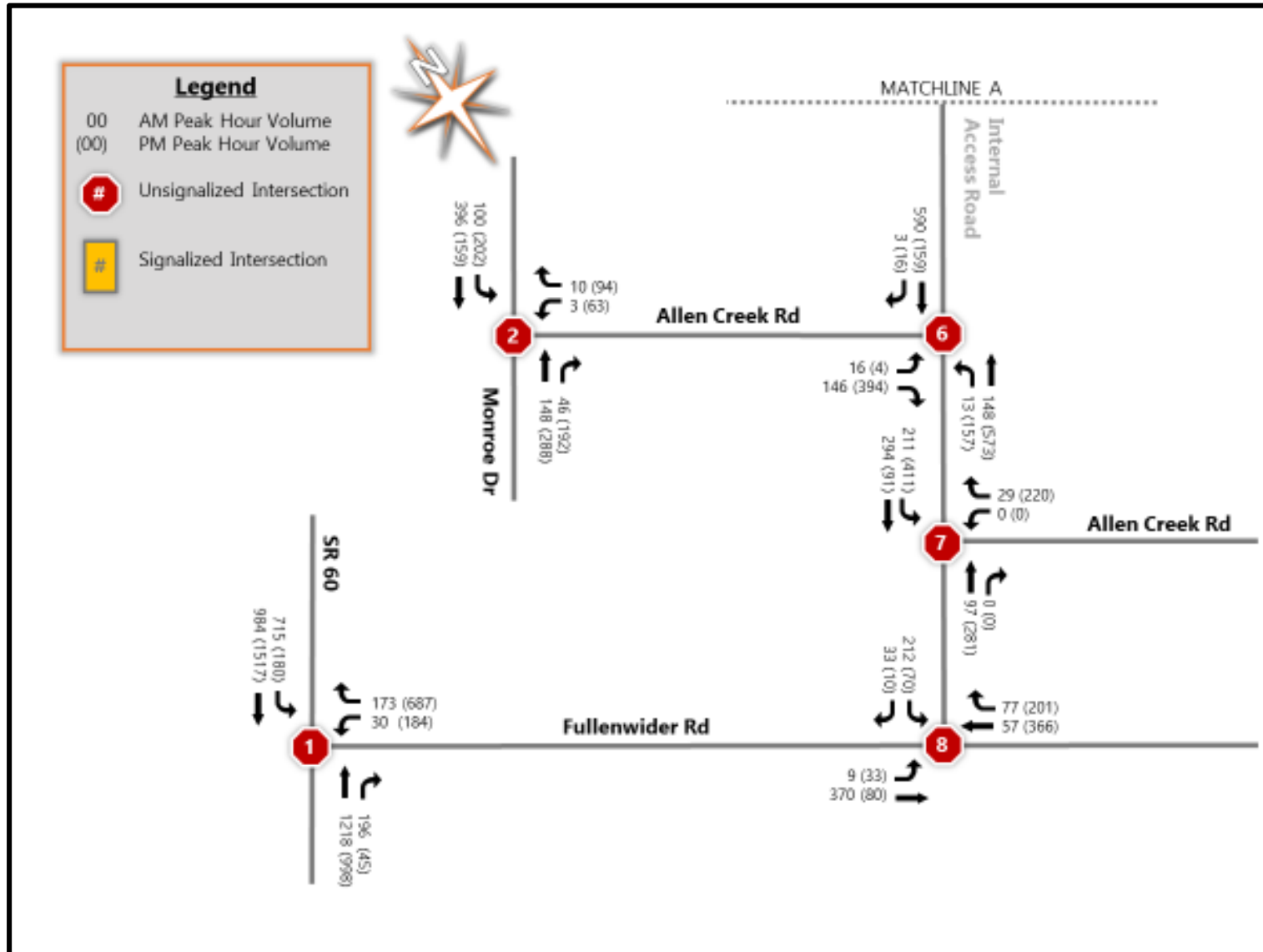
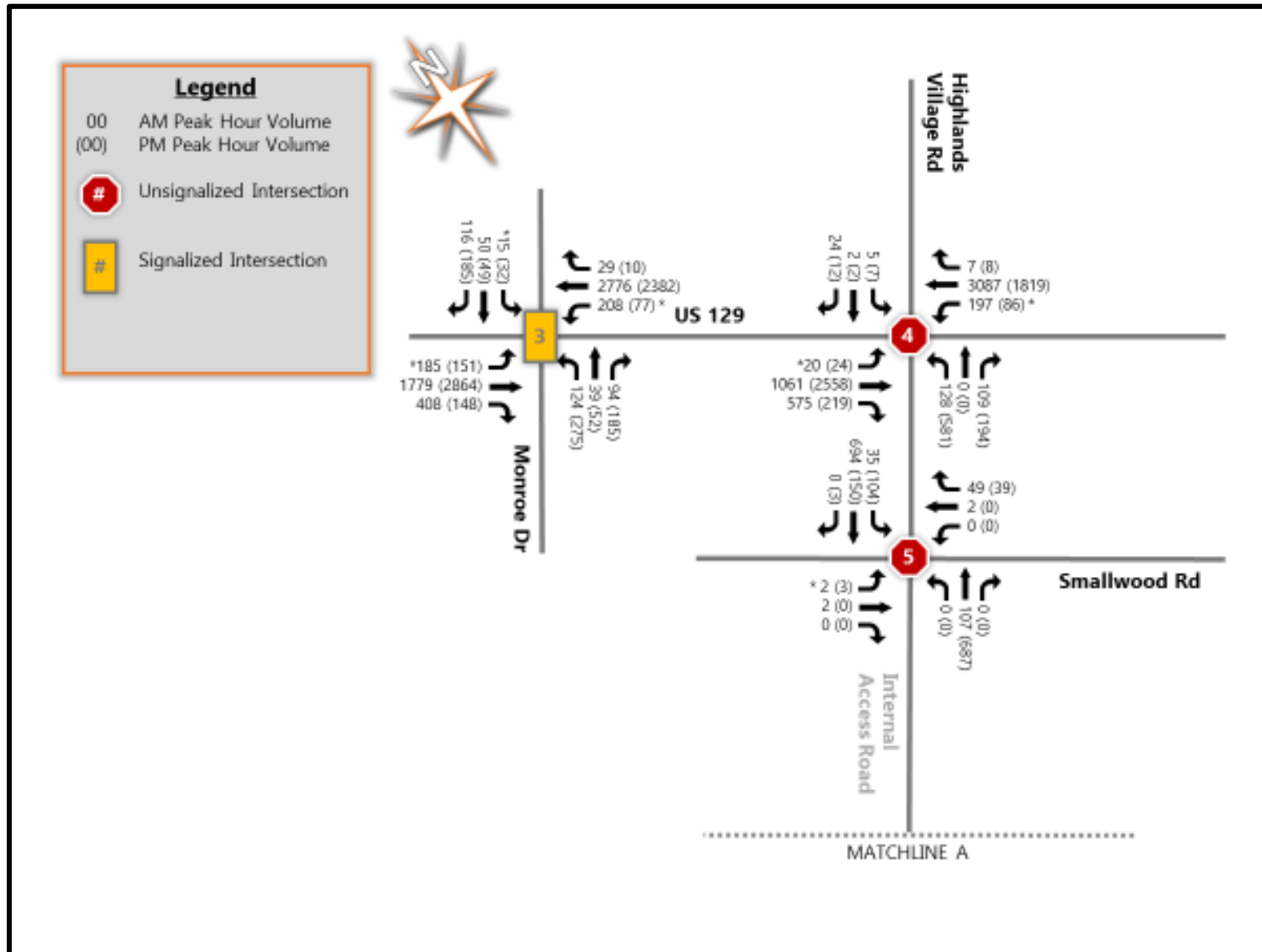


Figure 14 - 2040 With Project Peak Hour Traffic – II



4. CAPACITY ANALYSIS

4.1. Level of Service Criteria

In order to quantify the impacts of additional traffic and to determine any needed roadway and/or operational improvements, a capacity analysis was performed for the Future Background and the Future with Project peak hour conditions based on the methodology outlined in the *Highway Capacity Manual (HCM)*. Various computer programs are available which implement the *HCM* methodology. Synchro 10 software was used to evaluate the study area intersections.

HCM defines level of service (LOS) in terms of the amount of control delay, including initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The LOS categories range from A to F, with different thresholds specified according to the type of traffic control at the intersection. The LOS definitions are provided in Table 4.

Table 4 – Intersection Capacity LOS Criteria

Level of Service (LOS)	Unsignalized Control Delay per Vehicle (sec)	Signalized Control Delay per Vehicle (sec)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Rural, sparsely developed areas have a minimum LOS requirement of C based on rural residents' expectation for relatively uncongested conditions in combination with design flexibility associated with lower right of way costs. The minimum LOS for urban areas is D, reflecting the greater acceptance of delay and congestion by urban residents. Additionally, the increased density of developments makes right of way costs much higher in urban areas. The project site is located in Gainesville. The study area is in an urban location. A minimum LOS D is assumed for the study intersections.

4.2. Intersection Capacity Analysis

Intersection capacity analysis was performed for the morning and evening peak hours for the Existing Year (2019), Future Background Year (2040) and the Future with Project (2040) conditions. For Existing Year, Future Background Year, and Future with Project Year, the existing lane configurations and traffic control were used. Table 5 shows the resulting analysis during the AM peak hour and Table 6 shows the PM peak hours. Main street through and right turn movements at two-way stop-controlled intersections are assumed to not experience any delay, so those movements are not included in the capacity analysis results. *Synchro* printouts are contained in Appendix C.

Table 5 - 2040 Intersection LOS and Average Delay Results – AM Peak Hour

Int. #	Roadway	Approach	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
				sec/veh	LOS	sec/veh	LOS	sec/veh	LOS	sec/veh	LOS
1	SR 60	Southbound	Left	10.1	B	15.7	C	355.9	F	355.9	F
	Fullenwider Road	Westbound	Left/Right ¹	19.8	C	436.5	F	291.5	F	-	-
			Right	NA		NA		NA		141.0	F
2	Monroe Drive	Southbound	Left	7.5	A	7.8	A	8.0	A	8.0	A
	Allen Creek Road	Westbound	Left	0.0	A	0.0	A	21.4	C	20.2	C
			Right	8.8	A	9.1	A	9.8	A	9.6	A
3	Monroe Drive	Northbound	Left	84.4	F	140.7	F	236.7	F	111.2	F
			Through/Right ²	27.9	C	37.7	D	37.8	D	57.2	E
			Right ²	NA		NA		NA		14.1	B
			Overall	51.4	D	80.4	F	134.0	F	68.4	E
		Southbound	Left	57.9	E	56.9	E	56.9	E	56.0	E
			Through/Right ²	33.3	C	47.4	D	47.3	D	58.7	E
			Right ²	NA		NA		NA		18.4	B
			Overall	35.3	D	48.2	D	48.1	D	32.7	C
	US Route 129	Eastbound	Left	17.3	B	184.4	F	185.1	F	163.9	F
			Through	9.2	A	16.0	B	24.9	C	24.9	C
			Right	1.5	A	1.7	A	3.7	A	3.7	A
			Overall	8.8	A	32.1	C	33.7	C	32.1	C
		Westbound	Left	4.9	A	22.2	C	185.9	F	164.9	F
			Through	15.3	B	145.0	F	171.6	F	171.6	F
			Right	0.1	A	0.1	A	0.1	A	0.1	A
			Overall	14.4	B	134.7	F	170.9	F	169.5	F
4	US Route 129	Northbound	Left	0.0	A	0.0	A	82.7	F	82.7	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
			Overall	0.0	A	0.0	A	4.9	A	4.9	A
		Southbound	Left	42.7	E	1383.0	F	1377.1	F	1377.1	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
			Overall	0.8	A	25.0	C	16.6	C	16.6	C
	Smallwood Road	Eastbound	Left/Through/Right ³	124.1	F	-	-	-	-	-	-
			Right	NA		NA		NA		25.2	D
	Highlands Village Road	Westbound	Left/Through	391.9	F	-	-	-	-	-	-
			Right	24.4	C	100.8	F	98.5	F	98.5	F
			Overall	106.1	F	-	-	-	-	-	-
5	Internal Road	Northbound	Left	-	-	-	-	0.0	A	0.0	A
	Highlands Village Road	Southbound	Left	8.4	A	8.5	A	7.7	A	7.7	A
	Smallwood Road	Eastbound	Left/Through/Right ⁴	7.2	A	7.3	A	24.1	C	24.1	C
		Westbound	Left/Through/Right ⁴	-	-	-	-	9.7	A	9.7	A
6	Internal Road	Northbound	Left	NA		NA		9.5	A	9.5	A
	Allen Creek Road	Eastbound	Left/Right					17.9	C	16.6	C
			Right					NA		16.4	C
7	Internal Road	Southbound	Left/Through	NA		NA		7.9	A	7.9	A
	Allen Creek Road	Westbound	Left/Right					9.3	A	0.0	A
			Right					NA		9.3	A
8	Internal Road	Southbound	Left/Right ¹	NA		NA		18.8	C	17.5	C
			Right					NA		8.8	A
	Fullenwider Road	Eastbound	Left					8.0	A	8.0	A

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

¹ In Future with Project - Mitigation condition, movement is exclusive left turn lane

² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

Table 6 - 2040 Intersection LOS and Average Delay Results – PM Peak Hour

Int. #	Roadway	Approach	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
				sec/veh	LOS	sec/veh	LOS	sec/veh	LOS	sec/veh	LOS
1	SR 60	Southbound	Left	9.8	A	12.8	B	15.4	C	15.4	C
	Fullenwider Road	Westbound	Left/Right ¹ Right	28.8 NA	D	57.4 NA	F	1366.6 NA	F	>1400 942.3	F
2	Monroe Drive	Southbound	Left	8.2	A	9.3	A	10.1	B	10.1	B
	Allen Creek Road	Westbound	Left Right	14.9 9.6	B A	31.7 11.0	D B	61.0 12.8	F B	42.4 11.4	E B
3	Monroe Drive	Northbound	Left	102.6	F	382.4	F	985.2	F	203.2	F
			Through/Right ²	29.7	C	51.8	D	52.2	D	58.3	E
			Right ²	NA		NA		NA		39.8	D
		Southbound	Overall	58.0	E	179.7	F	553.8	F	129.5	F
			Left	62.2	E	72.0	E	72.4	E	58.5	E
			Through/Right ² Right ²	26.0 NA	C	46.4 NA	D	49.5 NA	D	58.1 38.1	E D
	US Route 129	Eastbound	Overall	30.3	C	49.5	D	52.3	D	44.3	D
			Left	6.7	A	73.0	E	73.0	E	73.0	E
			Through Right	16.2 2.2	B A	157.6 4.9	F A	183.8 6.3	F A	183.8 6.3	F A
		Westbound	Overall	15.2	B	147.6	F	170.2	F	170.2	F
			Left	9.6	A	61.1	E	61.1	E	61.1	E
			Through Right Overall	12.6 0.0 12.4	B A B	34.3 0.0 35.2	C A D	114.0 0.0 111.9	F A F	114.0 0.0 111.9	F A F
4	US Route 129	Northbound	Left	19.6	C	79.9	F	69.5	F	69.5	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
		Southbound	Overall	0.1	A	0.2	A	3.1	A	3.1	A
			Left	11.4	B	20.0	C	20.2	C	20.2	C
			Through Right Overall	0.0 0.0 0.1	A A A	0.0 0.0 0.2	A A A	0.0 0.0 0.2	A A A	0.0 0.0 0.2	A A A
	Smallwood Road	Eastbound	Left/Through/Right ³ Right	380.0 NA	F	- NA	-	- NA	F	332.4 -	F
	Highlands Village Road	Westbound	Left/Through	138.0	F	4728.1	F	-	-	-	-
			Right	12.6	B	19.0	C	19.0	C	19.0	C
			Overall	64.9	F	2037.2	F	-	-	-	-
5	Internal Road	Northbound	Left	9.0	A	9.4	A	0.0	A	0.0	A
	Highlands Village Road	Southbound	Left	-	-	-	-	10.1	B	10.1	B
	Smallwood Road	Eastbound	Left/Through/Right ⁴	0.0	A	0.0	A	36.4	E	36.4	E
		Westbound	Left/Through/Right ⁴	-	-	-	-	15.7	C	15.7	C
6	Internal Road	Northbound	Left	NA	NA	NA	NA	8.0	A	8.0	A
	Allen Creek Road	Eastbound	Left/Right Right					14.1 NA	B	28.0 13.2	D B
7	Internal Road	Southbound	Left/Through	NA	NA	NA	NA	9.4	A	9.4	A
	Allen Creek Road	Westbound	Left/Right Right					12.2 B		12.2	B
8	Internal Road	Southbound	Left/Right ¹	NA	NA	NA	NA	17.9	C	15.7	C
	Fullenwider Road	Eastbound	Left					9.0	A	9.0	A

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

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² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

Existing Conditions (2019)

The following movements are currently operating inadequately and are expected to continue to operate inadequately for Future Background Year 2040 conditions:

US 129 & Monroe Drive

- Northbound left on Monroe Drive during both peak hours
- Southbound left on Monroe Drive during both peak hours

US 129 & Highlands Village Road / Smallwood Road

- Southbound left on US 129 during AM peak hour
- Eastbound left/through/right on Smallwood Road during both peak hours
- Westbound left/through on Highlands Village Road during both peak hours

Future Background Year 2040 conditions

In addition, while the following movements currently operate adequately in Existing Year 2019, these movements are expected to operate inadequately for Future Background Year 2040 conditions:

SR 60 & Fullenwider Road

- Westbound left/right on Fullenwider Road during both peak hours

US 129 & Monroe Drive

- Eastbound left on US 129 during both peak hours
- Eastbound through on US 129 during PM peak hour
- Westbound left on US 129 during the PM peak hour
- Westbound through on US 129 during AM peak hour

US 129 & Highlands Village Road / Smallwood Road

- Northbound left on US 129 during PM peak hour
- Westbound right on Highlands Village Road during the AM peak hour

Future with Project 2040 conditions

In addition to the above movements that are expected to operate inadequately for Future Background conditions, the following movements are expected to operate inadequately for Future with Project conditions with the anticipated project traffic superimposed:

SR 60 & Fullenwider Road

- Southbound left on SR 60 during AM peak hour

Monroe Drive & Allen Creek Road

- Westbound left on Allen Creek Road during PM peak hour

US 129 & Monroe Drive

- Westbound left on US 129 during the AM peak hour
- Westbound through on US 129 during the PM peak hour

US 129& Highlands Village Road / Smallwood Road

- Northbound left on US 129 during the AM peak hour

While the Smallwood Road eastbound left/through movement at the Highlands Village Road / Internal Access shows LOS E during the PM peak hour, it is noted that the Smallwood Road eastbound left turn movement volume during the PM peak hour is 3 vehicles. Given the LOS volume and the fact that the delay for this movement during the PM peak hour is just 1.4 seconds of delay above the LOS D threshold, no improvements are necessary or recommended to accommodate this movement.

4.3. Need for Auxiliary Turn Lanes

It is apparent that the added project traffic will add delay at existing intersections. To gauge the impact of additional turn lanes at the intersections expected to experience inadequate LOS when the development is fully open in Future with Project Year, further analysis was performed with additional turn lanes in locations to and from the development that were expected to potentially mitigate the heavy delays.

The GDOT manual *Regulations for Driveway and Encroachment Control*, which stipulates guidelines for determining when auxiliary lanes are required, was used along with the capacity analysis results to assess the locations where left and/or right turn lanes should be provided. Table 7 shows the timing for when turn lanes should be added as well as the overall lanes proposed for the intersections created by the internal access road.

Table 7 – Geometric Improvement and Estimated Timing

Int. #	Intersection	2019 Existing	2040 Future Background	2040 Future with Project
1	SR 60 & Fullenwider Road	NA	Southbound Left	Northbound Right Westbound Right
2	Monroe Drive & Allen Creek Road	NA	Northbound Right Southbound Left	NA
3	US 129 & Monroe Drive	Northbound Right Southbound Right	NA	NA
4	US Route 129 & Highlands Village Road / Smallwood Road	NA	NA	Eastbound Right
5	Highlands Village Road / Internal Road & Smallwood Road ^A	NA	NA	Shared Eastbound Right Shared Westbound Left Shared Northbound Left / Through / Right Shared Southbound Right
6	Internal Road & Allen Creek Road ^A	NA	NA	Eastbound Left Eastbound Right Shared Northbound Left/Through Shared Southbound Through/Right
7	Internal Road & Allen Creek Road ^A	NA	NA	Westbound Left Westbound Right Shared Northbound Through/Right Southbound Left Southbound Through
8	Internal Road & Fullenwider Road ^A	NA	NA	Shared Eastbound Left/Through Westbound Through Westbound Right Southbound Left Southbound Right

Note: All movements are exclusive lanes unless otherwise noted

^A Added movements to develop intersection

Despite the additional turn lanes at these locations, inadequate LOS prevailed for several movements at the following locations:

- SR 60 & Fullenwider Road
- US 129 & Monroe Drive
- US 129 & Highlands Village Road / Smallwood Road
- Highlands Village Road & Internal Access / Smallwood Road

The study intersections remain with the existing operational control (e.g. unsignalized for 7 of the intersections and signalized for the 1 intersection) in the Future with Project Year 2040 scenario. The

primary reason for this is because the GDOT Intersection Control Evaluation (ICE) process performed during the design phase will include a full traffic signal warrant analysis and therefore is not within the scope of this study.

GDOT requires a minimum of 1320 feet of space (0.25 miles) between traffic signals on a state route. The US 129 & Highlands Village Road/Smallwood Road intersection appears to be more than 1.0 mile from the signalized intersection of US 129 & Old County Dump Road / Athens Street (to the west) and US 129 & SR 323 (Gillsville Highway) (to the east). The SR60 & Fullenwider Road is approximately 0.7 miles from the signalized intersection of SR 60 & Calvary Church Road/Old Chandler Road to the north and is more than 1.0 mile to the signalized intersection to the south. Therefore, a traffic signal at these intersections could be feasible and still meet the spacing requirements. The spacing criteria will more completely be evaluated as part of the GDOT ICE process.

4.4. Queue Lengths

The 95th percentile queue is the maximum distance to the back of the queue (BOQ) that would be expected 95 percent of the time. Most of the time, the queue will be shorter, and the chances of a longer queue occurring are very small; therefore, the 95th percentile BOQ distance is typically used to determine a reasonable storage length for intersection turn lanes. The 95th percentile queue lengths, which are expressed in feet, are shown in Table 8 for each intersection during both peak hours for the Existing, the Background Condition and the With Project Conditions. All turn bays must exceed the queue lengths or meet minimum deceleration criteria as stipulated by GDOT, whichever is longer. See GDOT standards for bay taper and deceleration lengths.

Table 8 – Queue Lengths

Int. #	Roadway	Approach	Movement	AM PEAK HOUR				PM PEAK HOUR			
				2019 Existing	2040 Future Background	2040 Future with Project	2040 Future with Project - Mitigation	2019 Existing	2040 Future Background	2040 Future with Project	2040 Future with Project - Mitigation
1	SR 60	Southbound	Left	10	38	1150	1150	3	8	43	43
	Fullenwider Road	Westbound	Left/Right ¹ Right	13 NA	168 NA	353 NA	- 225	53 NA	145 NA	2355 NA	688 1698
2	Monroe Drive	Southbound	Left	3	5	8	8	10	23	28	28
	Allen Creek Road	Westbound	Left Right	0 0	0 0	3 0	0 0	8 5	33 10	73 20	55 15
3	Monroe Drive	Northbound	Left	104	222	304	248	162	397	729	583
			Through/Right ²	73	140	140	74	126	270	271	95
			Right ²	NA	NA	NA	55	NA	NA	NA	194
		Southbound	Left	26	38	38	37	47	72	72	66
			Through/Right ²	97	188	188	91	113	252	262	90
			Right ²	NA	NA	NA	79	NA	NA	NA	189
	US Route 129	Eastbound	Left	62	355	355	355	41	224	224	224
			Through	206	420	818	818	714	2136	2286	2286
			Right	27	33	82	82	19	44	63	63
		Westbound	Left	47	102	381	381	24	117	117	117
			Through	641	1916	2041	2041	379	1059	1794	1794
			Right	0	0	0	0	0	0	0	0
4	US Route 129	Northbound	Left	0	0	203	203	0	8	88	88
			Through	-	-	-	-	-	-	-	-
			Right	-	-	-	-	-	-	-	-
		Southbound	Left	10	98	98	98	3	8	8	8
			Through	-	-	-	-	-	-	-	-
			Right	-	-	-	-	-	-	-	-
	Smallwood Road	Eastbound	Left/Through/Right ³	38	-	-	-	90	-	-	-
			Right	NA	NA	NA	50	NA	NA	NA	350
Highlands Village Road	Westbound	Left/Through	23	-	-	-	13	60	-	-	
		Right	8	43	43	43	0	3	3	3	
5	Internal Road	Northbound	Left	NA	NA	0	0	NA	NA	0	0
	Highlands Village Road	Southbound	Left	0	0	3	3	0	0	13	13
	Smallwood Road	Eastbound	Left/Through/Right ⁴	0	0	3	3	0	0	3	3
		Westbound	Left/Through/Right ⁴	0	0	5	5	0	0	10	10
6	Internal Road	Northbound	Left	NA	NA	3	3	NA	NA	10	10
	Allen Creek Road	Eastbound	Left/Right			45	5			78	3
			Right			0	38			0	70
7	Internal Road	Southbound	Left/Through	NA	NA	13	13	NA	NA	40	40
	Allen Creek Road	Westbound	Left/Right			3	0			35	0
			Right			0	3			0	35
8	Internal Road	Southbound	Left/Right ¹ Right	NA	NA	73 0	58 3		NA	23 0	18 3
	Fullenwider Road	Eastbound	Left			0	0			3	3

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

¹ In Future with Project - Mitigation condition, movement is exclusive left turn lane

² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

5. CONCLUSIONS

This traffic study was conducted to evaluate the traffic impact of a proposed 5 million square foot industrial park development located in Gainesville, Georgia. The proposed site is on approximately 956.40 acres of land on 20 parcels located north of Chandler Road (State Route 60), west of Monroe Drive, south of Athens Highway (US Route 129 & State Route 11) and straddles both Fullenwider Road and Allen Creek Road. The proposed development is anticipated to be fully open in 2040. The project site is currently vacant land.

The existing intersections that could be impacted by this project include:

1. SR 60 & Fullenwider Road
2. Monroe Drive & Allen Creek Road
3. US 129 (SR 11) & Monroe Drive
4. US 129 (SR 11) & Highlands Village Road / Smallwood Road
5. Highlands Village Road & Smallwood Road

An internal roadway is proposed to intersect at the northern end at the existing intersection of Highlands Village Road & Smallwood Road, continue south and intersect with Allen Creek Road, continuing further south to intersect with Fullenwider Road. As such, the following proposed intersection locations were included for evaluation in this study:

6. Allen Creek Road & Internal Access
7. Internal Access & Street just south of Allen Creek Road
8. Fullenwider & Internal Access

The proposed development could generate a total of 2,000 new trips during the weekday morning peak hour and 2,000 new trips during the weekday evening peak hour. The site generated trips were distributed to the surrounding roadway network based on the location of each access drive, the potential regional distribution, and discussions with the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO).

Intersection capacity analysis was performed for the morning and evening peak hours for the Existing Year (2019), Future Background Year (2040) and the Future with Project (2040) conditions. For Existing Year, Future Background Year, and Future with Project Year, the existing lane configurations and traffic control were used. The analyses showed that several movements at the study area intersections are currently or are anticipated to operate at less than desirable LOS (LOS E or LOS F) Table 9 shows when these movements experience the LOS E/F operations.

While the Smallwood Road eastbound left/through movement at the Highlands Village Road / Internal Access shows LOS E during the PM peak hour, it is noted that the Smallwood Road eastbound left turn movement volume during the PM peak hour is 3 vehicles. Given the LOS volume and the fact that the delay for this movement during the PM peak hour is just 1.4 seconds of delay above the LOS D threshold, no improvements are necessary or recommended to accommodate this movement.

Table 9 –Condition during which LOS E/F operations of movements begin

Int. #	Intersection	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
			AM	PM	AM	PM	AM	PM	AM	PM
1	SR 60 & Fullenwider Road	Westbound L/R Westbound R Southbound L			√	√			√	
2	Monroe Drive & Allen Creek Road	Westbound L						√		
3	US 129 & Monroe Drive	Eastbound L Eastbound T Westbound L Westbound T Northbound L Northbound T Southbound L Southbound T			√	√ √ √				
			√	√	√			√		√
			√	√					√	√
4	US Route 129 & Highlands Village Road / Smallwood Road	Southbound L Northbound L Eastbound L/T/R Eastbound R Westbound L/T Westbound R	√	√		√	√		√	√

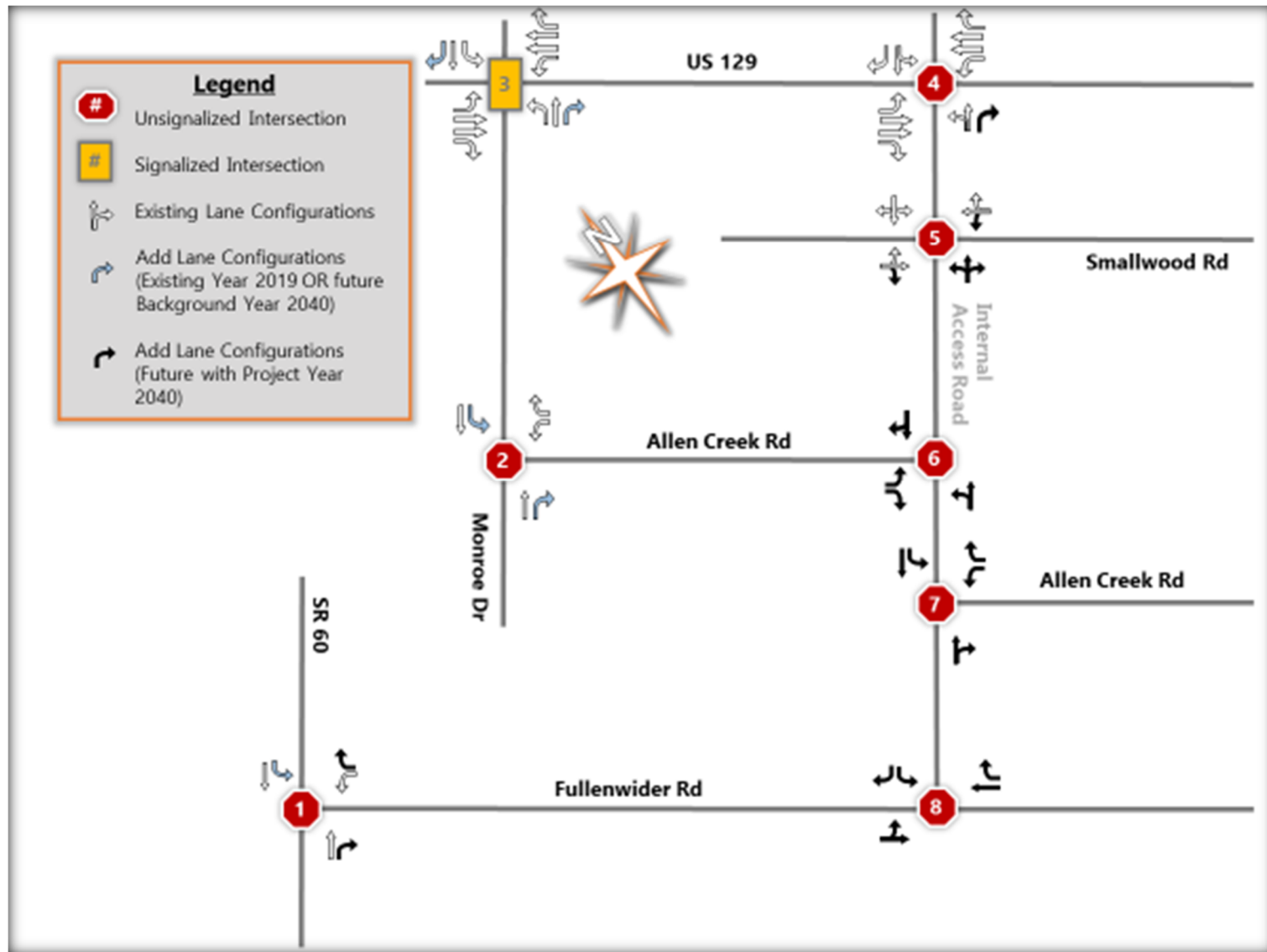
It is apparent that the several of the movements to the existing study area intersections are currently experiencing less than desirable LOS and are expected to continue in the 2040 Future Background Condition. It is also apparent that added project traffic will add delay at existing intersections and proposed. To gauge the impact of additional turn lanes at the intersections expected to experience inadequate LOS when the development is fully open in Future with Project Year 2040, further analysis was performed with additional turn lanes in locations to and from the development that were expected to potentially mitigate the heavy delays. Despite the additional turn lanes at these locations, inadequate LOS prevailed for several of the movements at the study intersections.

The existing unsignalized study intersections remained unsignalized in the Future with Project Year 2040 scenario because the GDOT Intersection Control Evaluation (ICE) process performed during the design phase will include a traffic signal warrant analysis and therefore is not within the scope of this study.

A GDOT ICE procedure will be required for the intersections SR 60, US 129 and Monroe Avenue intersections that are either new or involve proposed changes. A traffic signal warrant study is required as part of the ICE Analysis. Once the control at the intersection is determined, the lanes needed to provide adequate LOS can be determined.

Figure 15 shows the proposed lane configurations at each of the study intersections.

Figure 15 – Proposed Lane Configuration



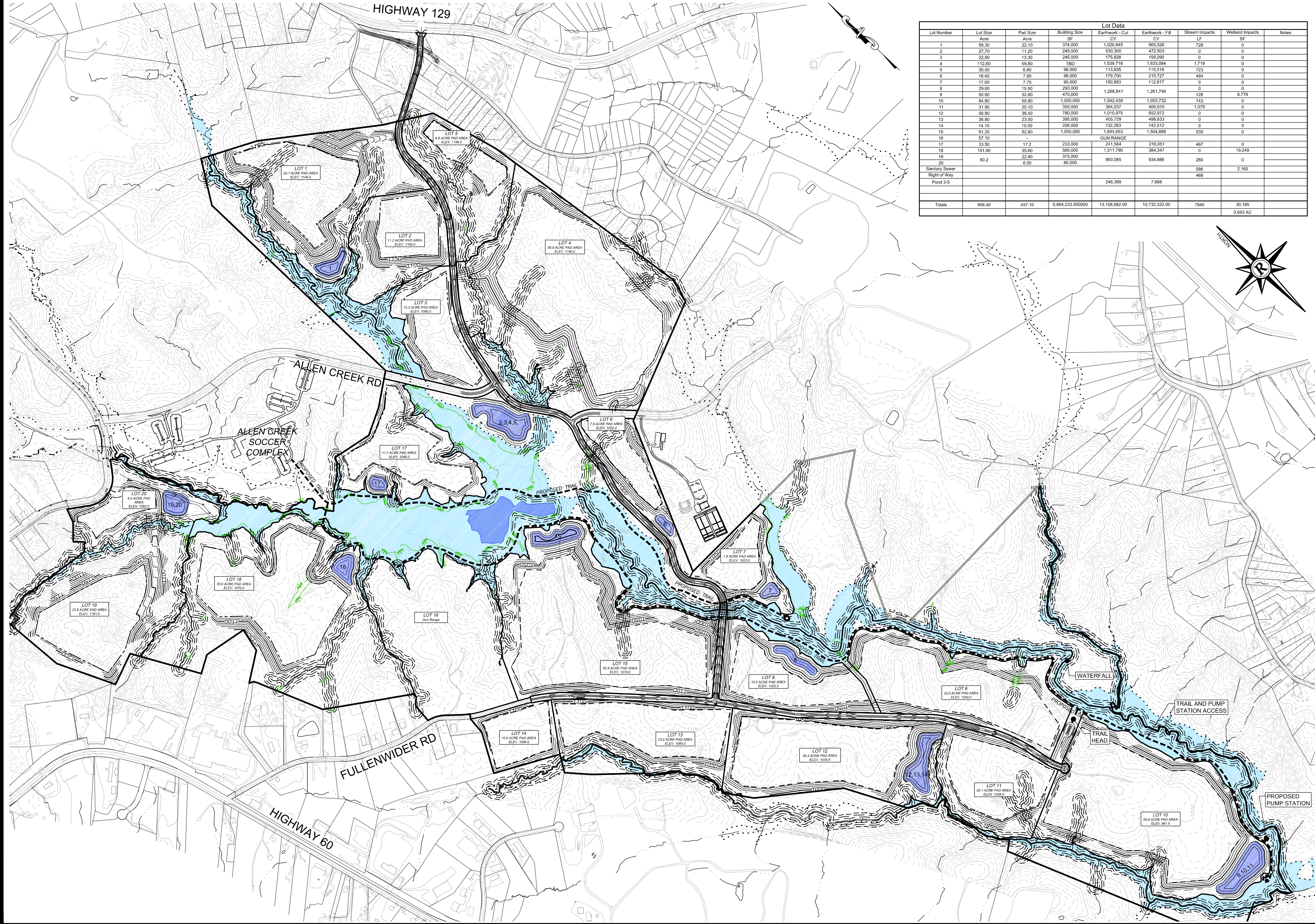
6. REFERENCES

- Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC, 2017.
- Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington, DC, 2014.
- Highway Capacity Manual, 6th Edition, Transportation Research Board, Washington, DC, 2016.
- Synchro, Version 10, Trafficware Ltd., Sugar Land, TX, 2014.
- Regulations for Driveway and Encroachment Control, Georgia Department of Transportation, Atlanta, GA, 2016.



Appendix A

Site Plan



Lot Data								
Lot Number	Lot Size Acre	Pad Size Acre	Building Size SF	Earthwork - Cut CY	Earthwork - Fill CY	Stream Impacts LF	Wetland Impacts SF	Notes
1	59.30	22.10	374,000	1,026,845	965,526	728	0	
2	27.70	11.20	245,000	530,300	472,503	0	0	
3	22.90	13.30	245,000	175,828	159,290	0	0	
4	112.50	59.80	780	1,539,716	1,633,094	1,719	0	
5	30.00	6.80	98,000	113,935	115,518	723	0	
6	18.40	7.90	98,000	179,700	215,727	484	0	
7	17.00	7.70	90,000	150,883	112,817	0	0	
8	29.60	15.50	293,000	1,268,841	1,261,748	0	0	
9	50.60	32.90	470,000	1,542,439	1,053,732	128	8,776	
10	84.80	65.80	1,000,000	394,037	400,910	743	0	
11	31.90	20.10	350,000	1,010,975	652,972	1,079	0	
12	56.80	36.40	780,000	405,729	498,633	0	0	
13	36.80	23.50	395,000	132,263	142,012	0	0	
14	14.10	10.00	206,000	1,844,653	1,504,888	0	0	
15	91.20	62.80	1,000,000	241,564	384,347	535	0	
16	57.10	-	GUN RANGE	216,051	467	0	0	
17	33.50	17.2	233,000	1,311,790	384,347	0	19,249	
18	101.90	35.60	375,000	993,085	934,886	280	0	
19	80.2	6.00	80,000			586	2,160	
20						468		
Sanitary Sewer Right of Way				246,399	7,688			
Pond 2-5								
Totals	956.40	457.10	6,664,233.000000	13,108,982.00	10,732,332.00	7940	30,185	0.693 AC

Rochester & Associates, Inc.
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(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

OVERALL GRADING PLAN

FOR:

ALLEN CREEK BUSINESS PARK

LOCATED IN

LAND LOT/DISTRICT

CITY OF

HALL COUNTY, GEORGIA

NO.		DATE	DESCRIPTION	REVISIONS

ANY CHANGES OR ALTERATIONS MADE TO THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE CLIENT. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

GRAPHIC SCALE

250' 0' 500' 1000'

SHEET

1

OF

2

DATE: 06.20.18

SCALE: 1"=500'

JOB NO. G190760.COG

DRAWN BY: MPP



Appendix B

Traffic Counts

All Traffic Data Services, Inc

Page 1

alltrafficdata.net

Site Code: 1
Station ID: 1
SR-60 NORTH OF FULLENWIDER ROAD

Start Time	24-Oct-19 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	114			31	135				
12:15		16	115			7	112				
12:30		20	128			12	148				
12:45		19	96	71	453	11	130	61	525	132	978
01:00		16	110			15	154				
01:15		25	112			6	135				
01:30		27	98			7	139				
01:45		15	114	83	434	7	134	35	562	118	996
02:00		17	127			7	164				
02:15		16	114			10	142				
02:30		20	151			16	137				
02:45		29	145	82	537	13	142	46	585	128	1122
03:00		20	139			11	170				
03:15		17	140			17	143				
03:30		21	155			14	181				
03:45		15	192	73	626	11	167	53	661	126	1287
04:00		11	183			18	163				
04:15		28	164			22	156				
04:30		31	173			44	172				
04:45		34	159	104	679	47	252	131	743	235	1422
05:00		33	180			53	190				
05:15		59	166			75	158				
05:30		83	137			81	228				
05:45		106	165	281	648	83	172	292	748	573	1396
06:00		90	139			73	171				
06:15		128	138			108	145				
06:30		157	106			174	151				
06:45		176	87	551	470	208	101	563	568	1114	1038
07:00		177	80			169	138				
07:15		179	73			159	109				
07:30		223	62			137	103				
07:45		169	55	748	270	106	85	571	435	1319	705
08:00		141	49			130	103				
08:15		162	35			106	98				
08:30		132	46			100	73				
08:45		126	42	561	172	98	61	434	335	995	507
09:00		132	29			100	66				
09:15		153	26			88	71				
09:30		95	20			101	73				
09:45		111	27	491	102	88	47	377	257	868	359
10:00		94	30			80	54				
10:15		103	18			83	43				
10:30		119	25			98	30				
10:45		93	19	409	92	95	32	356	159	765	251
11:00		132	24			88	32				
11:15		95	33			96	33				
11:30		131	25			116	30				
11:45		123	11	481	93	106	15	406	110	887	203
Total		3935	4576			3325	5688			7260	10264
Percent		46.2%	53.8%			36.9%	63.1%			41.4%	58.6%
Grand Total		3935	4576			3325	5688			7260	10264
Percent		46.2%	53.8%			36.9%	63.1%			41.4%	58.6%
ADT		ADT 17,524		AADT 17,524							

All Traffic Data Services, Inc

Page 1

alltrafficdata.net

Site Code: 2

Station ID: 2

MONROE DRIVE WEST OF ALLEN CREEK ROAD

Start Time	24-Oct-19 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	26			4	31				
12:15		1	31			0	24				
12:30		1	20			1	23				
12:45		3	23	12	100	1	24	6	102	18	202
01:00		2	27			3	18				
01:15		3	18			1	21				
01:30		2	21			2	27				
01:45		1	18	8	84	0	24	6	90	14	174
02:00		0	28			0	22				
02:15		3	26			3	21				
02:30		0	40			2	23				
02:45		1	32	4	126	1	19	6	85	10	211
03:00		5	28			2	27				
03:15		0	25			2	23				
03:30		3	36			4	25				
03:45		2	25	10	114	2	32	10	107	20	221
04:00		2	54			2	28				
04:15		1	39			1	34				
04:30		1	52			6	30				
04:45		3	58	7	203	6	20	15	112	22	315
05:00		1	64			6	26				
05:15		3	37			5	37				
05:30		4	64			15	26				
05:45		7	65	15	230	20	35	46	124	61	354
06:00		9	39			16	40				
06:15		16	30			27	36				
06:30		15	32			31	15				
06:45		16	34	56	135	47	17	121	108	177	243
07:00		14	44			35	30				
07:15		21	26			27	28				
07:30		36	14			44	51				
07:45		19	14	90	98	65	16	171	125	261	223
08:00		24	10			47	15				
08:15		30	7			17	14				
08:30		16	9			18	16				
08:45		26	12	96	38	18	40	100	85	196	123
09:00		18	9			23	25				
09:15		19	10			13	9				
09:30		17	5			19	16				
09:45		15	4	69	28	15	4	70	54	139	82
10:00		19	2			12	6				
10:15		16	4			19	3				
10:30		18	2			16	6				
10:45		15	4	68	12	14	3	61	18	129	30
11:00		10	3			20	5				
11:15		21	2			18	4				
11:30		23	7			21	12				
11:45		28	1	82	13	30	3	89	24	171	37
Total		517	1181			701	1034			1218	2215
Percent		30.4%	69.6%			40.4%	59.6%			35.5%	64.5%
Grand Total		517	1181			701	1034			1218	2215
Percent		30.4%	69.6%			40.4%	59.6%			35.5%	64.5%

ADT ADT 3,433 AADT 3,433

All Traffic Data Services, Inc

Page 1

alltrafficdata.net

Site Code: 3
Station ID: 3
HWY-129 NORTH OF GAINES MILL ROAD

Start Time	24-Oct-19 Thu	NB		Hour Totals		Direction 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		38	227			59	246				
12:15		44	221			49	226				
12:30		32	259			54	276				
12:45		37	260	151	967	28	232	190	980	341	1947
01:00		18	204			33	240				
01:15		26	210			32	287				
01:30		24	249			30	209				
01:45		16	222	84	885	39	246	134	982	218	1867
02:00		18	238			28	287				
02:15		20	250			45	278				
02:30		28	254			30	271				
02:45		44	275	110	1017	26	310	129	1146	239	2163
03:00		25	286			40	300				
03:15		21	314			33	361				
03:30		62	302			34	380				
03:45		48	304	156	1206	37	413	144	1454	300	2660
04:00		34	316			38	399				
04:15		62	322			42	496				
04:30		100	317			51	464				
04:45		130	397	326	1352	46	460	177	1819	503	3171
05:00		136	344			54	490				
05:15		194	320			90	498				
05:30		273	337			104	523				
05:45		268	355	871	1356	100	456	348	1967	1219	3323
06:00		322	300			148	388				
06:15		394	312			190	406				
06:30		403	270			188	394				
06:45		454	234	1573	1116	212	302	738	1490	2311	2606
07:00		439	201			222	346				
07:15		534	226			194	369				
07:30		641	208			212	326				
07:45		548	169	2162	804	176	298	804	1339	2966	2143
08:00		396	174			194	270				
08:15		353	124			198	284				
08:30		337	142			196	232				
08:45		294	130	1380	570	158	236	746	1022	2126	1592
09:00		231	104			156	227				
09:15		245	122			185	167				
09:30		268	96			186	168				
09:45		244	103	988	425	192	143	719	705	1707	1130
10:00		211	74			198	158				
10:15		216	102			194	150				
10:30		232	94			186	128				
10:45		234	66	893	336	186	104	764	540	1657	876
11:00		162	56			186	106				
11:15		231	69			206	108				
11:30		257	61			202	86				
11:45		222	47	872	233	228	54	822	354	1694	587
Total		9566	10267			5715	13798			15281	24065
Percent		48.2%	51.8%			29.3%	70.7%			38.8%	61.2%
Grand Total		9566	10267			5715	13798			15281	24065
Percent		48.2%	51.8%			29.3%	70.7%			38.8%	61.2%

ADT ADT 39,346 AADT 39,346

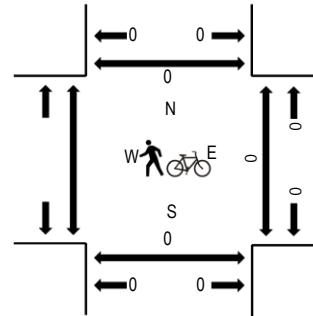
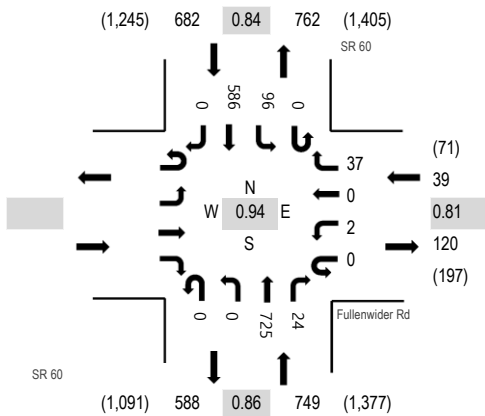


(303) 216-2439
www.alltrafficdata.net

Location: #1 SR 60 & Fullenwider Rd AM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 06:45 AM - 07:45 AM
Peak 15-Minutes: 06:45 AM - 07:00 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Eastbound				Fullenwider Rd Westbound				SR 60 Northbound				SR 60 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM					0	0	0	8	0	0	162	4	0	19	158	0	351	1,450	0	0	0	0
6:45 AM					0	1	0	9	0	0	161	10	0	23	189	0	393	1,470	0	0	0	0
7:00 AM					0	0	0	9	0	0	185	6	0	27	137	0	364	1,393	0	0	0	0
7:15 AM					0	0	0	12	0	0	162	6	0	25	137	0	342	1,314	0	0	0	0
7:30 AM					0	1	0	7	0	0	217	2	0	21	123	0	371	1,243	0	0	0	0
7:45 AM					0	1	0	6	0	0	163	6	0	23	117	0	316		0	0	0	0
8:00 AM					0	0	0	10	0	0	133	2	0	10	130	0	285		0	0	0	0
8:15 AM					0	1	0	6	0	0	155	3	0	10	96	0	271		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	8	0	0	7	0	0	3	19	0	37
Lights					0	1	0	22	0	0	696	24	0	91	523	0	1,357
Mediums					0	1	0	7	0	0	22	0	0	2	44	0	76
Total					0	2	0	37	0	0	725	24	0	96	586	0	1,470

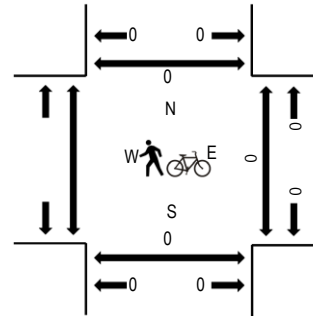
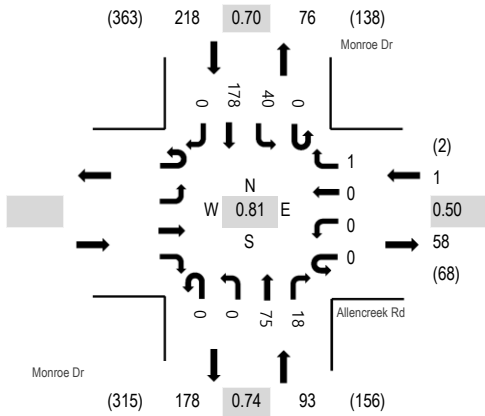


(303) 216-2439
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Location: #2 Monroe Dr & Allencreek Rd AM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time					Allencreek Rd				Monroe Dr				Monroe Dr				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound									
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM					0	0	0	0	0	0	15	0	0	0	36	0	51	222		0	0	0
6:45 AM					0	0	0	1	0	0	15	0	0	1	52	0	69	260		0	0	0
7:00 AM					0	0	0	0	0	0	12	1	0	1	29	0	43	287		0	0	0
7:15 AM					0	0	0	0	0	0	11	7	0	9	32	0	59	312		0	0	0
7:30 AM					0	0	0	1	0	0	23	9	0	15	41	0	89	299		0	0	0
7:45 AM					0	0	0	0	0	0	16	2	0	13	65	0	96		0	0	0	
8:00 AM					0	0	0	0	0	0	25	0	0	3	40	0	68		0	0	0	
8:15 AM					0	0	0	0	0	0	19	1	0	6	20	0	46		0	0	0	

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	1	0	0	0	2	0	3
Lights					0	0	0	1	0	0	66	18	0	40	166	0	291
Mediums					0	0	0	0	0	0	8	0	0	0	10	0	18
Total					0	0	0	1	0	0	75	18	0	40	178	0	312

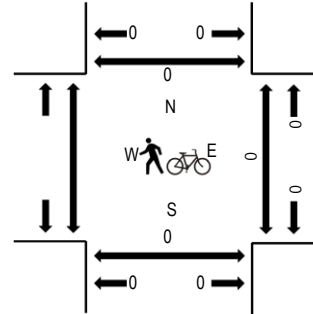
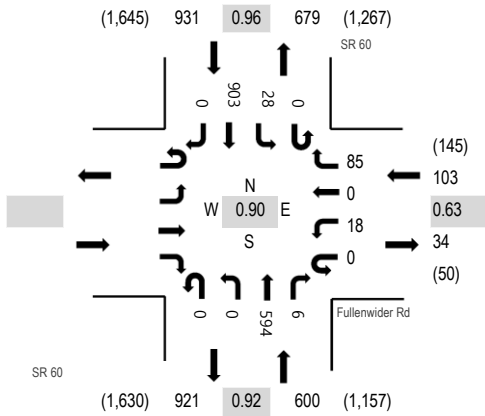


(303) 216-2439
www.alltrafficdata.net

Location: #1 SR 60 & Fullenwider Rd PM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Eastbound				Fullenwider Rd Westbound				SR 60 Northbound				SR 60 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM					0	4	0	21	0	0	141	4	0	13	192	0	375	1,634	0	0	0	0
4:45 PM					0	4	0	19	0	0	130	1	0	7	242	0	403	1,632	0	0	0	0
5:00 PM					0	9	0	32	0	0	166	1	0	6	242	0	456	1,572	0	0	0	0
5:15 PM					0	1	0	13	0	0	157	0	0	2	227	0	400	1,433	0	0	0	0
5:30 PM					0	2	0	4	0	0	135	0	0	3	229	0	373	1,313	0	0	0	0
5:45 PM					0	2	0	12	0	0	156	1	0	2	170	0	343		0	0	0	0
6:00 PM					0	5	0	13	0	0	129	0	0	5	165	0	317		0	0	0	0
6:15 PM					0	1	0	3	0	0	136	0	0	5	135	0	280		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	2	0	0	12	2	0	3	11	0	30
Lights					0	18	0	78	0	0	557	4	0	18	863	0	1,538
Mediums					0	0	0	5	0	0	25	0	0	7	29	0	66
Total					0	18	0	85	0	0	594	6	0	28	903	0	1,634

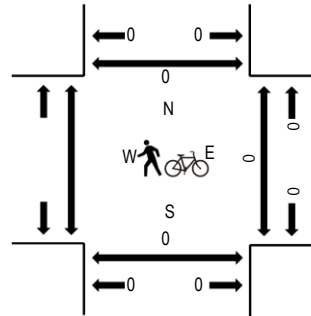
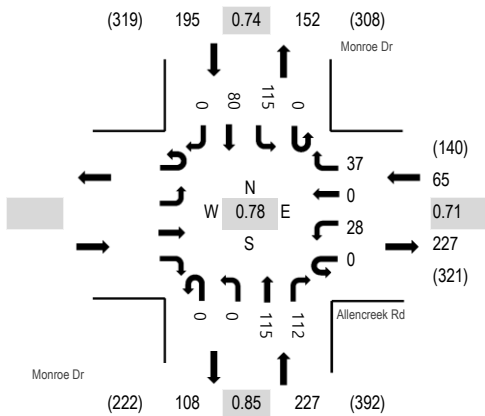


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Location: #2 Monroe Dr & Allencreek Rd PM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Eastbound				Allencreek Rd Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM					0	0	0	0	0	0	38	9	0	6	22	0	75	380	0	0	0	0
4:45 PM					0	0	0	3	0	0	39	13	0	8	21	0	84	415	0	0	0	0
5:00 PM					0	4	0	9	0	0	48	19	0	16	22	0	118	487	0	0	0	0
5:15 PM					0	6	0	10	0	0	24	13	0	24	26	0	103	482	0	0	0	0
5:30 PM					0	9	0	3	0	0	23	35	0	29	11	0	110	471	0	0	0	0
5:45 PM					0	9	0	15	0	0	20	45	0	46	21	0	156		0	0	0	0
6:00 PM					0	20	0	14	0	0	20	17	0	22	20	0	113		0	0	0	0
6:15 PM					0	16	0	22	0	0	20	9	0	10	15	0	92		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	0	1	0	0	2	0	3
Lights					0	28	0	37	0	0	114	110	0	115	71	0	475
Mediums					0	0	0	0	0	0	1	1	0	0	7	0	9
Total					0	28	0	37	0	0	115	112	0	115	80	0	487



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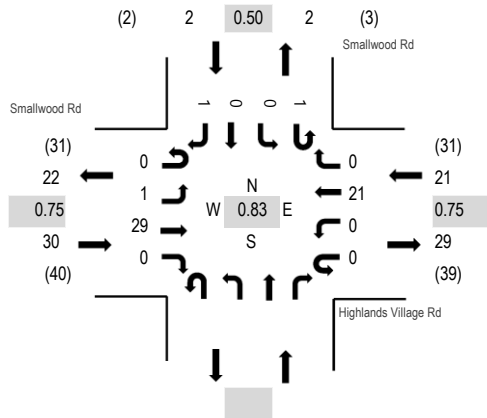
Location: #1 Smallwood Rd & Highlands Village Rd AM

Date and Start Time: Tuesday, November 19, 2019

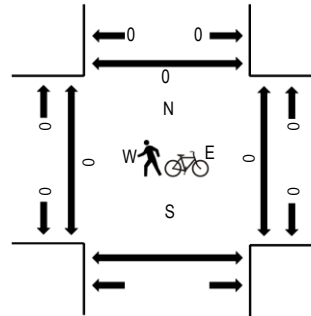
Peak Hour: 06:30 AM - 07:30 AM

Peak 15-Minutes: 06:30 AM - 06:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Smallwood Rd Eastbound				Highlands Village Rd Westbound				Northbound				Smallwood Rd Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	0	8	0	0	0	0	7	0				1	0	0	0	16	53	0	0	0	0
6:45 AM	0	0	10	0	0	0	0	5	0				0	0	0	0	15	44	0	0	0	0
7:00 AM	0	0	6	0	0	0	0	3	0				0	0	0	0	9	34	0	0	0	0
7:15 AM	0	1	5	0	0	0	0	6	0				0	0	0	1	13	30	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	2	0				0	0	0	0	7	20	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	3	1				0	0	0	0	5		0	0	0	0
8:00 AM	0	0	3	0	0	0	0	2	0				0	0	0	0	5		0	0	0	0
8:15 AM	0	0	1	0	0	0	0	2	0				0	0	0	0	3		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Lights	0	1	29	0	0	0	17	0					1	0	0	1	49
Mediums	0	0	0	0	0	0	4	0					0	0	0	0	4
Total	0	1	29	0	0	0	21	0					1	0	0	1	53



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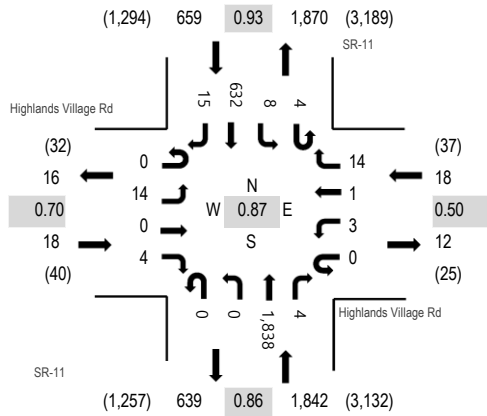
Location: #2 SR-11 & Highlands Village Rd AM

Date and Start Time: Tuesday, November 19, 2019

Peak Hour: 07:00 AM - 08:00 AM

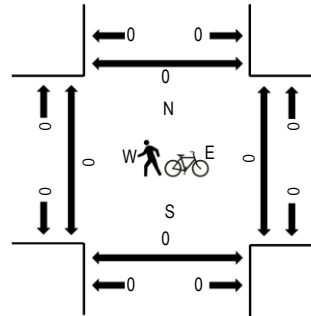
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Highlands Village Rd Eastbound				Highlands Village Rd Westbound				SR-11 Northbound				SR-11 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	8	0	0	0	0	1	11	0	2	337	5	0	1	160	4	529	2,189	0	0	0	0
6:45 AM	0	10	0	0	0	0	0	2	0	0	307	0	0	0	149	5	473	2,390	0	0	0	0
7:00 AM	0	4	0	1	0	0	0	2	0	0	386	1	1	2	149	3	549	2,537	0	0	0	0
7:15 AM	0	4	0	1	0	2	1	5	0	0	453	0	0	4	162	6	638	2,523	0	0	0	0
7:30 AM	0	5	0	2	0	0	0	5	0	0	532	3	1	1	179	2	730	2,314	0	0	0	0
7:45 AM	0	1	0	0	0	1	0	2	0	0	467	0	2	1	142	4	620		0	0	0	0
8:00 AM	0	2	0	0	0	2	0	3	0	0	352	1	0	5	168	2	535		0	0	0	0
8:15 AM	0	2	0	0	0	0	0	0	1	0	284	1	1	0	138	2	429		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	52	0	0	0	33	0	85
Lights	0	14	0	4	0	3	1	12	0	0	1,733	3	4	6	570	14	2,364
Mediums	0	0	0	0	0	0	0	2	0	0	53	1	0	2	29	1	88
Total	0	14	0	4	0	3	1	14	0	0	1,838	4	4	8	632	15	2,537



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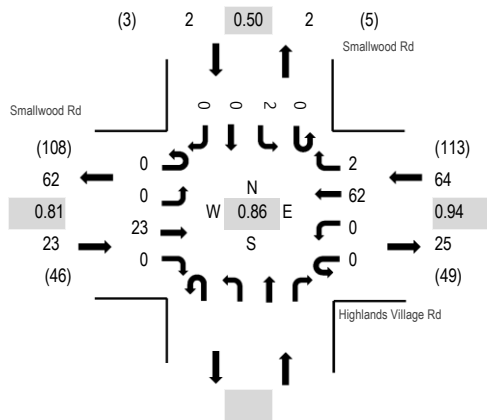
Location: #1 Smallwood Rd & Highlands Village Rd PM

Date and Start Time: Tuesday, November 19, 2019

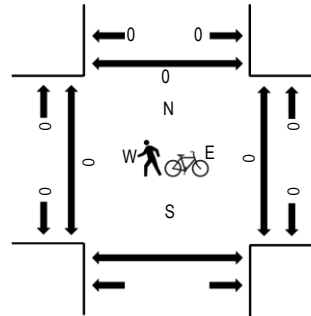
Peak Hour: 05:30 PM - 06:30 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Smallwood Rd Eastbound				Highlands Village Rd Westbound				Northbound				Smallwood Rd Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	0	2	0	0	0	0	8	1				0	0	0	0	11	73	0	0		0
4:45 PM	0	0	9	0	0	0	0	13	1				0	0	0	0	23	88	0	0		0
5:00 PM	0	0	6	0	0	0	0	14	0				0	1	0	0	21	88	0	0		0
5:15 PM	0	0	6	0	0	0	0	11	1				0	0	0	0	18	86	0	0		0
5:30 PM	0	0	8	0	0	0	0	16	1				0	1	0	0	26	89	0	0		0
5:45 PM	0	0	7	0	0	0	0	16	0				0	0	0	0	23		0	0		0
6:00 PM	0	0	5	0	0	0	0	14	0				0	0	0	0	19		0	0		0
6:15 PM	0	0	3	0	0	0	0	16	1				0	1	0	0	21		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Lights	0	0	22	0	0	0	62	2					0	2	0	0	88
Mediums	0	0	1	0	0	0	0	0					0	0	0	0	1
Total	0	0	23	0	0	0	62	2					0	2	0	0	89



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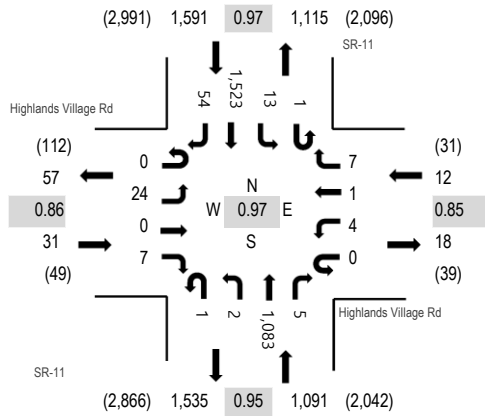
Location: #2 SR-11 & Highlands Village Rd PM

Date and Start Time: Tuesday, November 19, 2019

Peak Hour: 04:45 PM - 05:45 PM

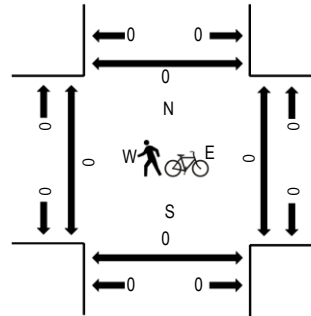
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Highlands Village Rd Eastbound				Highlands Village Rd Westbound				SR-11 Northbound				SR-11 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	2	0	0	0	1	0	6	0	0	278	1	0	6	373	9	676	2,717	0	0	0	0
4:45 PM	0	8	0	1	0	1	1	2	0	0	278	0	0	3	382	14	690	2,725	0	0	0	0
5:00 PM	0	6	0	1	0	0	0	1	0	0	279	1	0	3	395	13	699	2,664	0	0	0	0
5:15 PM	0	6	0	0	0	1	0	1	0	2	242	2	0	4	384	10	652	2,485	0	0	0	0
5:30 PM	0	4	0	5	0	2	0	3	1	0	284	2	1	3	362	17	684	2,396	0	0	0	0
5:45 PM	0	5	1	0	0	1	1	3	0	0	229	1	1	3	369	15	629		0	0	0	0
6:00 PM	0	5	0	0	0	0	0	5	0	0	210	0	0	7	279	14	520		0	1	0	0
6:15 PM	0	5	0	0	0	0	0	2	0	1	230	1	0	1	308	15	563		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	43	0	0	0	42	0	85
Lights	0	23	0	7	0	4	1	7	1	2	1,018	5	1	13	1,458	53	2,593
Mediums	0	1	0	0	0	0	0	0	0	0	22	0	0	0	23	1	47
Total	0	24	0	7	0	4	1	7	1	2	1,083	5	1	13	1,523	54	2,725



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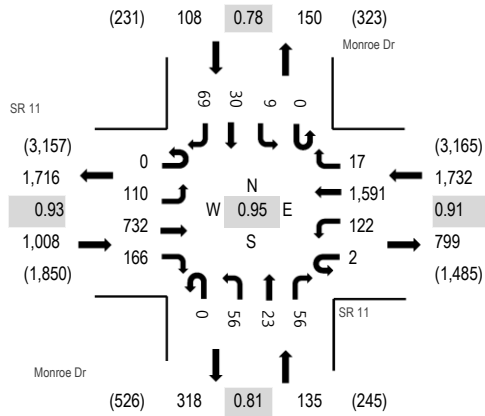
Location: #1 Monroe Dr & SR 11 AM

Date and Start Time: Wednesday, December 4, 2019

Peak Hour: 07:00 AM - 08:00 AM

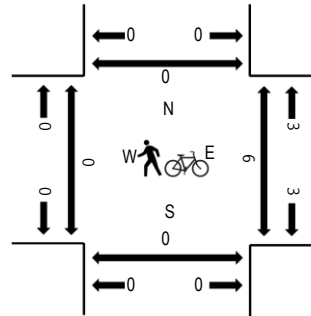
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 11 Eastbound				SR 11 Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	26	153	25	0	24	351	13	0	7	3	1	0	1	6	30	640	2,781	0	0	0	0
6:45 AM	0	32	169	19	3	35	354	18	0	4	9	19	0	3	11	26	702	2,929	0	1	0	0
7:00 AM	0	24	176	32	1	28	346	8	0	14	0	13	0	5	4	10	661	2,983	0	3	0	0
7:15 AM	0	31	189	51	1	31	410	3	0	11	6	17	0	1	9	18	778	2,947	0	1	0	0
7:30 AM	0	26	170	43	0	30	441	3	0	18	13	13	0	2	9	20	788	2,710	0	0	0	0
7:45 AM	0	29	197	40	0	33	394	3	0	13	4	13	0	1	8	21	756		0	2	0	0
8:00 AM	0	38	163	30	0	22	314	3	0	17	11	6	0	1	2	18	625		0	0	0	0
8:15 AM	0	15	152	20	1	7	285	3	0	17	2	14	0	0	7	18	541		0	2	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	6	32	4	0	2	45	1	0	2	0	4	0	0	2	2	100
Lights	0	101	674	151	2	117	1,509	14	0	40	22	39	0	9	26	61	2,765
Mediums	0	3	26	11	0	3	37	2	0	14	1	13	0	0	2	6	118
Total	0	110	732	166	2	122	1,591	17	0	56	23	56	0	9	30	69	2,983



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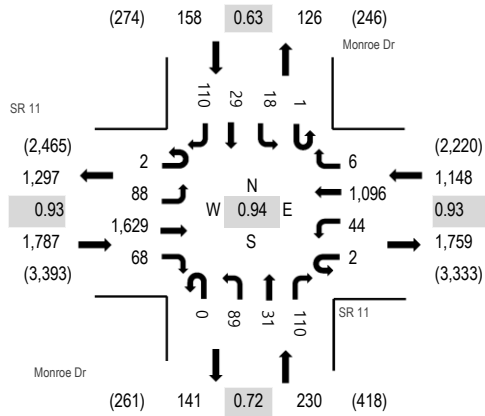
Location: #1 Monroe Dr & SR 11 PM

Date and Start Time: Wednesday, December 4, 2019

Peak Hour: 04:45 PM - 05:45 PM

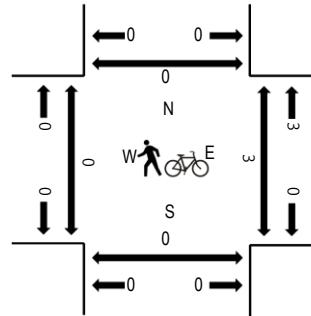
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 11 Eastbound				SR 11 Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	25	366	17	0	12	247	6	0	24	11	25	0	5	8	35	781	3,270	0	3	0	0
4:45 PM	1	22	375	28	0	17	266	0	0	12	10	21	0	2	9	20	783	3,323	0	2	0	0
5:00 PM	1	14	388	15	0	10	240	2	0	40	10	33	0	12	5	56	826	3,297	0	0	0	0
5:15 PM	0	24	451	11	1	8	299	1	0	20	6	28	1	2	9	19	880	3,254	0	0	0	0
5:30 PM	0	28	415	14	1	9	291	3	0	17	5	28	0	2	6	15	834	3,035	0	1	0	0
5:45 PM	0	14	416	15	0	11	230	3	0	20	6	17	0	1	5	19	757		0	0	0	0
6:00 PM	0	16	394	8	0	13	279	3	0	19	8	20	0	2	5	16	783		0	0	0	0
6:15 PM	0	16	309	10	0	12	250	6	0	14	6	18	0	1	4	15	661		0	1	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	41	4	0	5	33	0	0	2	0	3	0	1	2	1	92
Lights	2	86	1,562	62	2	36	1,050	5	0	86	29	106	1	17	27	109	3,180
Mediums	0	2	26	2	0	3	13	1	0	1	2	1	0	0	0	0	51
Total	2	88	1,629	68	2	44	1,096	6	0	89	31	110	1	18	29	110	3,323



Appendix C

Synchro and HCM Reports

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	37	725	24	96	586
Future Volume (vph)	2	37	725	24	96	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.872		0.996			
Flt Protected	0.998					0.993
Satd. Flow (prot)	1169	0	1822	0	0	1713
Flt Permitted	0.998					0.993
Satd. Flow (perm)	1169	0	1822	0	0	1713
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	50%	41%	4%	0%	5%	11%
Adj. Flow (vph)	2	39	771	26	102	623
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	797	0	0	725
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 89.1%				ICU Level of Service E		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	37	725	24	96	586
Future Vol, veh/h	2	37	725	24	96	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	50	41	4	0	5	11
Mvmt Flow	2	39	771	26	102	623
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1611	784	0	0	797	0
Stage 1	784	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Critical Hdwy	6.9	6.61	-	-	4.15	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.669	-	-	2.245	-
Pot Cap-1 Maneuver	89	338	-	-	812	-
Stage 1	376	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	72	338	-	-	812	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	19.8	0		1.4		
HCM LOS	C					
Minor Lane/Major Mvmt		NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)		-	-	284	812	-
HCM Lane V/C Ratio		-	-	0.146	0.126	-
HCM Control Delay (s)		-	-	19.8	10.1	0
HCM Lane LOS		-	-	C	B	A
HCM 95th %tile Q(veh)		-	-	0.5	0.4	-

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	75	18	40	178
Future Volume (vph)	0	1	75	18	40	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.974			
Flt Protected						0.991
Satd. Flow (prot)	1900	1615	1687	0	0	1781
Flt Permitted						0.991
Satd. Flow (perm)	1900	1615	1687	0	0	1781
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	12%	0%	0%	7%
Adj. Flow (vph)	0	1	93	22	49	220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1	115	0	0	269
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 21.6%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	75	18	40	178
Future Vol, veh/h	0	1	75	18	40	178
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	12	0	0	7
Mvmt Flow	0	1	93	22	49	220
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	422	104	0	0	115	0
Stage 1	104	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	592	956	-	-	1487	-
Stage 1	925	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	570	956	-	-	1487	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		1.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	956	1487	-
HCM Lane V/C Ratio	-	-	-	0.001	0.033	-
HCM Control Delay (s)	-	-	0	8.8	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0.1	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	110	732	166	2	122	1591	17	56	23	56	9	30
Future Volume (vph)	110	732	166	2	122	1591	17	56	23	56	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.99	
Frt			0.850				0.850		0.893			0.896
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3343	1482	0	1737	3438	1369	1399	1385	0	1805	1516
Flt Permitted	0.096				0.338			0.650			0.703	
Satd. Flow (perm)	169	3343	1445	0	618	3438	1369	957	1385	0	1321	1516
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			175				76		59			64
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Confl. Peds. (#/hr)			6								6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	9%	0%	4%	5%	18%	29%	4%	30%	0%	13%
Adj. Flow (vph)	116	771	175	2	128	1675	18	59	24	59	9	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	771	175	0	130	1675	18	59	83	0	9	105
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Flt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	12%
Adj. Flow (vph)	73
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	114.8	106.5	106.5		114.6	106.3	106.3	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.77	0.71	0.71		0.76	0.71	0.71	0.11	0.11		0.11	0.11
v/c Ratio	0.55	0.32	0.16		0.24	0.69	0.02	0.58	0.41		0.06	0.48
Control Delay	17.3	9.2	1.5		4.9	15.3	0.1	84.4	27.9		57.9	33.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	17.3	9.2	1.5		4.9	15.3	0.1	84.4	27.9		57.9	33.3
LOS	B	A	A		A	B	A	F	C		E	C
Approach Delay		8.8				14.4			51.4			35.3
Approach LOS		A				B			D			D
Queue Length 50th (ft)	20	137	0		23	447	0	56	22		8	37
Queue Length 95th (ft)	62	206	27		47	641	0	104	73		26	97
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	231	2373	1077		556	2436	992	144	258		199	282
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.50	0.32	0.16		0.23	0.69	0.02	0.41	0.32		0.05	0.37

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 14.9

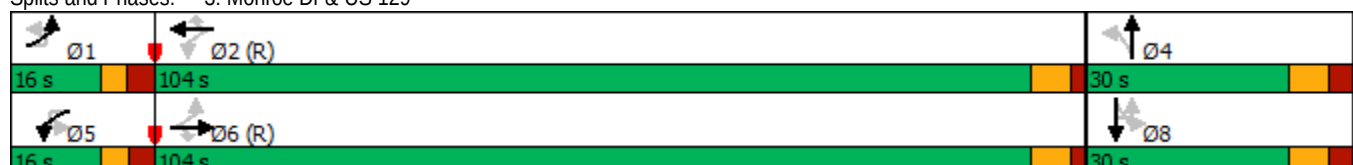
Intersection LOS: B

Intersection Capacity Utilization 76.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBR
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: US 129 & Highlands Village Rd

Existing AM
12/10/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	0	4	3	1	14	0	1838	4	4	8	632
Future Volume (vph)	14	0	4	3	1	14	0	1838	4	4	8	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.968				0.850			0.850			
Flt Protected		0.963			0.964						0.950	
Satd. Flow (prot)	0	1771	0	0	1832	1417	1900	3406	1292	0	1555	3282
Flt Permitted		0.963			0.964						0.950	
Satd. Flow (perm)	0	1771	0	0	1832	1417	1900	3406	1292	0	1555	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		424			653			2889				1747
Travel Time (s)		11.6			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	14%	0%	6%	25%	0%	25%	10%
Adj. Flow (vph)	16	0	5	3	1	16	0	2113	5	5	9	726
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	4	16	0	2113	5	0	14	726
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 67.5%	ICU Level of Service C											
Analysis Period (min) 15												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1509
Flt Permitted	
Satd. Flow (perm)	1509
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	7%
Adj. Flow (vph)	17
Shared Lane Traffic (%)	
Lane Group Flow (vph)	17
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	1.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	0	4	3	1	14	0	1838	4	4	8	632	15
Future Vol, veh/h	14	0	4	3	1	14	0	1838	4	4	8	632	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	14	0	6	25	0	25	10	7
Mvmt Flow	16	0	5	3	1	16	0	2113	5	5	9	726	17
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	1811	2872	363	2504	2884	1057	743	0	0	2113	2118	0	0
Stage 1	754	754	-	2113	2113	-	-	-	-	-	-	-	-
Stage 2	1057	2118	-	391	771	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.18	4.1	-	-	6.4	4.6	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.44	2.2	-	-	2.5	2.45	-	-
Pot Cap-1 Maneuver	50	17	640	15	16	202	873	-	-	64	185	-	-
Stage 1	372	420	-	53	93	-	-	-	-	-	-	-	-
Stage 2	244	92	-	610	413	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	39	15	640	13	14	202	873	-	-	109	109	-	-
Mov Cap-2 Maneuver	39	15	-	13	14	-	-	-	-	-	-	-	-
Stage 1	372	366	-	53	93	-	-	-	-	-	-	-	-
Stage 2	222	92	-	528	360	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB						
HCM Control Delay, s	124.1		106.1		0		0.8						
HCM LOS	F		F										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	873	-	-	49	13	202	109	-	-				
HCM Lane V/C Ratio	-	-	-	0.422	0.354	0.08	0.127	-	-				
HCM Control Delay (s)	0	-	-	124.1	391.9	24.4	42.7	-	-				
HCM Lane LOS	A	-	-	F	F	C	E	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	0.9	0.3	0.4	-	-				



Lane Group	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations		↕	↕			↕	
Traffic Volume (vph)	1	29	21	0	1	0	1
Future Volume (vph)	1	29	21	0	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.932	
Flt Protected		0.999				0.976	
Satd. Flow (prot)	0	1898	1597	0	0	1728	0
Flt Permitted		0.999				0.976	
Satd. Flow (perm)	0	1898	1597	0	0	1728	0
Link Speed (mph)		25	30			25	
Link Distance (ft)		1416	424			1013	
Travel Time (s)		38.6	9.6			27.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	19%	0%	0%	0%	0%
Adj. Flow (vph)	1	35	25	0	1	0	1
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	36	25	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	R NA	Left	Right
Median Width(ft)		0	0			12	
Link Offset(ft)		0	0			0	
Crosswalk Width(ft)		16	16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	9	15	9
Sign Control		Free	Free			Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	13.3%			ICU Level of Service A			
Analysis Period (min)	15						

Intersection							
Int Delay, s/veh	0.4						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	1	29	21	0	1	0	1
Future Vol, veh/h	1	29	21	0	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	19	0	0	0	0
Mvmt Flow	1	35	25	0	1	0	1
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	25	0	-	0	0	62	25
Stage 1	-	-	-	-	0	25	-
Stage 2	-	-	-	-	0	37	-
Critical Hdwy	4.1	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1603	-	-	-	0	949	1057
Stage 1	-	-	-	-	0	1003	-
Stage 2	-	-	-	-	0	991	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1603	-	-	-	0	948	1057
Mov Cap-2 Maneuver	-	-	-	-	0	948	-
Stage 1	-	-	-	-	0	1002	-
Stage 2	-	-	-	-	0	991	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.2	0		8.4			
HCM LOS	A						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	1603	-	-	-	1057		
HCM Lane V/C Ratio	0.001	-	-	-	0.001		
HCM Control Delay (s)	7.2	0	-	-	8.4		
HCM Lane LOS	A	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-	0		

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	85	594	6	28	903
Future Volume (vph)	18	85	594	6	28	903
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.889		0.999			
Flt Protected	0.991					0.999
Satd. Flow (prot)	1570	0	1786	0	0	1808
Flt Permitted	0.991					0.999
Satd. Flow (perm)	1570	0	1786	0	0	1808
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	8%	6%	33%	36%	4%
Adj. Flow (vph)	20	94	660	7	31	1003
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	667	0	0	1034
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	83.0%			ICU Level of Service E		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	85	594	6	28	903
Future Vol, veh/h	18	85	594	6	28	903
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	8	6	33	36	4
Mvmt Flow	20	94	660	7	31	1003
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1729	664	0	0	667	0
Stage 1	664	-	-	-	-	-
Stage 2	1065	-	-	-	-	-
Critical Hdwy	6.4	6.28	-	-	4.46	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	-	-	2.524	-
Pot Cap-1 Maneuver	98	450	-	-	782	-
Stage 1	516	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	450	-	-	782	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	28.8	0	0.3			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	263	782	-	
HCM Lane V/C Ratio	-	-	0.435	0.04	-	
HCM Control Delay (s)	-	-	28.8	9.8	0	
HCM Lane LOS	-	-	D	A	A	
HCM 95th %tile Q(veh)	-	-	2.1	0.1	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	28	37	115	112	115	80
Future Volume (vph)	28	37	115	112	115	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.933			
Flt Protected	0.950					0.971
Satd. Flow (prot)	1805	1615	1747	0	0	1765
Flt Permitted	0.950					0.971
Satd. Flow (perm)	1805	1615	1747	0	0	1765
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	1%	2%	0%	11%
Adj. Flow (vph)	36	47	147	144	147	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	47	291	0	0	250
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 36.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	37	115	112	115	80
Future Vol, veh/h	28	37	115	112	115	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	1	2	0	11
Mvmt Flow	36	47	147	144	147	103
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	616	219	0	0	291	0
Stage 1	219	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	457	826	-	-	1282	-
Stage 1	822	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	401	826	-	-	1282	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.9	0	4.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	401	826	1282	-
HCM Lane V/C Ratio	-	-	0.09	0.057	0.115	-
HCM Control Delay (s)	-	-	14.9	9.6	8.2	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0.4	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	88	1629	68	2	44	1096	6	89	31	110	1
Future Volume (vph)	2	88	1629	68	2	44	1096	6	89	31	110	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		0	
Storage Lanes		1		1		1		1	1		0	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor										0.99		
Frt				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1482	0	1539	3471	1380	1752	1585	0	0
Flt Permitted		0.198				0.089			0.505			
Satd. Flow (perm)	0	369	3471	1482	0	144	3471	1380	932	1585	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		96		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Confl. Peds. (#/hr)											3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	9%	0%	18%	4%	17%	3%	6%	4%	0%
Adj. Flow (vph)	2	94	1733	72	2	47	1166	6	95	33	117	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	1733	72	0	49	1166	6	95	150	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	18	29	110
Future Volume (vph)	18	29	110
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		0
Storage Lanes	1		0
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Ped Bike Factor	1.00		
Frt		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1708	1637	0
Flt Permitted	0.499		
Satd. Flow (perm)	893	1637	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		103	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Confl. Peds. (#/hr)	3		
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	6%	7%	1%
Adj. Flow (vph)	19	31	117
Shared Lane Traffic (%)			
Lane Group Flow (vph)	20	148	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		Cl+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		121.5	114.9	114.9		118.6	111.6	111.6	21.2	21.2		
Actuated g/c Ratio		0.76	0.72	0.72		0.74	0.70	0.70	0.13	0.13		
v/c Ratio		0.28	0.70	0.07		0.30	0.48	0.01	0.77	0.51		
Control Delay		6.7	16.2	2.2		9.6	12.6	0.0	102.6	29.7		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		6.7	16.2	2.2		9.6	12.6	0.0	102.6	29.7		
LOS		A	B	A		A	B	A	F	C		
Approach Delay			15.2				12.4			58.0		
Approach LOS			B				B			E		
Queue Length 50th (ft)		21	531	1		10	275	0	97	51		
Queue Length 95th (ft)		41	714	19		24	379	0	162	123		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180			
Base Capacity (vph)		420	2491	1083		188	2420	983	160	352		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.23	0.70	0.07		0.26	0.48	0.01	0.59	0.43		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 17.9

Intersection LOS: B

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	21.2	21.2	
Actuated g/C Ratio	0.13	0.13	
v/c Ratio	0.17	0.48	
Control Delay	62.2	26.0	
Queue Delay	0.0	0.0	
Total Delay	62.2	26.0	
LOS	E	C	
Approach Delay		30.3	
Approach LOS		C	
Queue Length 50th (ft)	19	42	
Queue Length 95th (ft)	47	113	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		
Base Capacity (vph)	154	367	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.13	0.40	
Intersection Summary			

Lanes, Volumes, Timings
4: US 129 & Highlands Village Rd

Existing PM
12/12/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	24	0	7	4	1	7	1	2	1083	5	1	13
Future Volume (vph)	24	0	7	4	1	7	1	2	1083	5	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.970				0.850				0.850		
Flt Protected		0.962			0.962			0.950				0.950
Satd. Flow (prot)	0	1719	0	0	1828	1615	0	1805	3406	1615	0	1805
Flt Permitted		0.962			0.962			0.950				0.950
Satd. Flow (perm)	0	1719	0	0	1828	1615	0	1805	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		269			653				2889			
Travel Time (s)		7.3			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Adj. Flow (vph)	25	0	7	4	1	7	1	2	1116	5	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	5	7	0	3	1116	5	0	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 57.2%	ICU Level of Service B											
Analysis Period (min) 15												

		
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1523	54
Future Volume (vph)	1523	54
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1583
Flt Permitted		
Satd. Flow (perm)	3471	1583
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	2%
Adj. Flow (vph)	1570	56
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1570	56
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

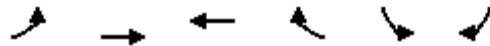
Intersection															
Int Delay, s/veh	4.7														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Vol, veh/h	24	0	7	4	1	7	1	2	1083	5	1	13	1523	54	
Future Vol, veh/h	24	0	7	4	1	7	1	2	1083	5	1	13	1523	54	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	Yield	-	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150	
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97	97	
Heavy Vehicles, %	4	0	0	0	0	0	0	0	6	0	0	0	4	2	
Mvmt Flow	25	0	7	4	1	7	1	2	1116	5	1	13	1570	56	

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	2163	2725	785	1935	2776	558	1570	1626	0	0	1116	1121	0	0
Stage 1	1598	1598	-	1122	1122	-	-	-	-	-	-	-	-	-
Stage 2	565	1127	-	813	1654	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	26	21	340	41	19	478	145	405	-	-	285	631	-	-
Stage 1	109	167	-	223	284	-	-	-	-	-	-	-	-	-
Stage 2	472	282	-	343	157	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	~ 24	20	340	39	18	478	250	250	-	-	579	579	-	-
Mov Cap-2 Maneuver	~ 24	20	-	39	18	-	-	-	-	-	-	-	-	-
Stage 1	108	163	-	220	281	-	-	-	-	-	-	-	-	-
Stage 2	458	279	-	328	153	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB				SB					
HCM Control Delay, s	\$ 380		64.9		0.1				0.1					
HCM LOS	F		F											

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	250	-	-	30	32	478	579	-	-
HCM Lane V/C Ratio	0.012	-	-	1.065	0.161	0.015	0.025	-	-
HCM Control Delay (s)	19.6	-	-	\$ 380	138	12.6	11.4	-	-
HCM Lane LOS	C	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.6	0.5	0	0.1	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	23	62	2	2	0
Future Volume (vph)	0	23	62	2	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996			
Flt Protected					0.950	
Satd. Flow (prot)	0	1827	1892	0	1805	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1827	1892	0	1805	0
Link Speed (mph)		25	30		25	
Link Distance (ft)		1416	269		945	
Travel Time (s)		38.6	6.1		25.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	27	72	2	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	27	74	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	13.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	62	2	2	0
Future Vol, veh/h	0	23	62	2	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	0	0
Mvmt Flow	0	27	72	2	2	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	74	0	-	0	100	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1538	-	-	-	904	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1538	-	-	-	904	995
Mov Cap-2 Maneuver	-	-	-	-	904	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	1001	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1538	-	-	-	904	
HCM Lane V/C Ratio	-	-	-	-	0.003	
HCM Control Delay (s)	0	-	-	-	9	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	62	1218	40	161	984
Future Volume (vph)	3	62	1218	40	161	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871		0.996			
Flt Protected	0.998					0.993
Satd. Flow (prot)	1168	0	1822	0	0	1713
Flt Permitted	0.998					0.993
Satd. Flow (perm)	1168	0	1822	0	0	1713
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	50%	41%	4%	0%	5%	11%
Adj. Flow (vph)	3	66	1296	43	171	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	1339	0	0	1218
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 141.2%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	12.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	62	1218	40	161	984
Future Vol, veh/h	3	62	1218	40	161	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	50	41	4	0	5	11
Mvmt Flow	3	66	1296	43	171	1047
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2707	1318	0	0	1339	0
Stage 1	1318	-	-	-	-	-
Stage 2	1389	-	-	-	-	-
Critical Hdwy	6.9	6.61	-	-	4.15	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.669	-	-	2.245	-
Pot Cap-1 Maneuver	16	159	-	-	505	-
Stage 1	199	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 3	159	-	-	505	-
Mov Cap-2 Maneuver	~ 3	-	-	-	-	-
Stage 1	38	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 436.5	0	2.2			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	47	505	-	
HCM Lane V/C Ratio	-	-	1.471	0.339	-	
HCM Control Delay (s)	-	-	\$ 436.5	15.7	0	
HCM Lane LOS	-	-	F	C	A	
HCM 95th %tile Q(veh)	-	-	6.7	1.5	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	2	126	30	67	299
Future Volume (vph)	0	2	126	30	67	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.974			
Flt Protected						0.991
Satd. Flow (prot)	1900	1615	1687	0	0	1781
Flt Permitted						0.991
Satd. Flow (perm)	1900	1615	1687	0	0	1781
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	12%	0%	0%	7%
Adj. Flow (vph)	0	2	156	37	83	369
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2	193	0	0	452
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.6%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	126	30	67	299
Future Vol, veh/h	0	2	126	30	67	299
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	12	0	0	7
Mvmt Flow	0	2	156	37	83	369
Major/Minor						
	Minor1	Major1	Major2			
Conflicting Flow All	710	175	0	0	193	0
Stage 1	175	-	-	-	-	-
Stage 2	535	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	403	874	-	-	1392	-
Stage 1	860	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	373	874	-	-	1392	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	796	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Approach						
	WB	NB	SB			
HCM Control Delay, s	9.1	0	1.4			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	874	1392	-
HCM Lane V/C Ratio	-	-	-	0.003	0.059	-
HCM Control Delay (s)	-	-	0	9.1	7.8	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0.2	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1229	279	3	205	2672	29	94	39	94	15	50
Future Volume (vph)	185	1229	279	3	205	2672	29	94	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.99	
Frt			0.850				0.850		0.894			0.895
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3343	1482	0	1736	3438	1369	1399	1388	0	1805	1514
Flt Permitted	0.041				0.159			0.466			0.569	
Satd. Flow (perm)	72	3343	1445	0	291	3438	1369	686	1388	0	1071	1514
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			294				76		68			65
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Confl. Peds. (#/hr)			6								6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	9%	0%	4%	5%	18%	29%	4%	30%	0%	13%
Adj. Flow (vph)	195	1294	294	3	216	2813	31	99	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1294	294	0	219	2813	31	99	140	0	16	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	12%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	108.4	98.2	98.2		107.8	97.8	97.8	22.6	22.6		22.6	22.6
Actuated g/C Ratio	0.72	0.65	0.65		0.72	0.65	0.65	0.15	0.15		0.15	0.15
v/c Ratio	1.23	0.59	0.28		0.73	1.26	0.03	0.96	0.53		0.10	0.62
Control Delay	184.4	16.0	1.7		22.2	145.0	0.1	140.7	37.7		56.9	47.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	184.4	16.0	1.7		22.2	145.0	0.1	140.7	37.7		56.9	47.4
LOS	F	B	A		C	F	A	F	D		E	D
Approach Delay		32.1				134.7			80.4			48.2
Approach LOS		C				F			F			D
Queue Length 50th (ft)	~187	356	0		52	~1806	0	98	64		14	102
Queue Length 95th (ft)	#355	420	33		102	#1916	0	#222	140		38	188
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	158	2188	1047		307	2241	919	103	266		161	283
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	1.23	0.59	0.28		0.71	1.26	0.03	0.96	0.53		0.10	0.62

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 94.4

Intersection LOS: F

Intersection Capacity Utilization 121.6%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129



Lane Group	SBR
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	24	0	7	5	2	24	0	3087	7	7	13	1061
Future Volume (vph)	24	0	7	5	2	24	0	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.970				0.850			0.850			
Flt Protected		0.963			0.964						0.950	
Satd. Flow (prot)	0	1775	0	0	1832	1417	1900	3406	1292	0	1552	3282
Flt Permitted		0.963			0.964						0.950	
Satd. Flow (perm)	0	1775	0	0	1832	1417	1900	3406	1292	0	1552	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		424			653			2889				1747
Travel Time (s)		11.6			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	14%	0%	6%	25%	0%	25%	10%
Adj. Flow (vph)	28	0	8	6	2	28	0	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	8	28	0	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	102.0%											
Analysis Period (min)	15											
ICU Level of Service G												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	25
Future Volume (vph)	25
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1509
Flt Permitted	
Satd. Flow (perm)	1509
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	7%
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	29
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	6.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	24	0	7	5	2	24	0	3087	7	7	13	1061	25
Future Vol, veh/h	24	0	7	5	2	24	0	3087	7	7	13	1061	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	14	0	6	25	0	25	10	7
Mvmt Flow	28	0	8	6	2	28	0	3548	8	8	15	1220	29

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3041	4822	610	4204	4843	1774	1249	0
Stage 1	1266	1266	-	3548	3548	-	-	-
Stage 2	1775	3556	-	656	1295	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.18	4.1	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.44	2.2	-
Pot Cap-1 Maneuver	~ 6	1	442	~ 1	~ 1	63	564	-
Stage 1	182	242	-	6	16	-	-	-
Stage 2	88	16	-	426	235	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	442	-	0	63	564	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	182	0	-	6	16	-	-	-
Stage 2	42	16	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	25
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	564	-	-	-	-	63	~ 10	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.438	2.299	-	-
HCM Control Delay (s)	0	-	-	-	-	100.8	\$ 1383	-	-
HCM Lane LOS	A	-	-	-	-	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	1.7	3.9	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	2	49	35	0	2	0	2
Future Volume (vph)	2	49	35	0	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.932	
Flt Protected		0.998				0.976	
Satd. Flow (prot)	0	1896	1597	0	0	1728	0
Flt Permitted		0.998				0.976	
Satd. Flow (perm)	0	1896	1597	0	0	1728	0
Link Speed (mph)		30	25			25	
Link Distance (ft)		1416	424			1013	
Travel Time (s)		32.2	11.6			27.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	19%	0%	0%	0%	0%
Adj. Flow (vph)	2	59	42	0	2	0	2
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	61	42	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	R NA	Left	Right
Median Width(ft)		0	0			12	
Link Offset(ft)		0	0			0	
Crosswalk Width(ft)		16	16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	9	15	9
Sign Control		Free	Free			Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	14.2%			ICU Level of Service A			
Analysis Period (min)	15						

Intersection							
Int Delay, s/veh	0.5						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	2	49	35	0	2	0	2
Future Vol, veh/h	2	49	35	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	19	0	0	0	0
Mvmt Flow	2	59	42	0	2	0	2
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	42	0	-	0	0	105	42
Stage 1	-	-	-	-	0	42	-
Stage 2	-	-	-	-	0	63	-
Critical Hdwy	4.1	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1580	-	-	-	0	898	1034
Stage 1	-	-	-	-	0	986	-
Stage 2	-	-	-	-	0	965	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1580	-	-	-	0	897	1034
Mov Cap-2 Maneuver	-	-	-	-	0	897	-
Stage 1	-	-	-	-	0	985	-
Stage 2	-	-	-	-	0	965	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.3	0		8.5			
HCM LOS	A						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	1580	-	-	-	1034		
HCM Lane V/C Ratio	0.002	-	-	-	0.002		
HCM Control Delay (s)	7.3	0	-	-	8.5		
HCM Lane LOS	A	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-	0		

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	143	998	10	47	1517
Future Volume (vph)	30	143	998	10	47	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.999			
Flt Protected	0.991					0.999
Satd. Flow (prot)	1568	0	1786	0	0	1808
Flt Permitted	0.991					0.999
Satd. Flow (perm)	1568	0	1786	0	0	1808
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	8%	6%	33%	36%	4%
Adj. Flow (vph)	33	159	1109	11	52	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	192	0	1120	0	0	1738
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 134.9%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	143	998	10	47	1517
Future Vol, veh/h	30	143	998	10	47	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	8	6	33	36	4
Mvmt Flow	33	159	1109	11	52	1686
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2905	1115	0	0	1120	0
Stage 1	1115	-	-	-	-	-
Stage 2	1790	-	-	-	-	-
Critical Hdwy	6.4	6.28	-	-	4.46	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	-	-	2.524	-
Pot Cap-1 Maneuver	~ 18	246	-	-	514	-
Stage 1	316	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	246	-	-	514	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	57.4	0		0.4		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	246	514	-	
HCM Lane V/C Ratio	-	-	0.781	0.102	-	
HCM Control Delay (s)	-	-	57.4	12.8	0	
HCM Lane LOS	-	-	F	B	A	
HCM 95th %tile Q(veh)	-	-	5.8	0.3	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	47	62	193	188	193	134
Future Volume (vph)	47	62	193	188	193	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.933			
Flt Protected	0.950					0.971
Satd. Flow (prot)	1805	1615	1747	0	0	1765
Flt Permitted	0.950					0.971
Satd. Flow (perm)	1805	1615	1747	0	0	1765
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	1%	2%	0%	11%
Adj. Flow (vph)	60	79	247	241	247	172
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	79	488	0	0	419
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 52.7%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	62	193	188	193	134
Future Vol, veh/h	47	62	193	188	193	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	1	2	0	11
Mvmt Flow	60	79	247	241	247	172
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1034	368	0	0	488	0
Stage 1	368	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	259	682	-	-	1086	-
Stage 1	704	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	682	-	-	1086	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	19.9	0	5.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	194	682	1086	-
HCM Lane V/C Ratio	-	-	0.311	0.117	0.228	-
HCM Control Delay (s)	-	-	31.7	11	9.3	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.4	0.9	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2736	114	3	74	1841	10	149	52	185	2
Future Volume (vph)	3	148	2736	114	3	74	1841	10	149	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		0	
Storage Lanes		1		1		1		1	1		0	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1482	0	1538	3471	1380	1752	1606	0	0
Flt Permitted		0.038				0.040			0.301			
Satd. Flow (perm)	0	71	3471	1482	0	65	3471	1380	555	1606	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		91		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	9%	0%	18%	4%	17%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	2911	121	3	79	1959	11	159	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	2911	121	0	82	1959	11	159	252	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			CI+Ex				CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6		6	2	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		0
Storage Lanes	1		0
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Frt		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1709	1637	0
Flt Permitted	0.294		
Satd. Flow (perm)	529	1637	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		102	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	6%	7%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	249	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	CI+Ex	CI+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6		
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17		
v/c Ratio		0.82	1.28	0.12		0.69	0.91	0.01	1.67	0.72		
Control Delay		73.0	157.6	4.9		61.1	34.3	0.0	382.4	51.8		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		73.0	157.6	4.9		61.1	34.3	0.0	382.4	51.8		
LOS		E	F	A		E	C	A	F	D		
Approach Delay			147.6				35.2			179.7		
Approach LOS			F				D			F		
Queue Length 50th (ft)		114	~2036	18		40	924	0	~241	163		
Queue Length 95th (ft)		#224	#2136	44		#117	1059	0	#397	270		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180			
Base Capacity (vph)		212	2270	994		128	2154	883	95	352		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.75	1.28	0.12		0.64	0.91	0.01	1.67	0.72		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.67

Intersection Signal Delay: 106.3

Intersection LOS: F

Intersection Capacity Utilization 124.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	27.6	27.6	
Actuated g/C Ratio	0.17	0.17	
v/c Ratio	0.37	0.68	
Control Delay	72.0	46.4	
Queue Delay	0.0	0.0	
Total Delay	72.0	46.4	
LOS	E	D	
Approach Delay		49.5	
Approach LOS		D	
Queue Length 50th (ft)	32	147	
Queue Length 95th (ft)	72	252	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		
Base Capacity (vph)	91	366	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.37	0.68	
Intersection Summary			

Lanes, Volumes, Timings
4: US 129 & Highland Village Rd/Highlands Village Rd

No-Build PM
12/10/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	40	0	12	7	2	12	2	3	1819	8	2	22
Future Volume (vph)	40	0	12	7	2	12	2	3	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.969				0.850				0.850		
Flt Protected		0.963			0.963			0.950				0.950
Satd. Flow (prot)	0	1720	0	0	1830	1615	0	1805	3406	1615	0	1805
Flt Permitted		0.963			0.963			0.950				0.950
Satd. Flow (perm)	0	1720	0	0	1830	1615	0	1805	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		424			653				2889			
Travel Time (s)		11.6			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Adj. Flow (vph)	41	0	12	7	2	12	2	3	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	9	12	0	5	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 87.0%	ICU Level of Service E											
Analysis Period (min) 15												



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	91
Future Volume (vph)	2558	91
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1583
Flt Permitted		
Satd. Flow (perm)	3471	1583
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	2%
Adj. Flow (vph)	2637	94
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	94
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

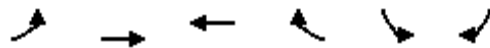
Intersection														
Int Delay, s/veh	9.5													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	40	0	12	7	2	12	2	3	1819	8	2	22	2558	91
Future Vol, veh/h	40	0	12	7	2	12	2	3	1819	8	2	22	2558	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	4	0	0	0	0	0	0	0	6	0	0	0	4	2
Mvmt Flow	41	0	12	7	2	12	2	3	1875	8	2	23	2637	94

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3636	4580	1319	3254	4666	938	2637	2731	0	0	1875	1883	0	0
Stage 1	2687	2687	-	1885	1885	-	-	-	-	-	-	-	-	-
Stage 2	949	1893	-	1369	2781	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 2	1	150	~ 4	~ 1	269	29	150	-	-	92	323	-	-
Stage 1	~ 21	47	-	75	121	-	-	-	-	-	-	-	-	-
Stage 2	276	120	-	157	42	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	150	~ 3	~ 1	269	53	53	-	-	264	264	-	-
Mov Cap-2 Maneuver	-	1	-	~ 3	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 19	43	-	68	110	-	-	-	-	-	-	-	-	-
Stage 2	234	109	-	130	38	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 2037.2	0.2	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	53	-	-	-	2	269	264	-	-
HCM Lane V/C Ratio	0.097	-	-	-	4.639	0.046	0.094	-	-
HCM Control Delay (s)	79.9	-	-	\$ 4728.1	19	20	-	-	-
HCM Lane LOS	F	-	-	-	F	C	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4	0.1	0.3	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	39	104	3	3	0
Future Volume (vph)	0	39	104	3	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					
Flt Protected	0.950					
Satd. Flow (prot)	0	1827	1894	0	1805	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1827	1894	0	1805	0
Link Speed (mph)	25		30	25		
Link Distance (ft)	1416		424	1013		
Travel Time (s)	38.6		9.6	27.6		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	45	121	3	3	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	45	124	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)	0		0	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control	Free		Free	Stop		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 15.7%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	104	3	3	0
Future Vol, veh/h	0	39	104	3	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	0	0
Mvmt Flow	0	45	121	3	3	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	124	0	-	0	168	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1475	-	-	-	827	933
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1475	-	-	-	827	933
Mov Cap-2 Maneuver	-	-	-	-	827	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.4		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1475	-	-	-	827	
HCM Lane V/C Ratio	-	-	-	-	0.004	
HCM Control Delay (s)	0	-	-	-	9.4	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	173	1218	196	715	984
Future Volume (vph)	30	173	1218	196	715	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.885		0.981			
Flt Protected	0.993					0.979
Satd. Flow (prot)	1304	0	1799	0	0	1728
Flt Permitted	0.993					0.979
Satd. Flow (perm)	1304	0	1799	0	0	1728
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	30%	4%	1%	3%	11%
Adj. Flow (vph)	32	184	1296	209	761	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	0	1505	0	0	1808
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 189.7%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	94.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	173	1218	196	715	984
Future Vol, veh/h	30	173	1218	196	715	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	17	30	4	1	3	11
Mvmt Flow	32	184	1296	209	761	1047
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	3970	1401	0	0	1505	0
Stage 1	1401	-	-	-	-	-
Stage 2	2569	-	-	-	-	-
Critical Hdwy	6.57	6.5	-	-	4.13	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.57	-	-	2.227	-
Pot Cap-1 Maneuver	~ 3	~ 149	-	-	~ 442	-
Stage 1	211	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 149	-	-	~ 442	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	291.5	0		149.8		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	149	~ 442	-	
HCM Lane V/C Ratio	-	-	1.449	1.721	-	
HCM Control Delay (s)	-	-	291.5	\$ 355.9	0	
HCM Lane LOS	-	-	F	F	A	
HCM 95th %tile Q(veh)	-	-	14.1	46	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	10	148	46	100	396
Future Volume (vph)	3	10	148	46	100	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.968			
Flt Protected	0.950					0.990
Satd. Flow (prot)	1357	1242	1632	0	0	1788
Flt Permitted	0.950					0.990
Satd. Flow (perm)	1357	1242	1632	0	0	1788
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	33%	30%	16%	2%	2%	6%
Adj. Flow (vph)	4	12	183	57	123	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	12	240	0	0	612
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 50.3%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	10	148	46	100	396
Future Vol, veh/h	3	10	148	46	100	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	33	30	16	2	2	6
Mvmt Flow	4	12	183	57	123	489
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	947	212	0	0	240	0
Stage 1	212	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.73	6.5	-	-	4.12	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	-	-	2.218	-
Pot Cap-1 Maneuver	255	763	-	-	1327	-
Stage 1	755	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	223	763	-	-	1327	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.5	0	1.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	223	763	1327	-
HCM Lane V/C Ratio	-	-	0.017	0.016	0.093	-
HCM Control Delay (s)	-	-	21.4	9.8	8	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.3	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Future Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850		0.894			0.895
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3406	1495	0	1736	3406	1380	1378	1377	0	1805	1520
Flt Permitted	0.041				0.049			0.466			0.569	
Satd. Flow (perm)	72	3406	1495	0	90	3406	1380	676	1377	0	1081	1520
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			330				76		68			65
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	6%	8%	0%	4%	6%	17%	31%	5%	31%	0%	14%
Adj. Flow (vph)	195	1873	429	3	216	2922	31	131	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1873	429	0	219	2922	31	131	140	0	16	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	11%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	108.0	97.8	97.8		108.2	97.8	97.8	22.6	22.6		22.6	22.6
Actuated g/C Ratio	0.72	0.65	0.65		0.72	0.65	0.65	0.15	0.15		0.15	0.15
v/c Ratio	1.23	0.84	0.39		1.25	1.32	0.03	1.30	0.53		0.10	0.62
Control Delay	185.1	24.9	3.7		185.9	171.6	0.1	236.7	37.8		56.9	47.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	185.1	24.9	3.7		185.9	171.6	0.1	236.7	37.8		56.9	47.3
LOS	F	C	A		F	F	A	F	D		E	D
Approach Delay		33.7				170.9			134.0			48.1
Approach LOS		C				F			F			D
Queue Length 50th (ft)	~187	702	34		~206	~1934	0	~162	64		14	102
Queue Length 95th (ft)	#355	818	82		#381	#2041	0	#304	140		38	188
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	158	2220	1089		175	2220	926	101	265		162	284
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	1.23	0.84	0.39		1.25	1.32	0.03	1.30	0.53		0.10	0.62

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 109.6

Intersection LOS: F

Intersection Capacity Utilization 126.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129

		
Ø1	Ø2 (R)	Ø4
16 s	104 s	30 s
		
Ø5	Ø6 (R)	Ø8
16 s	104 s	30 s



Lane Group	SBR
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Future Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.938				0.850			0.850			
Flt Protected		0.974			0.964		0.950				0.950	
Satd. Flow (prot)	0	1225	0	0	1832	1429	1480	3406	1252	0	1570	3282
Flt Permitted		0.974			0.964		0.950				0.950	
Satd. Flow (perm)	0	1225	0	0	1832	1429	1480	3406	1252	0	1570	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		254			653			2889				1747
Travel Time (s)		6.9			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	16%	0%	72%	0%	0%	13%	22%	6%	29%	0%	23%	10%
Adj. Flow (vph)	147	0	125	6	2	28	226	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	0	0	8	28	226	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 119.1%	ICU Level of Service H											
Analysis Period (min) 15												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	575
Future Volume (vph)	575
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	2%
Adj. Flow (vph)	661
Shared Lane Traffic (%)	
Lane Group Flow (vph)	661
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	8.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Future Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	16	0	72	0	0	13	22	6	29	0	23	10	2
Mvmt Flow	147	0	125	6	2	28	226	3548	8	8	15	1220	661

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3493	5274	610	4656	5927	1774	1881	0
Stage 1	1266	1266	-	4000	4000	-	-	-
Stage 2	2227	4008	-	656	1927	-	-	-
Critical Hdwy	7.82	6.5	8.34	7.5	6.5	7.16	4.54	-
Critical Hdwy Stg 1	6.82	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.82	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.66	4	4.02	3.5	4	3.43	2.42	-
Pot Cap-1 Maneuver	~ 2	0	301	0	0	64	245	-
Stage 1	159	242	-	~ 3	9	-	-	-
Stage 2	~ 37	9	-	426	115	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	301	-	0	64	245	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	~ 12	0	-	0	~ 1	-	-	-
Stage 2	-	1	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.9	16.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	245	-	-	-	-	64	~ 10	-	-
HCM Lane V/C Ratio	0.924	-	-	-	-	0.431	2.299	-	-
HCM Control Delay (s)	82.7	-	-	-	-	98.5	1377.1	-	-
HCM Lane LOS	F	-	-	-	-	F	F	-	-
HCM 95th %tile Q(veh)	8.1	-	-	-	-	1.7	3.9	-	-

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Future Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869											
Flt Protected	0.976											
Satd. Flow (prot)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Flt Permitted	0.976											
Satd. Flow (perm)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Link Speed (mph)	25											
Link Distance (ft)	1001											
Travel Time (s)	27.3											
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	91%	0%	20%	8%	0%
Adj. Flow (vph)	2	2	0	0	2	59	0	129	0	42	836	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	61	0	0	129	0	0	878	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0											
Link Offset(ft)	0											
Crosswalk Width(ft)	16											
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	55.1%											
Analysis Period (min)	15											
ICU Level of Service B												

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Future Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	91	0	20	8	0
Mvmt Flow	2	2	0	0	2	59	0	129	0	42	836	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1080	1049	836	1050	1049	129	836	0	0	129	0	0
Stage 1	920	920	-	129	129	-	-	-	-	-	-	-
Stage 2	160	129	-	921	920	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	197	229	370	207	229	926	807	-	-	1353	-	-
Stage 1	327	352	-	880	793	-	-	-	-	-	-	-
Stage 2	847	793	-	327	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	216	370	196	216	926	807	-	-	1353	-	-
Mov Cap-2 Maneuver	175	216	-	196	216	-	-	-	-	-	-	-
Stage 1	327	332	-	880	793	-	-	-	-	-	-	-
Stage 2	791	793	-	306	332	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.1		9.7		0		0.4	
HCM LOS	C		A					

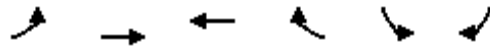
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	807	-	-	193	820	1353	-	-
HCM Lane V/C Ratio	-	-	-	0.025	0.075	0.031	-	-
HCM Control Delay (s)	0	-	-	24.1	9.7	7.7	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	146	13	148	590	5
Future Volume (vph)	16	146	13	148	590	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878				0.999	
Flt Protected	0.995			0.996		
Satd. Flow (prot)	1621	0	0	1341	1787	0
Flt Permitted	0.995			0.996		
Satd. Flow (perm)	1621	0	0	1341	1787	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	2%	31%	42%	6%	33%
Adj. Flow (vph)	17	159	14	161	641	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	0	0	175	646	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 47.9%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	146	13	148	590	5
Future Vol, veh/h	16	146	13	148	590	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	31	42	6	33
Mvmt Flow	17	159	14	161	641	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	833	644	646	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.46	6.22	4.41	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.318	2.479	-	-	-
Pot Cap-1 Maneuver	333	473	815	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	473	815	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.9	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	815	-	453	-	-	
HCM Lane V/C Ratio	0.017	-	0.389	-	-	
HCM Control Delay (s)	9.5	0	17.9	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	29	97	0	211	294
Future Volume (vph)	0	29	97	0	211	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.980
Satd. Flow (prot)	1226	0	1203	0	0	1729
Flt Permitted						0.980
Satd. Flow (perm)	1226	0	1203	0	0	1729
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	34%	58%	0%	3%	11%
Adj. Flow (vph)	0	32	105	0	229	320
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	105	0	0	549
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 43.8%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	97	0	211	294
Future Vol, veh/h	0	29	97	0	211	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	34	58	0	3	11
Mvmt Flow	0	32	105	0	229	320
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	883	105	0	0	105	0
Stage 1	105	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Critical Hdwy	6.4	6.54	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.606	-	-	2.227	-
Pot Cap-1 Maneuver	319	869	-	-	1480	-
Stage 1	924	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	869	-	-	1480	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		3.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	869	1480	-	
HCM Lane V/C Ratio	-	-	0.036	0.155	-	
HCM Control Delay (s)	-	-	9.3	7.9	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.5	-	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	370	57	77	212	33
Future Volume (vph)	9	370	57	77	212	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.922		0.982	
Flt Protected		0.999			0.959	
Satd. Flow (prot)	0	1878	1291	0	1597	0
Flt Permitted		0.999			0.959	
Satd. Flow (perm)	0	1878	1291	0	1597	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	44%	0%	0%	62%	13%	6%
Adj. Flow (vph)	10	402	62	84	230	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	412	146	0	266	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	370	57	77	212	33
Future Vol, veh/h	9	370	57	77	212	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	44	0	0	62	13	6
Mvmt Flow	10	402	62	84	230	36
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	146	0	-	0	526	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	4.54	-	-	-	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.596	-	-	-	3.617	3.354
Pot Cap-1 Maneuver	1215	-	-	-	494	940
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1215	-	-	-	489	940
Mov Cap-2 Maneuver	-	-	-	-	489	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	639	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		18.8		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1215	-	-	-	523	
HCM Lane V/C Ratio	0.008	-	-	-	0.509	
HCM Control Delay (s)	8	0	-	-	18.8	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	2.9	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	687	998	45	180	1517
Future Volume (vph)	184	687	998	45	180	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893		0.994			
Flt Protected	0.990					0.995
Satd. Flow (prot)	1638	0	1778	0	0	1790
Flt Permitted	0.990					0.995
Satd. Flow (perm)	1638	0	1778	0	0	1790
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	11%	19%	4%
Adj. Flow (vph)	204	763	1109	50	200	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	967	0	1159	0	0	1886
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 207.6%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	330.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	184	687	998	45	180	1517
Future Vol, veh/h	184	687	998	45	180	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	3	6	11	19	4
Mvmt Flow	204	763	1109	50	200	1686
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3220	1134	0	0	1159	0
Stage 1	1134	-	-	-	-	-
Stage 2	2086	-	-	-	-	-
Critical Hdwy	6.41	6.23	-	-	4.29	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	-	-	2.371	-
Pot Cap-1 Maneuver	~ 11	~ 245	-	-	546	-
Stage 1	308	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 245	-	-	546	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 1366.6	0	1.6			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	245	546	-	
HCM Lane V/C Ratio	-	-	3.95	0.366	-	
HCM Control Delay (s)	-	-	\$ 1366.6	15.4	0	
HCM Lane LOS	-	-	F	C	A	
HCM 95th %tile Q(veh)	-	-	94.2	1.7	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	94	288	192	202	159
Future Volume (vph)	63	94	288	192	202	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.946			
Flt Protected	0.950					0.973
Satd. Flow (prot)	1770	1599	1762	0	0	1739
Flt Permitted	0.950					0.973
Satd. Flow (perm)	1770	1599	1762	0	0	1739
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	2%	1%	2%	2%	1%	13%
Adj. Flow (vph)	81	121	369	246	259	204
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	121	615	0	0	463
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 59.9%	ICU Level of Service B					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	7.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	94	288	192	202	159
Future Vol, veh/h	63	94	288	192	202	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	1	2	2	1	13
Mvmt Flow	81	121	369	246	259	204
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1214	492	0	0	615	0
Stage 1	492	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	201	579	-	-	970	-
Stage 1	615	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	140	579	-	-	970	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	32.1	0	5.6			
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	140	579	970	-
HCM Lane V/C Ratio	-	-	0.577	0.208	0.267	-
HCM Control Delay (s)	-	-	61	12.8	10.1	0
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	2.9	0.8	1.1	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Future Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Fr't				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1455	0	1538	3471	1346	1752	1606	0	0
Flt Permitted		0.038				0.040			0.301			
Satd. Flow (perm)	0	71	3471	1455	0	65	3471	1346	555	1606	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		90		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	11%	0%	18%	4%	20%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	3047	157	3	79	2534	11	293	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	3047	157	0	82	2534	11	293	252	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6



Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00
Fr't		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1693	1640	0
Flt Permitted	0.294		
Satd. Flow (perm)	524	1640	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		93	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	7%	6%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	249	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	CI+Ex	CI+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6		
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17		
v/c Ratio		0.82	1.34	0.16		0.69	1.18	0.01	3.08	0.72		
Control Delay		73.0	183.8	6.3		61.1	114.0	0.0	985.2	52.2		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		73.0	183.8	6.3		61.1	114.0	0.0	985.2	52.2		
LOS		E	F	A		E	F	A	F	D		
Approach Delay			170.2				111.9			553.8		
Approach LOS			F				F			F		
Queue Length 50th (ft)		114	~2191	32		40	~1680	0	~531	164		
Queue Length 95th (ft)		#224	#2286	63		#117	#1794	0	#729	271		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)												
Base Capacity (vph)		212	2270	976		128	2154	862	95	351		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.75	1.34	0.16		0.64	1.18	0.01	3.08	0.72		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.08

Intersection Signal Delay: 173.5

Intersection LOS: F

Intersection Capacity Utilization 135.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	27.6	27.6	
Actuated g/C Ratio	0.17	0.17	
v/c Ratio	0.38	0.69	
Control Delay	72.4	49.5	
Queue Delay	0.0	0.0	
Total Delay	72.4	49.5	
LOS	E	D	
Approach Delay		52.3	
Approach LOS		D	
Queue Length 50th (ft)	32	157	
Queue Length 95th (ft)	72	262	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)			
Base Capacity (vph)	90	359	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.38	0.69	
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Future Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.966				0.850				0.850		
Flt Protected		0.964			0.963			0.950				0.950
Satd. Flow (prot)	0	1681	0	0	1830	1615	0	1159	3406	1615	0	1805
Flt Permitted		0.964			0.963			0.950				0.950
Satd. Flow (perm)	0	1681	0	0	1830	1615	0	1159	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		254			653				2889			
Travel Time (s)		6.9			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.92	0.97
Heavy Vehicles (%)	2%	0%	15%	0%	0%	0%	0%	57%	6%	0%	0%	0%
Adj. Flow (vph)	599	0	200	7	2	12	2	87	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	799	0	0	9	12	0	89	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 128.8%												
ICU Level of Service H												
Analysis Period (min) 15												



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	219
Future Volume (vph)	2558	219
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1524
Flt Permitted		
Satd. Flow (perm)	3471	1524
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	6%
Adj. Flow (vph)	2637	226
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	226
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

Intersection															
Int Delay, s/veh	1.2														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Future Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	-	None	
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150	
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Peak Hour Factor	97	97	97	97	97	97	92	97	97	97	92	97	97	97	
Heavy Vehicles, %	2	0	15	0	0	0	0	57	6	0	0	0	4	6	
Mvmt Flow	599	0	200	7	2	12	2	87	1875	8	2	23	2637	226	

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3804	4748	1319	3422	4966	938	2637	2863	0	0	1875	1883	0	0
Stage 1	2687	2687	-	2053	2053	-	-	-	-	-	-	-	-	-
Stage 2	1117	2061	-	1369	2913	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.5	7.2	7.5	6.5	6.9	6.4	5.24	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4	3.45	3.5	4	3.3	2.5	2.77	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 1	1	~ 131	~ 3	~ 1	269	29	~ 50	-	-	92	323	-	-
Stage 1	~ 22	47	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 221	98	-	157	35	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	~ 131	-	~ 1	269	138	138	-	-	262	262	-	-
Mov Cap-2 Maneuver	-	1	-	-	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 22	43	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 206	98	-	-	32	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB				SB					
HCM Control Delay, s					3.1				0.2					
HCM LOS	-		-											

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	138	-	-	-	-	269	262	-	-
HCM Lane V/C Ratio	0.643	-	-	-	-	0.046	0.095	-	-
HCM Control Delay (s)	69.5	-	-	-	-	19	20.2	-	-
HCM Lane LOS	F	-	-	-	-	C	C	-	-
HCM 95th %tile Q(veh)	3.5	-	-	-	-	0.1	0.3	-	-

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

Lanes, Volumes, Timings
5: Internal Access/Internal Driveway & Smallwood Rd

Build PM
01/20/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Future Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865										0.999	
Flt Protected	0.950										0.980	
Satd. Flow (prot)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Flt Permitted	0.950										0.980	
Satd. Flow (perm)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Link Speed (mph)	25					30					30	
Link Distance (ft)	1001					4656					254	
Travel Time (s)	27.3					105.8					5.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	41%	0%
Adj. Flow (vph)	3	0	0	0	0	45	0	799	0	121	174	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	45	0	0	799	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0					0					0	
Link Offset(ft)	0					0					0	
Crosswalk Width(ft)	16					16					16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Sign Control	Stop			Stop			Free			Free		
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization 63.3%												
ICU Level of Service B												
Analysis Period (min) 15												

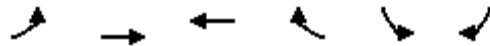
Intersection													
Int Delay, s/veh	1.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3	
Future Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86	
Heavy Vehicles, %	0	0	0	0	0	5	0	5	0	0	41	0	
Mvmt Flow	3	0	0	0	0	45	0	799	0	121	174	3	
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	1240	1217	176	1217	1218	799	177	0	0	799	0	0	
Stage 1	418	418	-	799	799	-	-	-	-	-	-	-	
Stage 2	822	799	-	418	419	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.1	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.2	-	-	2.2	-	-	
Pot Cap-1 Maneuver	153	182	872	159	182	381	1411	-	-	833	-	-	
Stage 1	616	594	-	382	401	-	-	-	-	-	-	-	
Stage 2	371	401	-	616	593	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Mov Cap-1 Maneuver	118	153	872	139	153	381	1411	-	-	833	-	-	
Mov Cap-2 Maneuver	118	153	-	139	153	-	-	-	-	-	-	-	
Stage 1	616	498	-	382	401	-	-	-	-	-	-	-	
Stage 2	327	401	-	517	498	-	-	-	-	-	-	-	
Approach	EB		WB		NB		SB						
HCM Control Delay, s	36.4		15.7		0		4.1						
HCM LOS	E		C										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1411	-	-	118	381	833	-	-					
HCM Lane V/C Ratio	-	-	-	0.03	0.119	0.145	-	-					
HCM Control Delay (s)	0	-	-	36.4	15.7	10.1	0	-					
HCM Lane LOS	A	-	-	E	C	B	A	-					
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.5	-	-					

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	394	157	573	159	16
Future Volume (vph)	4	394	157	573	159	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.866				0.988	
Flt Protected				0.989		
Satd. Flow (prot)	1610	0	0	1818	1522	0
Flt Permitted				0.989		
Satd. Flow (perm)	1610	0	0	1818	1522	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	2%	1%	4%	25%	6%
Adj. Flow (vph)	4	428	171	623	173	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	432	0	0	794	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 82.8%				ICU Level of Service E		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	394	157	573	159	16
Future Vol, veh/h	4	394	157	573	159	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	2	1	4	25	6
Mvmt Flow	4	428	171	623	173	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1147	182	190	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.65	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	198	861	1390	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	861	1390	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.1	1.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1390	-	825	-	-	
HCM Lane V/C Ratio	0.123	-	0.524	-	-	
HCM Control Delay (s)	8	0	14.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.4	-	3.1	-	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	281	0	411	91
Future Volume (vph)	0	220	281	0	411	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.961
Satd. Flow (prot)	1611	0	1776	0	0	1682
Flt Permitted						0.961
Satd. Flow (perm)	1611	0	1776	0	0	1682
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	7%	0%	2%	38%
Adj. Flow (vph)	0	239	305	0	447	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	305	0	0	546
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 66.0%				ICU Level of Service C		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	220	281	0	411	91
Future Vol, veh/h	0	220	281	0	411	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	7	0	2	38
Mvmt Flow	0	239	305	0	447	99
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1298	305	0	0	305	0
Stage 1	305	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	735	-	-	1256	-
Stage 1	752	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	735	-	-	1256	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.2	0		7.7		
HCM LOS	B					
Minor Lane/Major Mvmt		NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)		-	-	735	1256	-
HCM Lane V/C Ratio		-	-	0.325	0.356	-
HCM Control Delay (s)		-	-	12.2	9.4	0
HCM Lane LOS		-	-	B	A	A
HCM 95th %tile Q(veh)		-	-	1.4	1.6	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	33	80	366	201	70	10
Future Volume (vph)	33	80	366	201	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.952		0.983	
Flt Protected		0.986			0.958	
Satd. Flow (prot)	0	1841	1753	0	1266	0
Flt Permitted		0.986			0.958	
Satd. Flow (perm)	0	1841	1753	0	1266	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	9%	43%	30%
Adj. Flow (vph)	36	87	398	218	76	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	616	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	80	366	201	70	10
Future Vol, veh/h	33	80	366	201	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	0	0	9	43	30
Mvmt Flow	36	87	398	218	76	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	616	0	-	0	666	507
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.16	-	-	-	6.83	6.5
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	2.254	-	-	-	3.887	3.57
Pot Cap-1 Maneuver	945	-	-	-	367	514
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	945	-	-	-	352	514
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	779	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.6	0		17.9		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	945	-	-	-	366	
HCM Lane V/C Ratio	0.038	-	-	-	0.238	
HCM Control Delay (s)	9	0	-	-	17.9	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	173	1218	196	715	984
Future Volume (vph)	30	173	1218	196	715	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1543	1242	1827	1599	1752	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1543	1242	1827	1599	1752	1712
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	30%	4%	1%	3%	11%
Adj. Flow (vph)	32	184	1296	209	761	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	184	1296	209	761	1047
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	117.1%			ICU Level of Service H		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	76.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	173	1218	196	715	984
Future Vol, veh/h	30	173	1218	196	715	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	17	30	4	1	3	11
Mvmt Flow	32	184	1296	209	761	1047
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3865	1296	0	0	1505	0
Stage 1	1296	-	-	-	-	-
Stage 2	2569	-	-	-	-	-
Critical Hdwy	6.57	6.5	-	-	4.13	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.57	-	-	2.227	-
Pot Cap-1 Maneuver	~ 3	~ 173	-	-	~ 442	-
Stage 1	239	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 173	-	-	~ 442	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s		0	149.8			
HCM LOS	-					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	173	~ 442	-
HCM Lane V/C Ratio	-	-	-	1.064	1.721	-
HCM Control Delay (s)	-	-	-	141	355.9	-
HCM Lane LOS	-	-	-	F	F	-
HCM 95th %tile Q(veh)	-	-	-	9	46	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	10	148	46	100	396
Future Volume (vph)	3	10	148	46	100	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1357	1242	1638	1583	1770	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1357	1242	1638	1583	1770	1792
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	33%	30%	16%	2%	2%	6%
Adj. Flow (vph)	4	12	183	57	123	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	12	183	57	123	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 30.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	10	148	46	100	396
Future Vol, veh/h	3	10	148	46	100	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	33	30	16	2	2	6
Mvmt Flow	4	12	183	57	123	489
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	918	183	0	0	240	0
Stage 1	183	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.73	6.5	-	-	4.12	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	-	-	2.218	-
Pot Cap-1 Maneuver	266	792	-	-	1327	-
Stage 1	779	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	792	-	-	1327	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12	0	1.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	241	792	1327	-
HCM Lane V/C Ratio	-	-	0.015	0.016	0.093	-
HCM Control Delay (s)	-	-	20.2	9.6	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0.3	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Future Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		100	135	
Storage Lanes	1		1		1		1	1		1	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850			0.850		
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3406	1495	0	1736	3406	1380	1378	1810	1233	1805	1667
Flt Permitted	0.041				0.049			0.722			0.730	
Satd. Flow (perm)	72	3406	1495	0	90	3406	1380	1047	1810	1233	1387	1667
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			330				76			99		
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	6%	8%	0%	4%	6%	17%	31%	5%	31%	0%	14%
Adj. Flow (vph)	195	1873	429	3	216	2922	31	131	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1873	429	0	219	2922	31	131	41	99	16	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	5	2			4			8
Permitted Phases	6		6	2	2		2	4		4	8	
Detector Phase	1	6	6	5	5	2	2	4	4	4	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4	12.4	12.4	12.4

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	100
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1455
Flt Permitted	
Satd. Flow (perm)	1455
Right Turn on Red	Yes
Satd. Flow (RTOR)	103
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	11%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	122
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Detector Phase	8
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	12.4

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%	20.0%	20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6	22.6	22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	108.9	97.8	97.8		109.1	97.8	97.8	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.73	0.65	0.65		0.73	0.65	0.65	0.14	0.14	0.14	0.14	0.14
v/c Ratio	1.16	0.84	0.39		1.18	1.32	0.03	0.87	0.16	0.38	0.08	0.22
Control Delay	157.9	24.9	3.7		159.3	171.6	0.1	107.3	57.2	14.2	56.1	58.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.9	24.9	3.7		159.3	171.6	0.1	107.3	57.2	14.2	56.1	58.7
LOS	F	C	A		F	F	A	F	E	B	E	E
Approach Delay		31.6				169.1			65.7			32.8
Approach LOS		C				F			E			C
Queue Length 50th (ft)	~187	702	34		~206	~1934	0	126	35	0	14	46
Queue Length 95th (ft)	#355	818	82		#381	#2041	0	#248	74	55	37	91
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180		100	135	
Base Capacity (vph)	168	2220	1089		186	2220	926	157	272	269	208	251
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.84	0.39		1.18	1.32	0.03	0.83	0.15	0.37	0.08	0.21

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 104.3

Intersection LOS: F

Intersection Capacity Utilization 123.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129

		
Ø1	Ø2 (R)	Ø4
16 s	104 s	30 s
		
Ø5	Ø6 (R)	Ø8
16 s	104 s	30 s

Lane Group	SBR
Total Split (s)	30.0
Total Split (%)	20.0%
Maximum Green (s)	22.6
Yellow Time (s)	4.4
All-Red Time (s)	3.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	7.4
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	None
Act Effct Green (s)	21.7
Actuated g/C Ratio	0.14
v/c Ratio	0.41
Control Delay	18.5
Queue Delay	0.0
Total Delay	18.5
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	16
Queue Length 95th (ft)	79
Internal Link Dist (ft)	
Turn Bay Length (ft)	100
Base Capacity (vph)	306
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.40
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Future Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt			0.850			0.850			0.850			
Flt Protected		0.950			0.964		0.950				0.950	
Satd. Flow (prot)	0	1556	939	0	1832	1429	1480	3406	1252	0	1570	3282
Flt Permitted		0.950			0.964		0.950				0.950	
Satd. Flow (perm)	0	1556	939	0	1832	1429	1480	3406	1252	0	1570	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		254			653			2889				1747
Travel Time (s)		6.9			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	16%	0%	72%	0%	0%	13%	22%	6%	29%	0%	23%	10%
Adj. Flow (vph)	147	0	125	6	2	28	226	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	125	0	8	28	226	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	112.4%											
Analysis Period (min)	15											
ICU Level of Service H												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	575
Future Volume (vph)	575
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	2%
Adj. Flow (vph)	661
Shared Lane Traffic (%)	
Lane Group Flow (vph)	661
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	8.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Future Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	0	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	16	0	72	0	0	13	22	6	29	0	23	10	2
Mvmt Flow	147	0	125	6	2	28	226	3548	8	8	15	1220	661

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3493	5274	610	4656	5927	1774	1881	0
Stage 1	1266	1266	-	4000	4000	-	-	-
Stage 2	2227	4008	-	656	1927	-	-	-
Critical Hdwy	7.82	6.5	8.34	7.5	6.5	7.16	4.54	-
Critical Hdwy Stg 1	6.82	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.82	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.66	4	4.02	3.5	4	3.43	2.42	-
Pot Cap-1 Maneuver	~ 2	0	301	0	0	64	245	-
Stage 1	159	242	-	~ 3	9	-	-	-
Stage 2	~ 37	9	-	426	115	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	301	-	0	64	245	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	~ 12	0	-	0	~ 1	-	-	-
Stage 2	-	1	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.9	16.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	245	-	-	-	301	-	64	~ 10	-	-
HCM Lane V/C Ratio	0.924	-	-	-	0.416	-	0.431	2.299	-	-
HCM Control Delay (s)	82.7	-	-	-	25.2	-	98.5	1377.1	-	-
HCM Lane LOS	F	-	-	-	D	-	F	F	-	-
HCM 95th %tile Q(veh)	8.1	-	-	-	2	-	1.7	3.9	-	-

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Future Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869											
Flt Protected	0.976											
Satd. Flow (prot)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Flt Permitted	0.976											
Satd. Flow (perm)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Link Speed (mph)	25											
Link Distance (ft)	1001											
Travel Time (s)	27.3											
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	91%	0%	20%	8%	0%
Adj. Flow (vph)	2	2	0	0	2	59	0	129	0	42	836	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	61	0	0	129	0	0	878	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0											
Link Offset(ft)	0											
Crosswalk Width(ft)	16											
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	55.1%											
Analysis Period (min)	15											
	ICU Level of Service B											

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Future Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	91	0	20	8	0
Mvmt Flow	2	2	0	0	2	59	0	129	0	42	836	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1080	1049	836	1050	1049	129	836	0	0	129	0	0
Stage 1	920	920	-	129	129	-	-	-	-	-	-	-
Stage 2	160	129	-	921	920	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	197	229	370	207	229	926	807	-	-	1353	-	-
Stage 1	327	352	-	880	793	-	-	-	-	-	-	-
Stage 2	847	793	-	327	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	216	370	196	216	926	807	-	-	1353	-	-
Mov Cap-2 Maneuver	175	216	-	196	216	-	-	-	-	-	-	-
Stage 1	327	332	-	880	793	-	-	-	-	-	-	-
Stage 2	791	793	-	306	332	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.1		9.7		0		0.4	
HCM LOS	C		A					

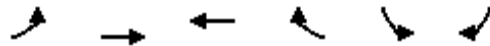
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	807	-	-	193	820	1353	-	-
HCM Lane V/C Ratio	-	-	-	0.025	0.075	0.031	-	-
HCM Control Delay (s)	0	-	-	24.1	9.7	7.7	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	146	13	148	590	5
Future Volume (vph)	16	146	13	148	590	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1703	1583	0	1341	1787	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1703	1583	0	1341	1787	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	2%	31%	42%	6%	33%
Adj. Flow (vph)	17	159	14	161	641	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	159	0	175	646	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 47.1%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	146	13	148	590	5
Future Vol, veh/h	16	146	13	148	590	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	31	42	6	33
Mvmt Flow	17	159	14	161	641	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	833	644	646	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.46	6.22	4.41	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.318	2.479	-	-	-
Pot Cap-1 Maneuver	333	473	815	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	473	815	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.4	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	815	-	327	473	-	-
HCM Lane V/C Ratio	0.017	-	0.053	0.336	-	-
HCM Control Delay (s)	9.5	0	16.6	16.4	-	-
HCM Lane LOS	A	A	C	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	1.5	-	-

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	29	97	0	211	294
Future Volume (vph)	0	29	97	0	211	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1900	1205	1203	0	1752	1712
Flt Permitted					0.950	
Satd. Flow (perm)	1900	1205	1203	0	1752	1712
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	34%	58%	0%	3%	11%
Adj. Flow (vph)	0	32	105	0	229	320
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	32	105	0	229	320
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 21.7%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	97	0	211	294
Future Vol, veh/h	0	29	97	0	211	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	34	58	0	3	11
Mvmt Flow	0	32	105	0	229	320
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	883	105	0	0	105	0
Stage 1	105	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Critical Hdwy	6.4	6.54	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.606	-	-	2.227	-
Pot Cap-1 Maneuver	319	869	-	-	1480	-
Stage 1	924	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	270	869	-	-	1480	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		3.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	869	1480	-
HCM Lane V/C Ratio	-	-	-	0.036	0.155	-
HCM Control Delay (s)	-	-	0	9.3	7.9	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.5	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	↕
Traffic Volume (vph)	9	370	57	77	212	33
Future Volume (vph)	9	370	57	77	212	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			0	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1878	1900	997	1597	1524
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1878	1900	997	1597	1524
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	44%	0%	0%	62%	13%	6%
Adj. Flow (vph)	10	402	62	84	230	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	412	62	84	230	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 45.0%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	370	57	77	212	33
Future Vol, veh/h	9	370	57	77	212	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	44	0	0	62	13	6
Mvmt Flow	10	402	62	84	230	36
Major/Minor						
	Major1	Major2		Minor2		
Conflicting Flow All	146	0	-	0	484	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	4.54	-	-	-	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.596	-	-	-	3.617	3.354
Pot Cap-1 Maneuver	1215	-	-	-	522	992
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1215	-	-	-	516	992
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	639	-
Approach						
	EB	WB		SB		
HCM Control Delay, s	0.2	0		16.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1215	-	-	-	516	992
HCM Lane V/C Ratio	0.008	-	-	-	0.447	0.036
HCM Control Delay (s)	8	0	-	-	17.5	8.8
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	2.3	0.1

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	687	998	45	180	1517
Future Volume (vph)	184	687	998	45	180	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1568	1792	1455	1517	1827
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	1568	1792	1455	1517	1827
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	11%	19%	4%
Adj. Flow (vph)	204	763	1109	50	200	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	204	763	1109	50	200	1686
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	101.7%			ICU Level of Service G		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	879.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	184	687	998	45	180	1517
Future Vol, veh/h	184	687	998	45	180	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	3	6	11	19	4
Mvmt Flow	204	763	1109	50	200	1686
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3195	1109	0	0	1159	0
Stage 1	1109	-	-	-	-	-
Stage 2	2086	-	-	-	-	-
Critical Hdwy	6.41	6.23	-	-	4.29	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	-	-	2.371	-
Pot Cap-1 Maneuver	~ 11	~ 254	-	-	546	-
Stage 1	317	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	~ 254	-	-	546	-
Mov Cap-2 Maneuver	~ 7	-	-	-	-	-
Stage 1	~ 201	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 3642.5	0	1.6			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	7	254	546	-
HCM Lane V/C Ratio	-	-	29.206	3.005	0.366	-
HCM Control Delay (s)	-	-	\$ 13724	\$ 942.3	15.4	-
HCM Lane LOS	-	-	F	F	C	-
HCM 95th %tile Q(veh)	-	-	27.5	67.9	1.7	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	94	288	192	202	159
Future Volume (vph)	63	94	288	192	202	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1599	1863	1583	1787	1681
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1599	1863	1583	1787	1681
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	2%	1%	2%	2%	1%	13%
Adj. Flow (vph)	81	121	369	246	259	204
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	121	369	246	259	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 39.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	94	288	192	202	159
Future Vol, veh/h	63	94	288	192	202	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	1	2	2	1	13
Mvmt Flow	81	121	369	246	259	204
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1091	369	0	0	615	0
Stage 1	369	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	238	679	-	-	970	-
Stage 1	699	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	174	679	-	-	970	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.8	0	5.6			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	174	679	970	-
HCM Lane V/C Ratio	-	-	0.464	0.177	0.267	-
HCM Control Delay (s)	-	-	42.4	11.4	10.1	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	2.2	0.6	1.1	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Future Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		100	
Storage Lanes		1		1		1		1	1		1	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1455	0	1538	3471	1346	1752	1792	1553	0
Flt Permitted		0.038				0.040			0.723			
Satd. Flow (perm)	0	71	3471	1455	0	65	3471	1346	1334	1792	1553	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70			90	
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	11%	0%	18%	4%	20%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	3047	157	3	79	2534	11	293	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	3047	157	0	82	2534	11	293	55	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2	1	1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			CI+Ex				CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA	Perm	Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4		4	8
Detector Phase	1	1	6	6	5	5	2	2	4	4	4	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4	12.4	12.4

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		100
Storage Lanes	1		1
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	1693	1792	1599
Flt Permitted	0.721		
Satd. Flow (perm)	1285	1792	1599
Right Turn on Red			Yes
Satd. Flow (RTOR)			93
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	7%	6%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	52	197
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	1
Detector Template	Left	Thru	Right
Leading Detector (ft)	20	100	20
Trailing Detector (ft)	0	0	0
Detector 1 Position(ft)	0	0	0
Detector 1 Size(ft)	20	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	Perm
Protected Phases		8	
Permitted Phases	8		8
Detector Phase	8	8	8
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	12.4	12.4	12.4

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0	35.0	35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%	21.9%	21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6	27.6	27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4	4.4	4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4	7.4	
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0	5.0	5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6	27.6	
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17	0.17	
v/c Ratio		0.82	1.34	0.16		0.69	1.18	0.01	1.27	0.18	0.58	
Control Delay		73.0	183.8	6.3		61.1	114.0	0.0	203.2	58.3	39.8	
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		73.0	183.8	6.3		61.1	114.0	0.0	203.2	58.3	39.8	
LOS		E	F	A		E	F	A	F	E	D	
Approach Delay			170.2				111.9			129.5		
Approach LOS			F				F			F		
Queue Length 50th (ft)		114	~2191	32		40	~1680	0	~386	50	103	
Queue Length 95th (ft)		#224	#2286	63		#117	#1794	0	#583	95	194	
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180		100	
Base Capacity (vph)		212	2270	976		128	2154	862	230	309	342	
Starvation Cap Reductn		0	0	0		0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0		0	0	0	0	0	0	
Storage Cap Reductn		0	0	0		0	0	0	0	0	0	
Reduced v/c Ratio		0.75	1.34	0.16		0.64	1.18	0.01	1.27	0.18	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay: 139.3

Intersection LOS: F

Intersection Capacity Utilization 123.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129

		
Ø1	Ø2 (R)	Ø4
21 s	104 s	35 s
		
Ø5	Ø6 (R)	Ø8
15 s	110 s	35 s



Lane Group	SBL	SBT	SBR
Total Split (s)	35.0	35.0	35.0
Total Split (%)	21.9%	21.9%	21.9%
Maximum Green (s)	27.6	27.6	27.6
Yellow Time (s)	4.4	4.4	4.4
All-Red Time (s)	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	7.4
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	5.0
Recall Mode	None	None	None
Act Effct Green (s)	27.6	27.6	27.6
Actuated g/C Ratio	0.17	0.17	0.17
v/c Ratio	0.15	0.17	0.56
Control Delay	58.5	58.1	38.1
Queue Delay	0.0	0.0	0.0
Total Delay	58.5	58.1	38.1
LOS	E	E	D
Approach Delay		44.3	
Approach LOS		D	
Queue Length 50th (ft)	31	47	100
Queue Length 95th (ft)	66	90	189
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		100
Base Capacity (vph)	221	309	352
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.17	0.56
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Future Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		1	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt			0.850			0.850				0.850		
Flt Protected		0.950			0.963			0.950				0.950
Satd. Flow (prot)	0	1770	1404	0	1830	1615	0	1159	3406	1615	0	1805
Flt Permitted		0.950			0.963			0.950				0.950
Satd. Flow (perm)	0	1770	1404	0	1830	1615	0	1159	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		254			653				2889			
Travel Time (s)		6.9			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.92	0.97
Heavy Vehicles (%)	2%	0%	15%	0%	0%	0%	0%	57%	6%	0%	0%	0%
Adj. Flow (vph)	599	0	200	7	2	12	2	87	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	599	200	0	9	12	0	89	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	117.0%											
Analysis Period (min)	15											
	ICU Level of Service H											

	↓	↙
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	219
Future Volume (vph)	2558	219
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1524
Flt Permitted		
Satd. Flow (perm)	3471	1524
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	6%
Adj. Flow (vph)	2637	226
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	226
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

Intersection															
Int Delay, s/veh	1.2														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations		↕	↕		↕	↕		↕	↕		↕	↕		↕	↕
Traffic Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Future Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	-	None	None
Storage Length	-	-	0	-	-	0	-	150	-	110	-	150	-	150	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-	-
Peak Hour Factor	97	97	97	97	97	97	92	97	97	97	92	97	97	97	97
Heavy Vehicles, %	2	0	15	0	0	0	0	57	6	0	0	0	4	6	6
Mvmt Flow	599	0	200	7	2	12	2	87	1875	8	2	23	2637	226	

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3804	4748	1319	3422	4966	938	2637	2863	0	0	1875	1883	0	0
Stage 1	2687	2687	-	2053	2053	-	-	-	-	-	-	-	-	-
Stage 2	1117	2061	-	1369	2913	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.5	7.2	7.5	6.5	6.9	6.4	5.24	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4	3.45	3.5	4	3.3	2.5	2.77	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 1	1	~ 131	~ 3	~ 1	269	29	~ 50	-	-	92	323	-	-
Stage 1	~ 22	47	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 221	98	-	157	35	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	~ 131	-	~ 1	269	138	138	-	-	262	262	-	-
Mov Cap-2 Maneuver	-	1	-	-	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 22	43	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 206	98	-	-	32	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB				SB					
HCM Control Delay, s					3.1				0.2					
HCM LOS	-		-											

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	138	-	-	-	131	-	269	262	-	-
HCM Lane V/C Ratio	0.643	-	-	-	1.527	-	0.046	0.095	-	-
HCM Control Delay (s)	69.5	-	-	-	\$ 332.4	-	19	20.2	-	-
HCM Lane LOS	F	-	-	-	F	-	C	C	-	-
HCM 95th %tile Q(veh)	3.5	-	-	-	14	-	0.1	0.3	-	-

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Future Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't						0.865					0.999	
Flt Protected											0.980	
Satd. Flow (prot)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Flt Permitted											0.980	
Satd. Flow (perm)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Link Speed (mph)						25					30	
Link Distance (ft)						1156					254	
Travel Time (s)						31.5					5.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	41%	0%
Adj. Flow (vph)	3	0	0	0	0	45	0	799	0	121	174	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	45	0	0	799	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)						0					0	
Link Offset(ft)						0					0	
Crosswalk Width(ft)						16					16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15	9		15	9		15	9		15	9	
Sign Control	Stop		Stop					Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization 63.3%												
ICU Level of Service B												
Analysis Period (min) 15												

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Future Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	5	0	5	0	0	41	0
Mvmt Flow	3	0	0	0	0	45	0	799	0	121	174	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1240	1217	176	1217	1218	799	177	0	0	799	0	0
Stage 1	418	418	-	799	799	-	-	-	-	-	-	-
Stage 2	822	799	-	418	419	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	153	182	872	159	182	381	1411	-	-	833	-	-
Stage 1	616	594	-	382	401	-	-	-	-	-	-	-
Stage 2	371	401	-	616	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	118	153	872	139	153	381	1411	-	-	833	-	-
Mov Cap-2 Maneuver	118	153	-	139	153	-	-	-	-	-	-	-
Stage 1	616	498	-	382	401	-	-	-	-	-	-	-
Stage 2	327	401	-	517	498	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	36.4		15.7		0		4.1	
HCM LOS	E		C					

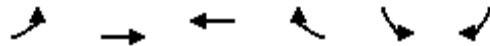
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1411	-	-	118	381	833	-	-
HCM Lane V/C Ratio	-	-	-	0.03	0.119	0.145	-	-
HCM Control Delay (s)	0	-	-	36.4	15.7	10.1	0	-
HCM Lane LOS	A	-	-	E	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.5	-	-

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	394	157	573	159	16
Future Volume (vph)	4	394	157	573	159	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988	
Flt Protected	0.950			0.989		
Satd. Flow (prot)	1444	1583	0	1818	1522	0
Flt Permitted	0.950			0.989		
Satd. Flow (perm)	1444	1583	0	1818	1522	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	2%	1%	4%	25%	6%
Adj. Flow (vph)	4	428	171	623	173	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	428	0	794	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 61.5%				ICU Level of Service B		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	394	157	573	159	16
Future Vol, veh/h	4	394	157	573	159	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	2	1	4	25	6
Mvmt Flow	4	428	171	623	173	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1147	182	190	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.65	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	198	861	1390	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	861	1390	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.3	1.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1390	-	161	861	-	-
HCM Lane V/C Ratio	0.123	-	0.027	0.497	-	-
HCM Control Delay (s)	8	0	28	13.2	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	2.8	-	-

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	281	0	411	91
Future Volume (vph)	0	220	281	0	411	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1900	1583	1776	0	1770	1377
Flt Permitted					0.950	
Satd. Flow (perm)	1900	1583	1776	0	1770	1377
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	7%	0%	2%	38%
Adj. Flow (vph)	0	239	305	0	447	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	239	305	0	447	99
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 44.2%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	220	281	0	411	91
Future Vol, veh/h	0	220	281	0	411	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	7	0	2	38
Mvmt Flow	0	239	305	0	447	99
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1298	305	0	0	305	0
Stage 1	305	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	735	-	-	1256	-
Stage 1	752	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	735	-	-	1256	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.2	0	7.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	735	1256	-
HCM Lane V/C Ratio	-	-	-	0.325	0.356	-
HCM Control Delay (s)	-	-	0	12.2	9.4	-
HCM Lane LOS	-	-	A	B	A	-
HCM 95th %tile Q(veh)	-	-	-	1.4	1.6	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	33	80	366	201	70	10
Future Volume (vph)	33	80	366	201	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			0	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.986			0.950	
Satd. Flow (prot)	0	1841	1900	1482	1262	1242
Flt Permitted		0.986			0.950	
Satd. Flow (perm)	0	1841	1900	1482	1262	1242
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	9%	43%	30%
Adj. Flow (vph)	36	87	398	218	76	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	398	218	76	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 39.2%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	80	366	201	70	10
Future Vol, veh/h	33	80	366	201	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	0	0	9	43	30
Mvmt Flow	36	87	398	218	76	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	616	0	-	0	557	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.16	-	-	-	6.83	6.5
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	2.254	-	-	-	3.887	3.57
Pot Cap-1 Maneuver	945	-	-	-	428	595
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	945	-	-	-	411	595
Mov Cap-2 Maneuver	-	-	-	-	411	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	779	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.6	0		15.1		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	945	-	-	-	411	595
HCM Lane V/C Ratio	0.038	-	-	-	0.185	0.018
HCM Control Delay (s)	9	0	-	-	15.7	11.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.1

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/6/2020

Presenter: Abb Hayes

Item of Business: **Public Hearing Item: July 21, 2020 Council Meeting**
Request from the **City of Gainesville** to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D). **Ward Number: Three.** Tax Parcel Number(s): 15-023-000-167 (Part). **Request: Business Park.**

Meeting Date: 7/16/2020

Purpose of Request:

To provide an overview of the following rezoning request as presented at the June 9, 2020 Planning and Appeals Board Meeting:

The City of Gainesville is proposing to rezone the subject property as part of an overall 1,324.4± acres planned development known as the Gainesville 85 Business Park. The subject property consists of a large tract of land located east of Interstate 985 between Exits 20 & 22, with access to US 129 and SR 60. The business park will consist of a network of existing and new roads that will serve approximately 19-lots varying in size from 2 acres to over 100 acres. The property is heavily wooded with rolling topography and streams. Adjacent uses include mostly industrial uses within Gainesville and Hall County and some residential uses located to the east along Smallwood Road within the County.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Staff and PAB recommended approval with two conditions. See the PAB Recommendation Report for details and excerpts from the meeting minutes.

SAMPLE MOTIONS

Approval of Ordinance 2020-

I move to approve the ordinance to rezone the subject property from Residential R-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) with two conditions as presented.

Denial of the Request:

I move to deny the request.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
 Legal Ad	Legal Ad
 PAB Recommendation Report	Report
 Proposed Rezoning Ordinance	Ordinance
 Exhibit A to Proposed Rezoning Ordinance - Narrative	Attachments/Exhibits
 Exhibit B to Proposed Rezoning Ordinance - Site Plan	Attachments/Exhibits
 Exhibit C to Proposed Rezoning Ordinance - Architectural Renderings	Attachments/Exhibits
 Location Maps	Backup Material
 Narrative	Backup Material
 Community Benefit Statement	Backup Material
 Site Plans - Phasing Plan	Backup Material
 Surveyor's Buffer Diagram Labeled "Exhibit F"	Backup Material
 Architectural Photos	Backup Material
 Traffic Impact Study	Backup Material

LEGAL AD
Gainesville City Council

Publish Saturday, July 4, 2020
THE TIMES

**NOTICE OF PUBLIC HEARING ON PROPOSED
AMENDMENTS TO THE GAINESVILLE ZONING MAP**

Notice is hereby given that the **Gainesville City Council** will conduct a public hearing on **Tuesday, July 21, 2020 at 5:30 p.m.** in the **Gainesville Justice Center** (Municipal Courtroom at the Public Safety Complex), 701 Queen City Parkway in midtown Gainesville on the following requests:

- 1) Request from the **City of Gainesville** to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125
Request: Business Park
- 2) Request from the **City of Gainesville** to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-023-000-167 (Part)
Request: Business Park
- 3) Request from **Kevin Pethel** to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a **2092 Crow Road and 2005 White Sulphur Road**) from Residential-I (R-I) to Light Industrial (L-I).
Ward Number: Two
Tax Parcel Number(s): 09-124-000-038 (Part)
Request: Plumbing and electrical contractor office/warehouse
- 4) Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037
Request: 20 multi-family apartments

Additional information is available from the Community and Economic Development Department, Planning Division, by calling 770-531-6570.

NOTE: In accordance with Georgia law, anyone who wishes to express opposition to the proposed zoning action, and has made, within two years immediately preceding the filing of the proposed zoning action, campaign contributions aggregating \$250 or more to a local government official who will consider the application, shall file a disclosure of contribution(s) with the Planning Division at least five (5) days prior to the first reading of the proposed zoning action by the City Council. (OCGA § 36-67A-3.3 {c})

**GAINESVILLE PLANNING and APPEALS BOARD
RECOMMENDATION**

Applicant and Property Owner..... City of Gainesville
Location..... Annexation: 0 and 2221 Smallwood Road;
2306 and 2312 Athens Highway
..... Rezoning: 1701 Fulenwider Road, SW
Request..... Annex with P-U-D zoning
..... Rezone from R-I-A and H-I to P-U-D
Total Acres Annexation: 4.4± acres
..... Rezoning: 1,320± acres
Ward..... Three
Proposed Use..... Business Park
Planning Division Staff Recommendation **Approval, with conditions**
Planning & Appeals Board Recommendation..... **Approval, with conditions**
Date..... June 9, 2020

▪ **Applicant's Proposal and Background Information**

The City of Gainesville is proposing to annex and rezone the subject property for a 1,324.4± acres planned development known as the Gainesville 85 Business Park. The subject property is located east of Interstate 985 between Exits 20 & 22 and is heavily wooded with rolling topography and streams. The development is to include 5,000,000 square feet of light and heavy industrial uses as well as ancillary uses developed over a period of 15 to 20 years. The development will consist of a network of existing and new roads that will serve approximately 19-lots varying in size from 2 acres to over 100 acres. The overall concept plan anticipates three phases to provide necessary infrastructure for the development sites.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fulenwider Road and extension of Fulenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monument Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fulenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fulenwider Road and SR 60.
- Construction of entrance monument Fulenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.

- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monument at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

Annexation

The property is 4.4± acres in size and is adjacent to and east of the city limits and is currently zoned Agricultural Residential-IV (AR-IV) and Residential-II (R-II) within unincorporated Hall County. The property consists of part or all of five tracts of land and a portion of Smallwood Road that will be improved and will serve as the 85-Business Park access from Athens Highway (US 129). There are two existing residential structures located on the property that will be removed.

Rezoning

The property is 1,320± acres in size and is currently zoned Residential-I-A (R-I-A) and Heavy Industrial (H-I). A large portion of the property was originally annexed and zoned in 1991 for a land application farm for wastewater which was never constructed. The current uses within the property include the Gainesville Public Lands and Buildings maintenance facility and the Kubota ATV / RTV test track, which will all be removed. Access to the property is currently from Allen Creek Road, Fulenwider Road and Monroe Drive.

A full description of the overall development standards is described within the narrative provided with the application which include the permitted uses, dimensional requirements, architectural, landscape/buffer/tree protection, stormwater management, grading and erosion control, signage requirements and infrastructure improvements such as roads and utilities.

▪ **Adjacent Land Use and Zoning**

Adjacent uses include mostly industrial uses within Gainesville and Hall County and some residential uses located to the east along Smallwood Road within the County.

Location	Use	Zoning
North	Allen Creek Soccer Complex; Gainesville Police Gun Range	Residential-I (R-I-A) City
South	Numerous Industrial Uses; Residential Home	Heavy Industrial (I-II); Agricultural Residential-IV (AR-IV) County
East	Hall County Fire Training Facility, Hall County Sheriff Gun Range; Undeveloped Land	Agricultural Residential-IV (AR-IV) County Residential-I (R-I-A) City
West	Various Industrial uses; Cottrell, Volvo Truck Repair Facility, Hall County Landfill, Residential Home	Light Industrial (I-I), Heavy Industrial (I-II); Agricultural Residential-III (AR-III); Agricultural Residential-IV (AR-IV) County

▪ **Traffic Impact Study**

A traffic impact study was completed for this development on January 31, 2020. The study area included the following intersections:

- Signalized intersection of Athens Highway US 129 (SR 11) & Monroe Drive.
- Unsignalized intersection of Candler Road SR 60 & Fulenwider Road.
- Unsignalized intersection of Monroe Drive & Allen Creek Road.
- Unsignalized intersection of Athens Highway US 129 (SR 11) & Highlands Village Road / Smallwood Road.
- Unsignalized intersection of Highlands Village Road & Smallwood Road.
- Proposed internal access at Allen Creek Road
- Proposed internal access south of Allen Creek Road.
- Proposed internal access at Fulenwider Road.

Traffic counts were collected on Thursday, October 24, 2019, Tuesday, November 19, 2019, and Wednesday, December 4, 2019 at the studied intersections that exist. The below table is a breakdown of the project trip generation as based on a 2.5% annual growth rate per year.

	Total Trips	Inbound Trips	Outbound Trips	Car Trips	Truck Trips
Daily	16,850	8,425	8,425		
AM	2,000	1,620	380	1,780	220
PM	2,000	420	1,580	1,859	141

Based on the results of this traffic impact study, all studied intersections are projected to continue to operate at a Level of Service (LOS) E or F which is less than desirable. The addition of turn lanes at the studied intersections will help traffic movements but will still experience heavy traffic volumes. A GDOT Intersection Control Evaluation (ICE) procedure and a traffic signal warrant study will be required for the intersections at SR 60 and US 129 and Monroe Drive that are either new or involve changes. Once the ICE is determined, the mitigation needed to provide adequate Level of Service (LOS) can be determined, such as improved signalization and other offsite improvements.

▪ **Other Departmental Comments**

The Georgia Mountains Regional Commission Development of Regional Impact Study (DRI) finds the project does *not* present any potential adverse inter-jurisdictional impacts. Additional measures for environmental and transportation management would be ideal but could limit the scope of the development. Consideration should also be given to examine any potential adverse impacts on the neighboring residential properties.

The Hall County Environmental Health Department commented that any abandoned well shall be properly closed as per Water Well Standards Act. Any abandoned septic tank shall be pumped by a State certified pumper/hauler and crushed/filled.

There were no departmental comments for this request.

▪ **Zoning History**

The following zoning actions have taken place in the immediate area during the last ten years:

2019- A request by City of Gainesville to rezone 395.69± acres located at 1701 Fulenwider Road, SW from Residential-I-A (R-I-A) to Heavy Industrial (H-I) was approved with conditions for future industrial uses.

Analysis

(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?

The subject property is adjacent to industrial and public uses located along Fulenwider Road, Monroe Drive, Allen Creek Road, Athens Highway and Candler Road. The industrial uses are supportive of the proposed request. There are also limited residential and agricultural zoned properties to the northeast in the County which touch the subject property along Smallwood Road and to the southwest near Candler Road.

(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?

It is anticipated the proposed 85-Business Park will be developed over a period of 15 to 20 years. Properties most impacted by the proposal include existing industrial uses and patrons of the nearby Allen Creek Soccer Complex. As well, the existing residential homes located off of Smallwood Road in the County will experience increased traffic movements at the planned intersection of Athens Highway and Smallwood Road. The proposal includes water, sewer and road improvements that will directly serve the proposed business park. The road improvements are designed to allow for alternative points of ingress and egress in order to more evenly distribute employee and truck traffic along Allen Creek Road, Athens Highway, Candler Road, Fulenwider Road and Monroe Drive. In addition, appropriate stormwater measures will be required to protect the existing streams and Allen Creek Watershed.

(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?

It is staff's opinion that the proposal is consistent with the Comprehensive Plan.

The Future Development Map for the City of Gainesville places most of the 1,320± acres property to be rezoned within the *Industrial* land use category. This industrial land use category includes areas containing or planned for a wide range of office, business, light industrial, manufacturing, research and development uses; and commercial uses that directly support or are otherwise linked to the dominant business use. As well, a small portion of the property is adjacent to the Allen Creek Soccer Complex and is located within the Parks / Recreation / Conservation land use category which is intended for park space, open space and conservation areas.

The 4.4± acres annexation portion of property is planned as the Athens Highway 85-Business Park entrance. This property is located within the *Retail Commercial* and *Low-Medium Density Residential* land use category which is intended for uses such as grocery, bank, restaurants, theatres, hotels and automotive related businesses and single-family housing at densities of up to 4 dwelling units per acre.

According to the Character Area map for the City of Gainesville, the subject properties are located within the *Economic Development Gateways* character area which support the applicant's proposal. This character area represents the industrial, warehousing and other commercial enterprises that parallel the I-985 and Norfolk-Southern railroad corridor. The primary vision for the area is to continue to support economic development while preserving and strengthening important natural and cultural resources. These areas include a wide range of office, business, light industrial, manufacturing, research, and development uses.

(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?

The subject property is currently zoned for residential and industrial purposes. Based on the Comprehensive Plan and the existing development located off of Allen Creek Road, Fulenwider Road and Monroe Drive, the property appears to be more conducive for industrial purposes. The proposed zoning of Planned Unit Development (P-U-D) is a site-specific zoning that includes consistent and improved development standards unlike the existing industrial development located along Fulenwider Road and Monroe Drive.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

Public facilities and services are adequate but will require improvements to access, roads, stormwater and water/sewer utilities. The Gainesville Fire and Police Departments currently respond to the property. Gainesville Fire Station #1 is located off of Queen City Parkway and is 3.5± miles from the proposed access at Fulenwider Road. Hall County Fire Station #1 is located off of Athens Highway and is approximately 1.5± miles from the proposed Athens Highway/Smallwood Road access. There will be no impacts to the City school system in regards to increasing the number of children attending City schools.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

It is staff's opinion the proposed use is consistent with the Comprehensive Plan. The subject property and much of the surrounding area have been planned for public and industrial uses for over 30 years. As well, the surrounding area has experienced mostly industrial growth partly due to Exit 20 /I-985, Lee Gilmer Memorial Airport and CSX Railroad being located nearby.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Based on the subject property's close proximity to other industrial properties, the proposal with the zoning conditions recommended by staff appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare, and the right to unrestricted use of property.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this annexation and rezoning request with a **zoning of Planned Unit Development (P-U-D)**, based on the Comprehensive Plan and the adjacent and nearby industrial uses.

Conditions

- 1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.**
- 2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**

Excerpts from the June 9, 2020 PAB Meeting Minutes

Applicant Presentation: None

FAVOR: None

OPPOSE: None

Planning and Appeals Board Comments: Chairman Carter reminded the Board to vote on the requests separately and in the order it was presented.

There was a motion to recommend conditional approval of the request to annex the subject property and to establish zoning as Planned Unit Development (P-U-D) with the following conditions:

Conditions

1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.
2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.

Motion made by Board Member Martin

Motion seconded by Board Member Fleming

Vote – 6 favor, 1 absent (Thompson)

There was a motion to recommend conditional approval to rezone the subject property from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) with the following conditions:

Conditions

1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.
2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.

Motion made by Board Member Delgado

Motion seconded by Board Member Simmons

Vote – 6 favor, 1 absent (Thompson)

Passed: _____

AN ORDINANCE

No. 2020-

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF GAINESVILLE, GEORGIA, BY CHANGING THE ZONING ON A 1,320± ACRES TRACT LOCATED BETWEEN ATHENS HIGHWAY AND CANDLER HIGHWAY, HAVING ROAD FRONTAGE ON MONROE DRIVE, ALLEN CREEK ROAD, FULENWIDER ROAD AND MAY DRIVE (A/K/A 1701 FULENWIDER ROAD, SW) FROM RESIDENTIAL-I-A (R-I-A) AND HEAVY INDUSTRIAL (H-I) TO PLANNED UNIT DEVELOPMENT, WITH CONDITIONS (P-U-D-c); REPEALING CONFLICTING ORDINANCES; TO PROVIDE FOR SEVERABILITY; TO PROVIDE FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

BE IT HEREBY ORDAINED BY THE GOVERNING BODY OF THE CITY OF GAINESVILLE, GEORGIA, AS FOLLOWS:

SECTION I.

That from and after the passage of this Ordinance the following described lands shall be zoned and so designated on the Zoning Map of the City of Gainesville as **Planned Unit Development, with conditions (P-U-D-c):**

Conditions

- 1. The development standards within the narrative, site plan and architectural renderings submitted with the applicant's annexation and rezoning application shall be made part of the zoning ordinances, and shall be subject to the approval of the Director of the Community and Economic Development Department.**
- 2. The proposed landscape buffer adjacent to the residential properties located off of Smallwood Road and Smallwood Springs Drive shall be planted with evergreen trees where determined necessary to provide for an effective buffer. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**

Legal Description

All that tract or parcel of land lying and being in G.M.D 268 (Tadmore), City of Gainesville, Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence North 65°40'02" West, a distance of 94.56 feet to a point on the western right-of-way of said Smallwood Road thence leaving said right-of-way and along the property now or formerly belonging to Ronnie B. Williamson 93.78 feet along the arc of a curve to the right having a radius of 1160.00 feet and a chord bearing and distance of South 52°37'59" West 93.75 feet and to a point thence South 60°59'42" West, a distance of 266.47 feet to a point; thence along the properties now or formerly belonging to Ronnie G. Williamson and Benny Samuel Martin and Ronnie G. Williamson and Kristy Martin Hollis South 64°20'19" West, a distance of 523.19 feet to a point; thence 9.45 feet along the arc of a curve to

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the left having a radius of 490.00 feet and a chord bearing and distance of South 63°47'11" West 9.45 feet to a point on the City of Gainesville Line/Hall County Line and the True Point of Beginning; thence along said City/County line and along the property now or formerly belonging to the City of Gainesville, Georgia South 56°37'54" East, a distance of 453.90 feet to a point; thence along the properties now or formerly being Smallwood Farm Subdivision South 14°07'11" East, a distance of 862.01 feet to a point; thence along the properties now or formerly being Smallwood Farm Subdivision and Small Springs Subdivision and Bradley Scott Sheridan South 07°03'22" East, a distance of 2687.00 feet to a point; thence along the property now or formerly belonging to James T. Sheridan South 17°56'41" West, a distance of 283.63 feet to a point; thence along the property now or formerly belonging to Hall County Georgia South 70°04'09" West, a distance of 1439.98 feet to a point on the northeastern right-of-way of Allen Creek Road; thence along said right-of-way the following courses and distances: North 41°43'58" West, a distance of 964.08 feet to a point; thence 367.98 feet along the arc of a curve to the right having a radius of 1837.86 feet and a chord bearing and distance of North 35°59'49" West 367.37 feet to a point; thence North 30°15'39" West, a distance of 1767.14 feet to a point; thence leaving said right-of-way and into the property now or formerly belonging the City of Gainesville, Georgia to North 00°00'00" East, a distance of 2892.48 feet to a point; thence North 33°24'40" East, a distance of 580.89 feet to a point; thence along the property now or formerly belonging to Randy Bynum and Mary Jo Bynum South 60°57'11" East, a distance of 711.71 feet to a point; thence South along the property now or formerly belonging to Rickey Williamson 50°47'51" East, a distance of 1539.55 feet to a point; thence along the property now or formerly belonging to Benny Samuel Martin, Sr. South 56°37'54" East, a distance of 161.40 feet to the True Point of Beginning.

Said tract contains 295 acres +/-.

All that tract or parcel of land lying and being in G.M.D 268 (Tadmire), Hall County, Georgia, and being more particularly described as follows:

Beginning at intersection of the centerline of Smallwood Road (R/W varies) and the centerline of Highland Village Drive (R/W Varies); thence North 65°40'02" West, a distance of 94.56 feet to a point on the western right-of-way of said Smallwood Road thence leaving said right-of-way and along the property now or formerly belonging to Ronnie B. Williamson 93.78 feet along the arc of a curve to the right having a radius of 1160.00 feet and a chord bearing and distance of South 52°37'59" West 93.75 feet and to a point thence South 60°59'42" West, a distance of 266.47 feet to a point; thence along the properties now or formerly belonging to Ronnie g. Williamson and Benny Samuel Martin and Ronnie G. Williamson and Kristy Martin Hollis South 64°20'19" West, a distance of 523.19 feet to a point; thence 9.45 feet along the arc of a curve to the left having a radius of 490.00 feet and a chord bearing and distance of South 63°47'11" West 9.45 feet to a point on the City of Gainesville Line/Hall County Line; thence along said City/County line and along the property now or formerly belonging to the City of Gainesville, Georgia South 56°37'54" East, a distance of 453.90 feet to a point; thence along the properties now or formerly being Smallwood Farm Subdivision South 14°07'11" East, a distance of 862.01 feet to a point; thence along the properties now or formerly being Smallwood Farm Subdivision and Small Springs Subdivision and Bradley Scott Sheridan South 07°03'22" East, a distance of 2687.00 feet to a point; thence along the property now or formerly belonging to James T. Sheridan South 17°56'41" West, a distance of 283.63 feet to a point; thence along the property now or formerly belonging to Hall County, Georgia South 70°04'09" West, a distance of 1439.98 feet to a point on the northeastern right-of-way of Allen Creek Road; thence South 70°04'09" West, a distance of 107.70 feet to a point on the northeastern right-of-way of Allen Creek Road and the True Point of Beginning; thence leaving said right-of-way and along the property now or formerly belong to Hall County and continuing along said City/County line South 70°04'09" West, a distance of 26.81 feet to a point; thence South 24°53'15" West, a distance of

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1957.19 feet to a point; thence South 88°33'07" East, a distance of 1883.26 feet to a point; thence South 55°48'24" East, a distance of 640.17 feet to a point; thence South 56°12'11" West, a distance of 658.43 feet to a point; thence South 26°20'05" West, a distance of 1471.47 feet to a point; thence South 44°00'43" East, a distance of 110.31 feet to a point; thence South 16°29'09" East, a distance of 146.64 feet to a point; thence South 89°59'15" East, a distance of 2294.57 feet to a point a point in the centerline of a creek; thence along the centerline of said Creek and continuing along said City/County line the following courses and distances: North 85°20'51" East, a distance of 18.11 feet to a point; thence South 32°16'29" West, a distance of 70.06 feet to a point; thence South 38°59'24" West, a distance of 54.03 feet to a point; thence South 44°07'18" West, a distance of 45.15 feet to a point; thence South 26°36'54" West, a distance of 48.58 feet to a point; thence South 28°27'34" West, a distance of 39.59 feet to a point; thence South 29°52'55" West, a distance of 71.99 feet to a point; thence South 15°00'00" West, a distance of 41.11 feet to a point; thence South 35°25'50" West, a distance of 25.71 feet to a point; thence South 42°22'38" West, a distance of 37.50 feet to a point; thence South 52°37'32" West, a distance of 36.78 feet to a point; thence South 59°30'19" West, a distance of 74.77 feet to a point; thence South 47°31'15" West, a distance of 50.94 feet to a point; thence South 23°32'58" West, a distance of 36.53 feet to a point; thence South 14°22'13" West, a distance of 21.49 feet to a point; thence South 08°50'35" West, a distance of 15.44 feet to a point; thence South 11°38'53" West, a distance of 46.56 feet to a point; thence South 06°52'10" West, a distance of 103.52 feet to a point; thence South 11°28'43" West, a distance of 45.50 feet to a point; thence South 34°30'43" West, a distance of 31.80 feet to a point; thence South 49°13'44" West, a distance of 21.41 feet to a point; thence South 64°59'50" West, a distance of 21.84 feet to a point; thence South 87°11'31" West, a distance of 68.98 feet to a point; thence North 89°48'33" West, a distance of 59.48 feet to a point; thence South 53°13'23" West, a distance of 22.57 feet to a point; thence South 42°18'21" West, a distance of 26.33 feet to a point; thence South 31°44'01" West, a distance of 64.23 feet to a point; thence South 54°41'14" West, a distance of 63.47 feet to a point; thence South 59°13'37" West, a distance of 77.39 feet to a point; thence South 60°47'26" West, a distance of 78.99 feet to a point; thence South 55°29'25" West, a distance of 142.18 feet to a point; thence South 43°50'52" West, a distance of 59.45 feet to a point; thence South 42°33'47" West, a distance of 44.10 feet to a point; thence South 35°03'05" West, a distance of 37.16 feet to a point; thence South 15°46'59" West, a distance of 34.45 feet to a point; thence South 00°26'12" West, a distance of 30.97 feet to a point; thence South 37°54'07" East, a distance of 38.75 feet to a point; thence South 27°46'35" East, a distance of 8.68 feet to a point; thence South 19°08'41" East, a distance of 15.97 feet to a point; thence South 11°11'09" West, a distance of 10.64 feet to a point; thence South 13°34'32" West, a distance of 56.81 feet to a point; thence South 24°44'03" West, a distance of 40.45 feet to a point; thence South 09°34'10" West, a distance of 9.96 feet to a point; thence South 00°03'33" West, a distance of 7.33 feet to a point; thence South 22°02'36" East, a distance of 57.96 feet to a point; thence South 32°39'03" East, a distance of 64.49 feet to a point; thence South 37°20'38" East, a distance of 54.63 feet to a point; thence South 36°00'08" East, a distance of 66.79 feet to a point; thence South 08°11'46" East, a distance of 62.90 feet to a point; thence South 02°30'22" East, a distance of 93.40 feet to a point; thence South 09°35'13" West, a distance of 45.03 feet to a point; thence South 10°37'46" East, a distance of 71.46 feet to a point; thence South 01°14'39" West, a distance of 33.67 feet to a point; thence South 08°31'28" East, a distance of 21.88 feet to a point; thence South 21°04'41" East, a distance of 62.50 feet to a point; thence South 27°25'17" East, a distance of 111.93 feet to a point; thence South 20°24'04" East, a distance of 29.60 feet to a point; thence South 13°04'08" East, a distance of 12.81 feet to a point; thence South 22°35'17" West, a distance of 11.40 feet to a point; thence South 43°08'43" West, a distance of 18.36 feet to a point; thence South 57°58'37" West, a distance of 14.92 feet to a point; thence South 76°47'10" West, a distance of 44.23 feet to a point; thence South 60°00'50" West, a distance of 19.71 feet to a point; thence South 41°05'03" West, a distance of 19.71 feet to a point; thence South 32°28'19" West, a distance of 42.64 feet to a point; thence South 31°53'44" West, a distance of 53.14 feet to a

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point; thence South 19°57'07" West, a distance of 62.97 feet to a point; thence South 46°46'08" West, a distance of 18.60 feet to a point; thence South 68°23'20" West, a distance of 18.30 feet to a point; thence South 69°56'51" West, a distance of 21.62 feet to a point; thence South 68°46'19" West, a distance of 21.01 feet to a point; thence South 57°22'24" West, a distance of 34.65 feet to a point; thence South 50°35'56" West, a distance of 97.71 feet to a point; thence South 41°00'38" West, a distance of 74.47 feet to a point; thence South 49°42'04" West, a distance of 31.62 feet to a point; thence South 54°49'26" West, a distance of 29.41 feet to a point; thence South 64°31'59" West, a distance of 12.69 feet to a point; thence North 80°53'38" West, a distance of 6.86 feet to a point; thence North 41°52'02" West, a distance of 6.47 feet to a point; thence North 23°27'37" West, a distance of 11.73 feet to a point; thence North 05°31'52" East, a distance of 8.59 feet to a point; thence North 17°43'30" East, a distance of 9.90 feet to a point; thence North 10°45'29" East, a distance of 12.75 feet to a point; thence North 09°10'18" East, a distance of 11.60 feet to a point; thence North 11°52'45" East, a distance of 12.97 feet to a point; thence North 02°20'56" East, a distance of 11.82 feet to a point; thence North 19°51'51" West, a distance of 9.48 feet to a point; thence North 33°20'35" West, a distance of 5.67 feet to a point; thence North 51°47'25" West, a distance of 8.97 feet to a point; thence North 74°54'20" West, a distance of 3.77 feet to a point; thence North 88°23'42" West, a distance of 5.08 feet to a point; thence South 60°00'56" West, a distance of 6.99 feet to a point; thence South 31°42'24" West, a distance of 9.83 feet to a point; thence South 27°15'49" West, a distance of 11.08 feet to a point; thence South 21°26'49" West, a distance of 27.25 feet to a point; thence South 35°51'59" West, a distance of 35.33 feet to a point in the centerline of Allen Creek; thence along the centerline of said Allen Creek and continuing along said City/County line the following courses and distances: South 24°52'26" East, a distance of 74.51 feet to a point; thence South 02°27'01" West, a distance of 65.17 feet to a point; thence South 18°04'50" East, a distance of 66.47 feet to a point; thence North 86°03'21" East, a distance of 46.19 feet to a point; thence North 65°05'08" East, a distance of 9.90 feet to a point; thence South 42°14'53" East, a distance of 99.00 feet to a point; thence South 07°38'57" East, a distance of 20.92 feet to a point; thence South 19°18'38" West, a distance of 125.39 feet to a point; thence South 19°36'33" East, a distance of 125.95 feet to a point; thence South 79°48'34" East, a distance of 64.63 feet to a point; thence South 29°18'16" East, a distance of 68.11 feet to a point; thence South 06°42'01" West, a distance of 62.12 feet to a point; thence South 53°07'38" East, a distance of 34.79 feet to a point; thence South 28°20'37" East, a distance of 105.91 feet to a point; thence South 49°41'01" West, a distance of 48.75 feet to a point; thence South 08°21'28" East, a distance of 54.00 feet to a point; thence South 05°32'32" West, a distance of 133.05 feet to a point; thence South 81°26'25" East, a distance of 106.90 feet to a point; thence South 12°09'10" East, a distance of 117.41 feet to a point; thence South 33°44'10" East, a distance of 86.09 feet to a point; thence South 04°53'14" East, a distance of 88.14 feet to a point; thence South 28°16'14" East, a distance of 160.90 feet to a point; thence South 66°38'03" East, a distance of 59.10 feet to a point; thence South 08°58'19" East, a distance of 98.05 feet to a point; thence South 17°51'15" West, a distance of 242.24 feet to a point; thence South 42°47'08" West, a distance of 62.13 feet to a point; thence South 84°18'35" West, a distance of 52.80 feet to a point; thence North 48°16'11" West, a distance of 48.16 feet to a point; thence North 76°01'54" West, a distance of 37.65 feet to a point; thence South 24°07'01" West, a distance of 116.98 feet to a point; thence South 35°27'40" West, a distance of 176.77 feet to a point; thence South 29°24'16" West, a distance of 99.04 feet to a point; thence South 10°50'47" West, a distance of 153.12 feet to a point; thence South 23°40'58" East, a distance of 47.68 feet to a point; thence South 64°55'35" East, a distance of 178.54 feet to a point; thence South 27°14'20" West, a distance of 194.21 feet to a point; thence South 50°37'52" West, a distance of 190.45 feet to a point; thence South 47°12'23" West, a distance of 178.58 feet to a point; thence South 12°26'03" West, a distance of 292.77 feet to a point in the centerline of Little Creek; thence along the centerline of said Little Creek and continuing along said City/County line the following courses and distances: the following courses and distances: North 66°08'12" West, a distance of 52.92 feet to a point; thence North 33°38'37" West, a distance of 92.99 feet

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to a point; thence North 12°28'50" West, a distance of 55.06 feet to a point; thence North 69°11'40" West, a distance of 58.80 feet to a point; thence South 84°49'25" West, a distance of 44.14 feet to a point; thence South 22°09'49" West, a distance of 65.50 feet to a point; thence North 71°33'11" West, a distance of 63.98 feet to a point; thence North 89°16'29" West, a distance of 54.58 feet to a point; thence North 23°28'01" West, a distance of 43.69 feet to a point; thence North 63°33'08" West, a distance of 116.33 feet to a point; thence South 66°54'59" West, a distance of 493.02 feet to a point; thence leaving said Little Creek and along the property now or formerly belonging to Cottrell Properties, L.P. and continuing along said City/County line North 21°15'35" West, a distance of 3007.78 feet to a point; thence along the property now or formerly belong to Hall County, Georgia and continuing along said City/County line North 55°06'25" East, a distance of 137.77 feet to a point in the centerline of said Little Creek; thence along said centerline and continuing along said City/County line the following courses and distances: North 44°13'38" West, a distance of 114.51 feet to a point; thence North 16°15'47" West, a distance of 64.24 feet to a point; thence North 38°43'11" West, a distance of 54.97 feet to a point; thence North 23°51'35" West, a distance of 86.48 feet to a point; thence North 05°06'32" West, a distance of 120.96 feet to a point; thence North 13°11'46" West, a distance of 42.35 feet to a point; thence South 86°28'47" West, a distance of 14.87 feet to a point; thence North 11°12'13" West, a distance of 40.11 feet to a point; thence North 16°22'13" West, a distance of 289.70 feet to a point; thence South 88°18'13" East, a distance of 14.35 feet to a point; thence North 32°54'06" East, a distance of 94.64 feet to a point; thence North 04°53'57" East, a distance of 37.34 feet to a point; thence North 63°16'42" East, a distance of 35.53 feet to a point; thence North 23°53'18" East, a distance of 28.57 feet to a point; thence North 46°58'51" West, a distance of 33.44 feet to a point; thence South 81°25'40" West, a distance of 116.55 feet to a point; thence North 26°09'29" West, a distance of 181.51 feet to a point; thence North 63°26'00" West, a distance of 183.42 feet to a point; thence leaving said Little Creek North 26°21'07" West, a distance of 811.55 feet to a point; thence North 49°47'24" West, a distance of 1089.73 feet to a point; thence North 34°09'15" West, a distance of 383.89 feet to a point in the centerline of said Little Creek; thence along said centerline and continuing along said City/County line the following courses and distances: North 34°35'41" East, a distance of 35.22 feet to a point; thence North 29°56'38" West, a distance of 20.02 feet to a point; thence North 44°33'24" West, a distance of 37.03 feet to a point; thence North 54°21'41" East, a distance of 32.40 feet to a point; thence North 20°50'25" East, a distance of 34.18 feet to a point; thence North 09°15'40" West, a distance of 93.12 feet to a point; thence North 23°05'26" West, a distance of 150.99 feet to a point; thence North 42°48'45" West, a distance of 172.71 feet to a point; thence North 07°38'58" West, a distance of 80.23 feet to a point; thence North 51°06'34" West, a distance of 243.91 feet to a point; thence North 49°24'27" West, a distance of 131.95 feet to a point; thence North 32°01'26" West, a distance of 32.61 feet to a point; thence leaving said Little Creek and said City/County line North 43°05'17" West, a distance of 654.95 feet to a point on said City of Gainesville/Hall County line; thence along said City/County line and along the property now or formerly belonging Hall County, Georgia North 39°42'30" West, a distance of 322.16 feet to a point; thence along the properties now or formerly belonging Jim Wilhoite Properties, Inc. to North 32°17'12" East, a distance of 229.18 feet to a point; thence along the properties now or formerly belonging to Jim Wilhoite Properties, Inc. and Gonsowski Enterprises, LLC North 59°32'41" West, a distance of 830.62 feet to a point; thence along the property now or formerly belonging to Cresenciano Perez-Albarran, Maria de Jesus Rivers, Adrian Perez Guadarrama & Ilian Yareth Perez Sesmas North 30°08'40" East, a distance of 359.16 feet to a point; thence North 30°13'38" East, a distance of 154.93 feet to a point; thence along the property now or formerly belonging to Ainsworth Holding, LLC North 06°46'02" East, a distance of 211.61 feet to a point on the southwestern right-of-way of Fullenwider Road (60' R/W); thence North 38°21'17" East, a distance of 60.01 feet to a point on the northeastern right-of-way of Fullenwider Road (60' R/W); thence along said right-of-way 132.16 feet along to le right having a radius of 1139.37 feet and a chord bearing and distance of North 48°19'21" West 132.08 feet to a point; thence North 44°59'57" West, a distance of 165.85

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feet to a point; thence 221.94 feet along the arc of a curve to the left having a radius of 413.12 feet and a chord bearing and distance of North 60°23'24" West 219.28 feet to a point; thence leaving said right-of-way and along the property now or formerly belonging to Lanier Property Investments Group, LLC and continuing along said City/County line North 06°56'06" East, a distance of 225.71 feet to a point; thence North 43°24'48" East, a distance of 50.00 feet to a point; thence North 52°15'14" East, a distance of 59.09 feet to a point; thence North 10°24'21" East, a distance of 47.86 feet to a point; thence along the properties now or formerly belonging to Lanier Property Investments Group, LLC and Marshall 1611, LLC and Sigco Holdings, LLC and Rob Strickland North 53°12'32" West, a distance of 697.00 feet to a point; thence North 53°12'32" West, a distance of 419.01 feet to a point; thence along the properties now or formerly belonging to Rob Strickland and RRC Acquisition, LLC North 21°25'56" West, a distance of 860.10 feet to a point; thence property now or formerly belonging to RRC Acquisition, LLC North 29°11'01" West, a distance of 43.60 feet to a point on the southeastern right-of-way of May Drive (R/W unknown); thence North 62°06'44" West, a distance of 55.93 feet to a point on the northwestern right-of-way of said May Drive; thence leaving said right-of-way and along the property now or formerly belonging to Lanier warehouse Associates, LLC and continuing along said City/County line North 58°46'02" East, a distance of 407.55 feet to a point; thence North 13°41'02" East, a distance of 289.94 feet to a point; thence North 77°42'01" West, a distance of 531.09 feet to a point; thence South 63°00'04" West, a distance of 238.37 feet to a point; thence along the property now or formerly belonging to Captain Nemo Properties, LLC North 27°49'08" West, a distance of 892.80 feet to a point; thence South 71°47'39" West, a distance of 412.78 feet to a point; thence along the properties now or formerly belonging to LKL Management, LLC and 3S CO North 23°57'59" West, a distance of 754.29 feet to a point; thence along the property now or formerly belonging to 3 S CO North 03°17'57" West, a distance of 788.84 feet to a point; thence leaving said City/County line and along the property now or formerly belonging to Ricky Presley North 81°07'18" East, a distance of 362.97 feet to a point; thence along the properties now or formerly belonging to Ricky Presley and Rayford D. Payne South 80°01'56" East, a distance of 257.49 feet to a point on said City of Gainesville Line/Hall County Line; thence along said City/County line and along the property now for formerly belonging to Rayford D. Payne South 80°01'56" East, a distance of 647.51 feet to a point; thence North 47°34'58" East, a distance of 121.69 feet to a point; thence North 42°31'03" West, a distance of 133.92 feet to a point; thence North 46°04'56" East, a distance of 235.67 feet to a point; thence North 21°48'50" East, a distance of 173.53 feet to a point on the southwestern right-of-way of Monroe Drive (R/W Varies); thence leaving said City/County line and along said right-of-way South 52°45'05" East, a distance of 271.61 feet to a point; thence 519.74 feet along the arc of a curve to the left having a radius of 336.48 feet and a chord bearing and distance of North 82°59'55" East 469.59 feet to a point; thence North 38°44'55" East, a distance of 180.25 feet to a point over the centerline of said Allen Creek; thence leaving said right-of-way and into the property now or formerly belonging to the City of Gainesville, Georgia and along said centerline the following courses and distances: South 51°15'05" East, a distance of 24.45 feet to a point; thence South 48°14'26" East, a distance of 53.54 feet to a point; thence South 82°39'27" East, a distance of 49.14 feet to a point; thence South 44°22'45" East, a distance of 61.41 feet to a point; thence South 11°00'33" East, a distance of 31.72 feet to a point; thence South 11°01'01" East, a distance of 5.76 feet to a point; thence South 63°56'30" West, a distance of 57.42 feet to a point; thence South 63°56'33" West, a distance of 12.03 feet to a point; thence South 05°32'36" East, a distance of 58.41 feet to a point; thence South 34°47'34" East, a distance of 52.62 feet to a point; thence South 18°00'16" East, a distance of 59.37 feet to a point; thence South 16°34'36" East, a distance of 56.56 feet to a point; thence South 08°48'34" West, a distance of 35.58 feet to a point; thence South 19°29'54" East, a distance of 77.61 feet to a point; thence South 20°27'56" East, a distance of 53.45 feet to a point; thence South 36°49'52" East, a distance of 46.35 feet to a point; thence South 44°07'07" East, a distance of 56.78 feet to a point; thence South 23°33'21" East, a distance of 52.31 feet to a point; thence South 23°52'35" East, a distance of 47.65 feet to a point; thence

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South 23°10'27" East, a distance of 57.55 feet to a point; thence South 02°45'25" West, a distance of 41.79 feet to a point; thence South 51°02'22" East, a distance of 67.31 feet to a point; thence South 37°07'24" East, a distance of 77.23 feet to a point; thence South 29°34'05" West, a distance of 61.59 feet to a point; thence South 34°09'07" East, a distance of 53.82 feet to a point; thence South 47°47'16" East, a distance of 61.94 feet to a point; thence South 45°27'30" East, a distance of 66.13 feet to a point; thence South 01°24'41" West, a distance of 43.36 feet to a point; thence South 18°03'16" East, a distance of 25.48 feet to a point; thence South 35°22'50" East, a distance of 42.06 feet to a point; thence South 56°45'29" East, a distance of 41.42 feet to a point; thence South 13°45'06" West, a distance of 30.43 feet to a point; thence South 13°44'38" West, a distance of 6.09 feet to a point; thence South 58°27'08" West, a distance of 58.29 feet to a point; thence South 58°26'54" West, a distance of 13.79 feet to a point; thence South 27°42'38" East, a distance of 73.77 feet to a point; thence South 14°27'30" West, a distance of 28.71 feet to a point; thence South 63°13'09" East, a distance of 54.53 feet to a point; thence South 74°56'09" East, a distance of 53.72 feet to a point; thence South 47°27'33" East, a distance of 61.55 feet to a point; thence South 22°56'27" East, a distance of 54.39 feet to a point; thence South 25°58'52" East, a distance of 34.87 feet to a point; thence South 09°17'35" East, a distance of 37.47 feet to a point; thence South 63°28'33" East, a distance of 60.93 feet to a point; thence South 11°56'31" West, a distance of 56.44 feet to a point; thence South 15°05'51" East, a distance of 16.90 feet to a point; thence North 74°23'04" East, a distance of 78.15 feet to a point; thence South 36°45'24" East, a distance of 23.84 feet to a point; thence South 05°13'27" East, a distance of 47.28 feet to a point; thence South 51°06'03" East, a distance of 40.11 feet to a point; thence South 25°25'07" West, a distance of 54.84 feet to a point; thence South 07°38'08" East, a distance of 34.16 feet to a point; thence South 46°05'37" East, a distance of 39.08 feet to a point; thence South 30°16'21" East, a distance of 48.60 feet to a point; thence South 28°53'28" East, a distance of 61.77 feet to a point; thence South 63°13'27" East, a distance of 73.10 feet to a point; thence North 71°38'43" East, a distance of 2.66 feet to a point; thence North 71°37'49" East, a distance of 26.34 feet to a point; thence North 87°53'32" East, a distance of 56.57 feet to a point; thence South 45°59'49" East, a distance of 29.23 feet to a point; thence South 78°14'28" East, a distance of 31.65 feet to a point; thence South 74°00'49" East, a distance of 49.07 feet to a point; thence South 16°48'29" East, a distance of 34.19 feet to a point; thence South 65°00'23" East, a distance of 27.21 feet to a point; thence North 71°44'52" East, a distance of 40.13 feet to a point; thence South 49°15'14" East, a distance of 58.30 feet to a point; thence South 05°17'45" West, a distance of 46.54 feet to a point; thence South 05°18'08" West, a distance of 4.99 feet to a point; thence South 57°18'19" West, a distance of 69.82 feet to a point; thence South 57°17'54" West, a distance of 14.07 feet to a point; thence South 38°38'48" East, a distance of 36.43 feet to a point; thence South 67°34'51" East, a distance of 33.10 feet to a point; thence South 40°43'16" East, a distance of 30.10 feet to a point; thence South 53°49'12" East, a distance of 18.41 feet to a point; thence South 33°38'06" West, a distance of 19.78 feet to a point; thence South 22°04'12" East, a distance of 51.80 feet to a point; thence South 40°27'24" East, a distance of 72.41 feet to a point; thence leaving the centerline of said Allen Creek North 48°42'42" East, a distance of 111.07 feet to a point; thence North 43°46'17" East, a distance of 56.91 feet to a point; thence North 40°06'49" East, a distance of 9.50 feet to a point; thence North 40°07'28" East, a distance of 34.05 feet to a point; thence North 36°14'39" East, a distance of 30.07 feet to a point; thence South 69°02'59" East, a distance of 1.32 feet to a point; thence South 69°07'12" East, a distance of 20.67 feet to a point; thence North 37°21'10" East, a distance of 13.77 feet to a point; thence North 37°20'41" East, a distance of 15.50 feet to a point; thence North 61°25'40" East, a distance of 2.50 feet to a point; thence North 61°25'18" East, a distance of 54.64 feet to a point; thence North 74°38'07" East, a distance of 27.03 feet to a point; thence North 68°04'24" East, a distance of 19.87 feet to a point; thence North 15°36'57" East, a distance of 7.90 feet to a point; thence North 15°37'05" East, a distance of 13.90 feet to a point; thence North 74°57'50" East, a distance of 7.20 feet to a point; thence North 74°58'24" East, a distance of 24.28 feet to a point; thence North 45°32'49" East, a distance of 41.42 feet to

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a point; thence North 32°09'17" East, a distance of 3.96 feet to a point; thence North 32°10'39" East, a distance of 29.45 feet to a point; thence North 60°00'58" East, a distance of 5.08 feet to a point; thence North 60°00'40" East, a distance of 36.15 feet to a point; thence North 19°32'50" East, a distance of 6.73 feet to a point; thence North 19°33'33" East, a distance of 12.62 feet to a point; thence North 77°10'34" East, a distance of 6.36 feet to a point; thence North 77°07'51" East, a distance of 13.33 feet to a point; thence North 20°06'59" East, a distance of 9.65 feet to a point; thence North 20°07'17" East, a distance of 57.55 feet to a point; thence North 57°32'13" East, a distance of 8.68 feet to a point; thence North 57°34'07" East, a distance of 9.07 feet to a point; thence South 76°46'11" East, a distance of 484.46 feet to a point; thence North 65°55'31" East, a distance of 354.94 feet to a point; thence North 57°07'33" East, a distance of 356.01 feet to a point on the western right-of-way of said Allen Road; thence along said right-of-way South 30°15'39" East, a distance of 1759.94 feet to a point; thence South 35°59'3" thence 388.01 feet the arc of a curve to the left having a radius of 1937.86 feet and a chord bearing and distance of South 35°59'49" East 387.36 feet to a point; thence South 41°43'58" East, a distance of 924.08 feet to the True Point of Beginning.

Said tract contains 1025 acres +/-.

SECTION II.

All Ordinances and parts of Ordinances in conflict herewith are hereby repealed.

SECTION III.

If any portion of this Ordinance shall be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect or impair the remaining portions unless it clearly appears that such other parts are wholly and necessarily dependent upon the part held to be invalid or unconstitutional.

SECTION IV.

This Ordinance is enacted as an amendment to the Code of the City of Gainesville, Georgia, and is to be codified as a part of Section 9-1-1-5.

SECTION V.

The effective date of this Ordinance shall be upon approval by the governing body of the City of Gainesville, Georgia.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk

**GAINESVILLE 85 BUSINESS PARK
CONDITIONS OF ZONING
February 28, 2020**

The request is to rezone 1,320 ± acres from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) and to annex 4.4 ± acres with a zoning of Planned Unit Development (P-U-D) for a proposed business park. This document is submitted consistent with requirements of the Unified Development Code of Gainesville, Georgia, Section 9-7-1-1, PUD, Planned Unit Development, as amended 12/17/19. It accompanies other rezoning application submittal material and is an integral part of the rezoning package to be reviewed by staff and to be subject to the public hearing process. As such it may be modified by mutual agreement of the City of Gainesville, Georgia ("City") and the Applicant, City of Gainesville, Georgia (hereinafter "Developer") up to the point of approval by the City Council. Upon approval it shall become an integral part of the zoning approval for the properties herein described and depicted in the accompanying Conceptual Plan (hereinafter "Concept Plan"). Additional terms are provided for its interpretation or modification after approval.

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RELATIONSHIP TO CITY ZONING ACTION

This narrative explains and clarifies the Concept Plan and related development standards specific to the Gainesville 85 Business Park Planned Unit Development district (hereinafter "Project"). This method is common for large, complex developments that will be built over a period of several years. It gives the City, adjacent property owners, the general public and Developer, including its successors and assigns, certainty with respect to development standards, while also providing flexibility to the Developer to be able to respond to changes in market conditions and preferences consistent with the intent of the Planned Unit Development Section of the City's Zoning Ordinance as it exists at the time of initial application.

This document is intended to detail and clarify the conditions of zoning and slight modifications to the Gainesville Unified Land Development Code for the Project as described herein and as reflected in the accompanying Exhibits. Due to the complexity of the Project, its projected build-out over a period of 15 to 20 years, and uncertainty of future economic considerations, the City acknowledges the significant rights vested to the applicant based on this approval, and the need for the Developer to be able to rely on these conditions of approval over the life of the project, as long as the project proceeds in general conformance with the program discussed herein. After approval, the conditions of zoning shall be recorded in the public records of Hall County, Georgia and reference to recording information shall be included on any and all plats created for the development.

It is intended that the submitted boundary perimeter of the Project (hereinafter "Project Boundary") and corresponding acreage of the PUD district will be as shown in submittal material. However, zoning conditions of the Project may be applied to additional property outside the initial Project Boundary, if the Applicant acquires additional property and with City Council approval via the rezoning process. Consideration of different conditions for the addition of property(ies) after approval(s) shall not prompt or require a re-review of conditions of zoning for the Project as it then exists, but shall apply only to additional lands, if any.

CONCEPT PLAN

The development of the Project shall be controlled by the Concept Plan, attached hereto as Exhibit "A", the Project Narrative and other exhibits provided as modified in the final approval. The Plan is considered conceptual in nature, and certain modifications to that Plan are anticipated as reflected in the specific language herein. Beyond such specific language, modifications of the location and arrangement of lots, roads, amenities and other improvements that do not materially conflict with specific standards and requirements of these conditions may be made by the Developer, so long as such modification does not materially alter the location or nature of improvements or change the land use or increase density. The current Plan incorporates light industrial and heavy industrial uses.

PUD ZONING DISTRICT - GAINESVILLE 85 BUSINESS PARK

The Project shown in the Concept Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five

(5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The overall Concept Plan requests approval for a maximum of 5,000,000 SF of light and heavy industrial uses as well as additional uses as specified herein. The Developer acknowledges that the specific standards of these conditions and applicable City codes not otherwise modified herein shall control.

DEVELOPMENT

Dimensional Requirements

The dimensional requirements for the project shall be as outlined in Table 1 below:

Table 1

Dimensional Requirements - Gainesville 85 Business Park	
Project Acreage	1330 +/-
Minimum lot size	15,000 SF
Minimum lot width	100'
Maximum building coverage - individual lot	60%
Maximum impervious surface coverage - individual lot	85%
Minimum open space - individual lot	none
Minimum open space - overall	5%
Minimum landscape strip along internal R/W's	20'
Maximum structure height	120'
Maximum number of stories	5
Front setback from R/W	75'
Side setback - internal	20'
Rear setback - internal	20'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to residential uses/zoning districts	50'
Industrial Park Perimeter Side/Rear setback/buffer adjacent to nonresidential uses/zoning districts	none
Parking setback from R/W	10'
Front Building setback from parking lots	10'
Parking ratio - manufacturing, processing, assembling	none
Parking ratio - all other uses	Per UIDC
Driveway width	28'
Minimum driveway radius	25'
Minimum number of off street loading spaces	none

Development Standards

The Developer agrees to comply with all applicable City rules and regulations in effect on the date of approval, except as specifically modified herein. The Developer agrees to comply with future amendments to those rules or regulations, except where specific conflicting standards are approved herein, or such future compliance is specifically waived.

Subsequent actions by the City to change Development Standards for other zoning districts of the City shall not apply to the 85 Gainesville Industrial Park PUD district, unless such changes are city-wide and required by changes in federal or state laws. By approval of the City, the Developer will have substantial vested rights for the Project.

Permitted Uses

This PUD zoning shall allow for the following uses:

- Conservation Area
- Clinic
- Club or Lodge
- College or University
- School for Arts
- Private School
- Professional School
- Special School
- Trade School
- Bank or Financial Establishment
- Broadcasting Studio
- Building Materials Sales
- Business Service Establishment
- Contractor's Establishment
- Custom Order Shop
- Exterminator
- Health Spa
- Museum
- Office
- Parking Lot – off site
- Parking Structure
- Personal Service Establishment – more than 2500 sf
- Restaurant
- Retreat Center
- Bottling or Canning Plant
- Brewery or Distillery
- Bulk Storage
- Cold Storage
- Distribution including truck terminal
- Apparel Manufacturing
- Ceramics Manufacturing
- Cosmetics Manufacturing
- Electronics Manufacturing
- Fiberglass Insulation Manufacturing
- Ice Manufacturing
- Machine Manufacturing
- Metal Products Manufacturing

- Pharmaceutical/Medical Manufacturing
- Office/Warehouse
- Warehouse or Storage Building
- Wholesale Trade Establishment
- Public Use
- Utility Company
- Utility Company Substation
- Accessory Use incidental to principal use
- ATM Machine
- ATM Drive through
- Caretaker's Residence
- Construction Field Office
- Drive Through
- Manufacturing Accessory to Retail use
- Office/Institutional/Industrial Warehouse/Distribution/Manufacturing uses
- Instrument Assembly

In addition, this PUD zoning shall allow for the following specific uses:

- Proving grounds for equipment performance testing
- Gun ranges owned and operated by government agencies
- Equipment maintenance facilities owned and operated by government agencies
- Temporary construction offices housed in trailer or modular buildings

DEVELOPMENT FEES

All applicable fees for water & sewer connections, land disturbance permits and building permits will be administered based on the then current fee schedule for the City of Gainesville.

AESTHETICS

ARCHITECTURE

The Developer has proposed a unified development vernacular of building forms, mass, articulation, exterior treatments, surface materials and finishes, complimentary colors and similar details. This approval will guide development of the buildings, with no further architectural approval required outside of the administrative building permit process. Pictorial examples of the intended quality level and character of industrial architecture are provided in Exhibit "B". Review and compliance will be monitored through the covenants to be filed on the property.

Landscape Standards

Landscape standards shall be in accordance with the Declaration of Covenants, Restrictions and Easements for Gainesville 85 Business Park, to be recorded on the property. Any standards not addressed within the covenants shall meet the standards of the ULDC.

SIGNAGE

Signage and graphics design standards, typical for a Planned Unit Development, are developed to establish a cohesive, distinctive and functional system to visually attract and communicate with everyone who visits and works in Gainesville 85 Business Park. A well-coordinated sign system is also one of the most effective ways of creating lasting identity and way-finding clarity. Project signage along public roadways in 85 Gainesville Industrial Park will be designed consistent with a high-quality image. A coordinated program of signage for individual sites shall be approved in conjunction with the site plan approval of the building, similar to pictorial examples provided in Exhibit "C".

All sign square footage criteria are calculated inclusive of the sign monument.

Signage design criteria is requested as follows:

<u>Sign Type</u>	<u>Maximum Area per Face (SF)</u>	<u>Maximum Height (ft)</u>	<u>Frequency</u>
User Sign Types			
Ground Mounted Sign	200 sf	18 ft	One (1) sign per lot per street frontage
Portable Sign	8 sf		One (1) per establishment
Wall Sign	1 sf of wall signage per 1 lf of wall length	3 ft on 1 st & 2nd floor	One (1) per each tenant having an exterior public entrance
Window Sign	32 sf	12 inches	One (1) per establishment
Projecting Blade Sign	16 sf		One (1) per establishment
Entry Signage	32 sf	8 ft	One (1) per bldg. entrance
Grand Opening and Temporary Signage	32 sf		
Developer Sign Types			
Major Parkway Identification	200 sf	18 ft	One (1) @ SR 129 One (1) on Fullenwider Rd
Secondary Parkway Identification	200 sf	18 ft	One (1) @ Monroe Dr
Way-finding Signage	100 sf	15 ft	As needed
Minor Information and Directional Signs	35 sf	8 ft	As needed
Regulatory Signs			As needed

Entry Feature Monuments

A main entrance feature or signage shall be allowed at the entrances from US 129, Fullenwider Road and Monroe Drive. The main entrance features may include extensive walls, fencing, landscaping and signage that is commensurate with the size of the Project and the scale of the entrances.

ENVIRONMENTAL

FLOOD PLAIN MANAGEMENT

Flood plains will remain undisturbed with the exception of roadway crossings and utility placement. A trail system may also be constructed within this zone.

BUFFERS, LANDSCAPING AND TREE PROTECTION

An external buffer of 50' will be imposed where the site adjoins a residential zoning district (Exhibit "F"). Driveway construction for Lot #5 may be constructed within the buffer and is excluded from this requirement. The buffer may be disturbed and replanted in these areas to the satisfaction of the Declarant.

CULTURAL RESOURCES

A cultural resources literature search by R.S. Webb & Associates, dated August 13, 2018, identified five sites that may have eligibility under NHRP. These sites, as shown on Exhibit "D" will be delineated and protected by an additional 25' buffer around the perimeter. A variance to this buffer may not be granted.

STORMWATER MANAGEMENT, GRADING AND EROSION CONTROL

Stormwater Management

A series of storm water management facilities will be designed to serve the project on a basin wide basis, rather than individual sites. However, individual sites will be required to provide water quality elements for their own stormwater runoff.

Grading and Erosion Control

The Project contemplates multiple areas being open to construction activity concurrently. Similarly, over time multiple phases of concurrent road and lot development may be on going in multiple parcels within multiple phases. At the developer's discretion these may be submitted as stand-alone projects or integrated within common sets of construction plans. Proper erosion control measures are to be maintained at all times with particular attention to steep fill or cut slopes, large areas of grading and areas immediately adjacent to stream buffers. Developer will adhere to all State and Federal requirements regarding erosion and sediment controls.

Stream Buffers

The Project contains several small unnamed tributaries to Allen Creek. The Developer has received a US Army Corps of Engineers' Individual Permit for permitting stream & wetland impacts. If these impacts are exhausted and to the degree feasible, the Developer may avoid additional impacts to the stream channel by use of pre-fabricated span structures, such as ConSpan or OmegaSpan, wooden bridges or other types of alternative crossings that meet development regulations, rather than pipe or culvert. In consideration of the extra expense and effort associated with this limitation of impact to streams, the City agrees that variances to the City's required stream buffers (50' undisturbed & 75' impervious) will be considered where dimensional and topographic hardships may exist. Such buffers may be crossed by utility crossings, roads and trails, provided such are placed as perpendicular to the buffer as practical. Pervious surface trails of the Multi-Use Trail system may meander within buffers at distances greater than 25' from top of bank, except at points of crossing or specific focal points of interest. Unless

DEVELOPMENT PHASING

85 Gainesville Industrial Park is anticipated to be developed over a fifteen to twenty year time frame. At present the following phasing, as depicted on Exhibit "E" is planned on a conservative basis, but may be either accelerated or deferred at the discretion of the Developer, depending on market conditions. It is the Developer's desire and intent to develop all phases of the Project, but no guarantee is made by way of this document,

zoning approval, or accompanying Concept Plan that all phases of the Project will be developed.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fullenwider Road and extension of Fullenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monumentation at Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fullenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fullenwider Road and SR 60.
- Construction of entrance monumentation at Fullenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.
- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monumentation at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

INFRASTRUCTURE IMPROVEMENTS

In general, the Developer shall be responsible for providing the timely construction of all on-site project-related infrastructure necessary to serve the Project, and to also accommodate or facilitate specific concurrent or future additional on-site system-related improvements of the City. The Developer shall not be required to oversize roads, facilities or pipe systems at their expense, unless accommodation is made for credits or rebates of fees and charges for the portion of system-related improvements that exceed otherwise required project-related improvements.

The construction and installation of infrastructure improvements shall be conducted in conformance with the applicable codes, ordinances, policies and procedures of the City and the other applicable governmental agencies and service providers, unless specifically modified herein. Modification of the requirements of other agencies or providers may be referenced here, but the authority to make such modifications lays with those other parties by separate agreement.

ROAD IMPROVEMENTS

On-site Improvements

As provided for through the PUD District, it is intended that the on-site roads shall all be constructed to meet the City standards and specification for public roads, with the following modifications:

Fullenwider Road Extension

Minimum design speed – 25 mph, with design values based on AASHTO standards

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Minimum cul-de-sac pavement radius – 52' to back of curb
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

US 129 Entrance Road

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

Allen Creek Road Connector

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

UTILITIES

Water Service

Water service will be provided by the City, through an extension of existing water lines located in Allen Creek Road and Fullenwider Road with a future connection back to US 129.

Sanitary Sewer Service

Sanitary Sewer Service will be provided by the City. Gravity sewers will be constructed throughout the property and will flow to the new 85 Gainesville Business Park pump station located at the southern end of the property. The flow will then be pumped back to the existing Allen Creek pump station located near the soccer complex and eventually to the Flat Creek Water Reclamation Facility for treatment and disposal.

Other Utilities

All utilities are to be placed underground. Electric, gas, phone, cable and/or fiber are to be placed by respective utility providers as available per City of Gainesville standards in common trench or conduit after curbing and prior to driveway/sidewalk installation. Small cell antenna systems for internet and Wi-Fi as an alternative to cable or fiber may be placed in conjunction with street light poles.

AMENDMENTS TO THESE CONDITIONS

It is understood that the Project is being constructed over an extended period of time in a rapidly growing area; therefore, amendments to these conditions are possible and should be anticipated. In order to protect the interests of the parties involved, along with the interests of neighboring property owners and the general public, these conditions shall be amended under the procedures outlined below:

Changes to the Concept Plan

Certain modifications to the Concept Plan are described above, which are exempt because of distance from the original perimeter of the property or can be administered at a staff level and do not require formal amendment of the Concept Plan. However, if a proposed change does not meet the criteria, a formal amendment must be approved through the same public hearing process as required for the original zoning approval. Examples of these would be major changes at the original perimeter of the property, or changes in use or development standards for the property on the whole.

Changes to the Language of these Conditions

Minor changes or clarifications of the language of these conditions may be made as part of a vote by the City Council at any duly called meeting. These include the adjustment of time frames for specific actions while maintaining the overall intent of Project phasing, the modification of technical specifications for infrastructure improvements, and the addition of new language clarifying issues not previously part of this agreement.

Other changes to the language of these conditions must be approved through the same public hearing process as required for the original zoning approval. This specifically includes the deletion of any required improvements, the addition of any permitted land use(s), any increase, above 10%, in the maximum amount of development permitted, or a change to the criteria for buffers or setbacks for development taking place adjacent to the Project Boundary.

EFFECT OF CITY ORDINANCE CHANGES

It is specifically acknowledged that the City may consider changes to its development regulations over the life of this Project's development, construction and occupancy. As such, the parties acknowledge that other development related codes and ordinances change over time, and such changes customarily have different effects on various portions of the Project's development depending upon their stage of completion.

Changes in Conflict with the Concept Plan or these conditions

Changes in City development-related codes, ordinances, policies or practices which are in direct conflict with the details or provisions of the approved Concept Plan or these conditions shall not apply to the continued development of the Project, except where such changes are mandated by State or Federal law, such as changes to standard building codes, or except where such relate to City-wide fees or charges not addressed by the zoning documents.

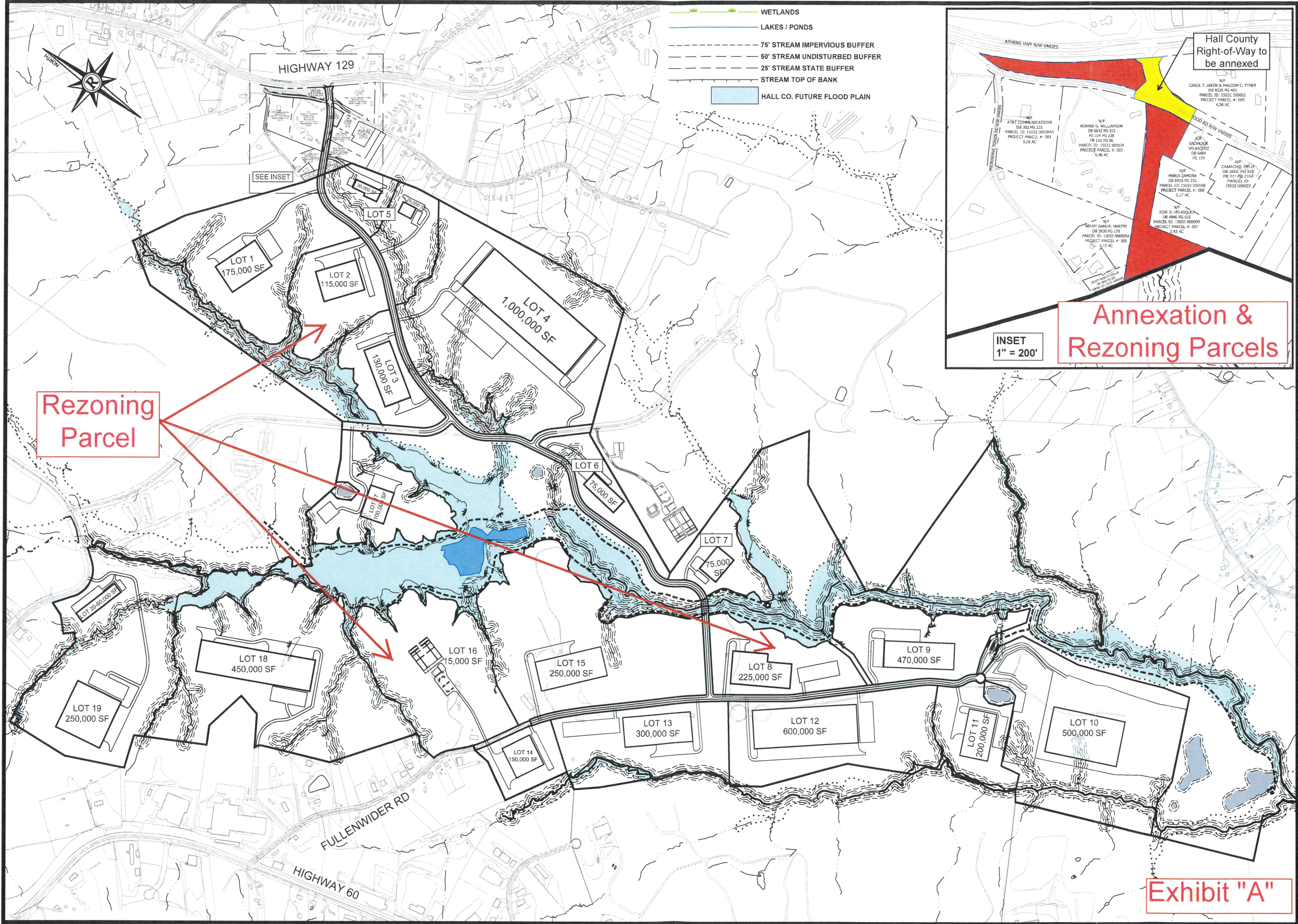
Changes to Dimensional or Development Standards, or Subdivision Regulations

It is the intent of the City to allow the Project to develop with a consistent look and feel, and with a level of predictability in development cost over time. Therefore, changes to dimensional standards (such as height, setback, etc.), development standards (such as parking or landscaping requirements, or sign regulations), shall not apply to the remaining phases of development, unless there is a demonstrated compelling public health, safety, morals or welfare interest to require the new standard. Exceptions to this policy would be standards mandated by State or Federal law.

Other City Codes and Ordinances

Nothing within this agreement shall affect the ongoing enforcement of other City codes, regardless of changes over time, including codes affecting the accessory uses of property or maintenance of property.

Exhibit B - Site Plan



Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

REZONING PLAN FOR:
85 GAINESVILLE BUSINESS PARK

NO.		DATE		DESCRIPTION	

ANY CHANGES OR ALTERATIONS MADE TO THIS PLAN SHALL BE THE RESPONSIBILITY OF THE CLIENT. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

GRAPHIC SCALE
250' 500' 1000'

SHEET 1 OF 1
DATE 1/21/2020
SCALE 1"=500'
JOB NO. G190016.COG
DWG NO. *BASE.dwg
DRAWN BY: ATM

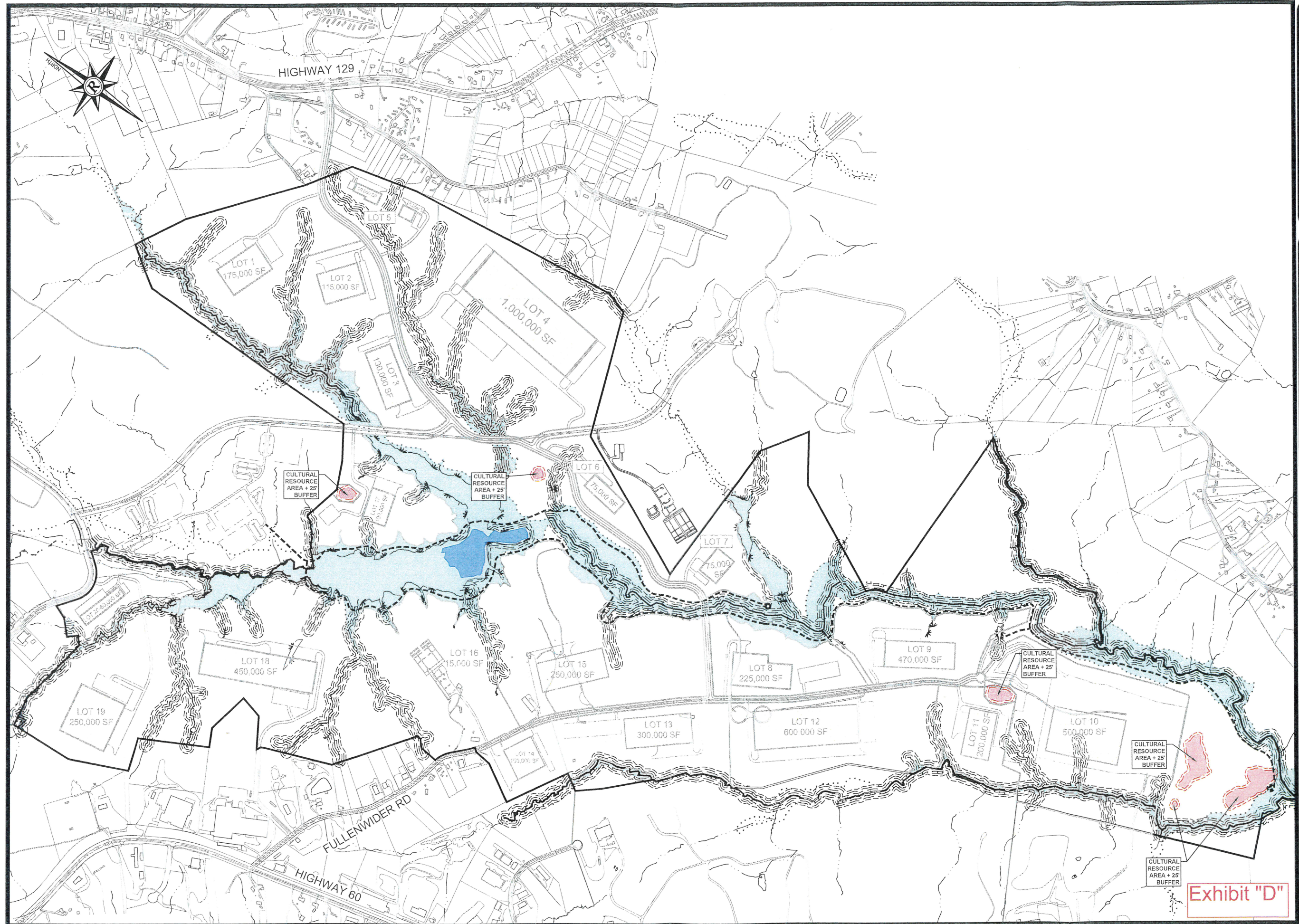


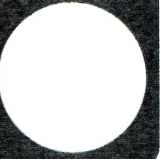
Exhibit "D"

Rochester & Associates, Inc.
 425 Oak Street N.W. • Gainesville, Georgia 30501
 (770) 718-0600 (770) 718-9090 Fax • www.rochester-assoc.com

CULTURAL RESOURCE AREAS
 FOR:
85 GAINESVILLE BUSINESS PARK
 LOCATED IN:
 CITY OF GAINESVILLE
 HALL COUNTY, GEORGIA

NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THESE CONSTRUCTION DRAWINGS WITHOUT THE SIGNATURE OF THE DESIGNER SHALL BE VOID. THE SEAL SHOWN HEREON IS THE SEAL OF THE DESIGNER AND IS NOT TO BE USED FOR ANY OTHER PROJECT. ORIGINAL DRAWINGS ARE KEPT ON FILE FOR VERIFICATION OF ANY CHANGES.



SHEET
1
 OF
1

DATE: 1/21/2020
 SCALE: 1"=500'
 JOB NO. 0180016.COG
 DRAWN BY: ATM

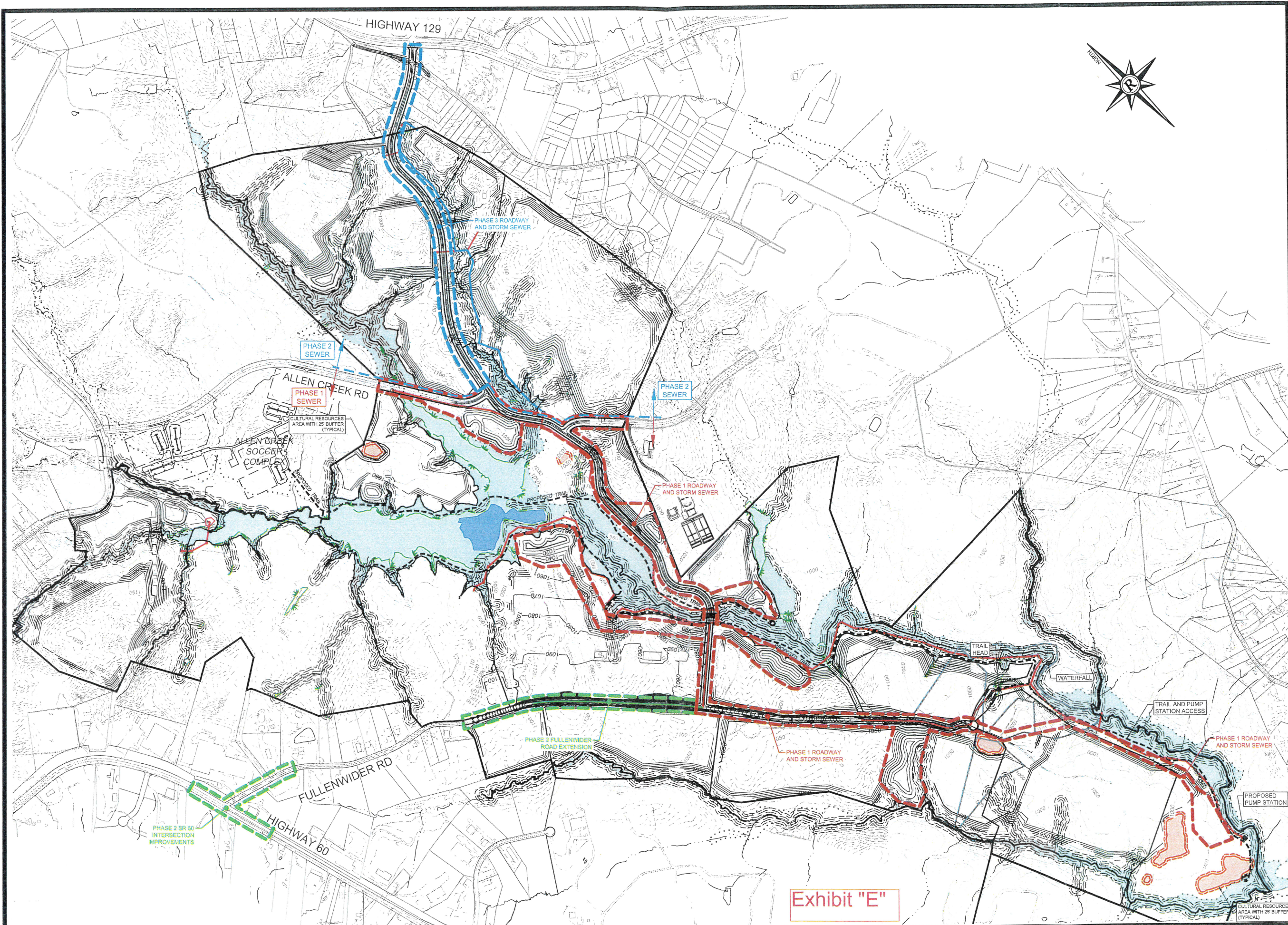


Exhibit "E"

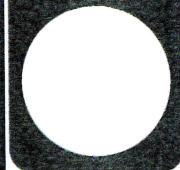
Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

PHASING PLAN FOR:
85 GAINESVILLE BUSINESS PARK
LOCATED IN:
LAND LOT DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THESE CONSTRUCTION DRAWINGS WITHOUT THE WRITTEN APPROVAL OF THE DESIGNER HEREON AND ANY LIABILITY ASSOCIATED WITH SUCH CHANGES SHALL BE THE RESPONSIBILITY OF THE USER. THESE DRAWINGS ARE KEPT ON FILE FOR VERIFICATION OF ANY CHANGES.

GRAPHIC SCALE
25' 0' 500' 1000'



SHEET
1
OF
1

DATE: 9/11/19
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DWG NO. CNST.dwg
DRAWN BY: MPP

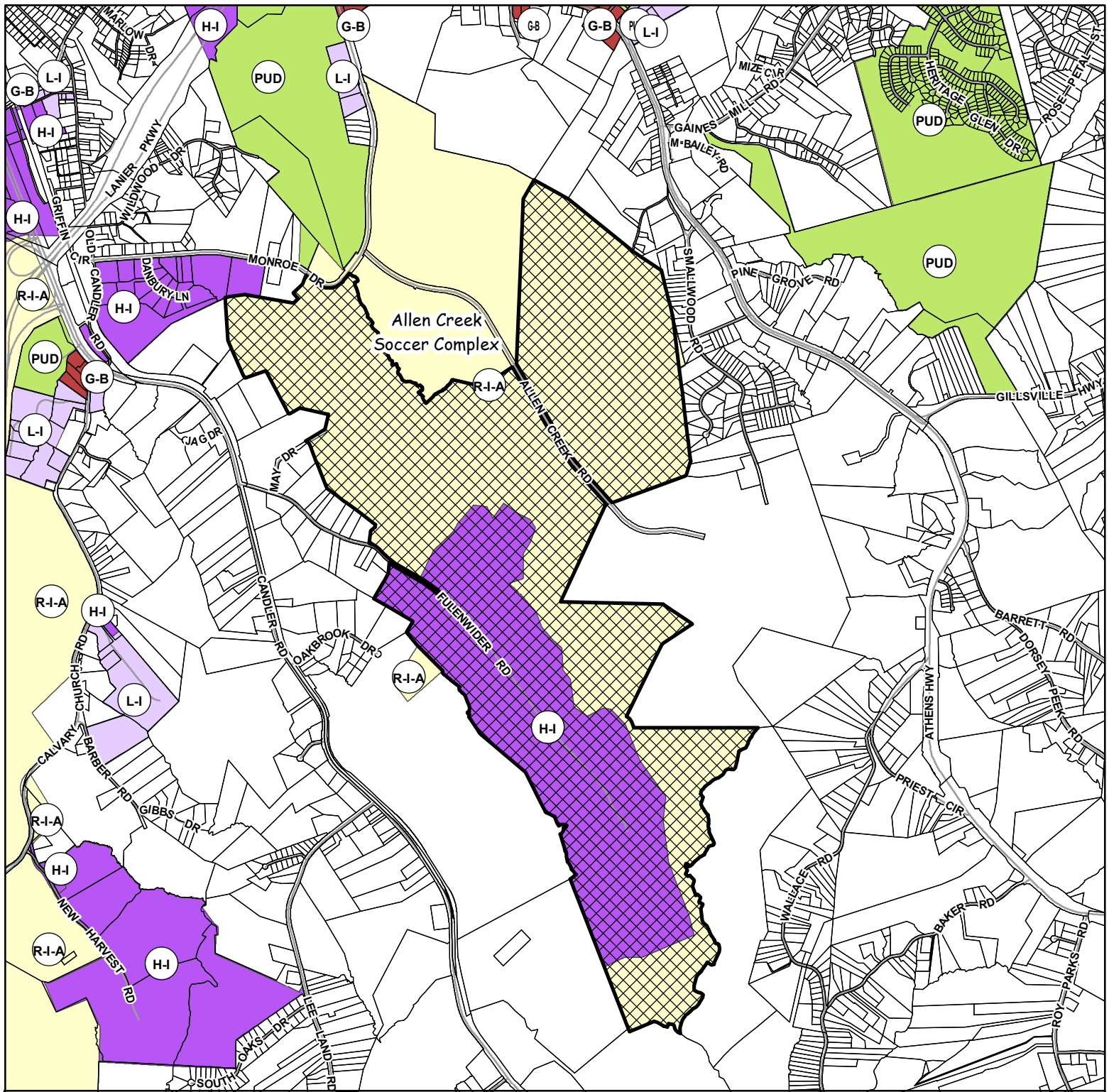
Exhibit C - Architectural Renderings











Applicant:

CITY OF GAINESVILLE

REZONING REQUEST

Request:

Rezone a 1,320+/- acres tract from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) for a business park

Subject Property Address:

1701 Fulewider Road, SW

Tax Parcel:

15-023-000-167 (Part)

Meeting Date: 06/09/2020

Map Prepared: 05/13/2020

 Subject Property

N



0 1,500 3,000 4,500 6,000 Feet

1" = 2,500'



CITY OF

GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT





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Subject Property

Aerial from 2018

0 1,500 3,000 4,500 6,000 Feet

1" = 2,500'



CITY OF
GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT



GAINESVILLE 85 BUSINESS PARK
CONDITIONS OF ZONING
February 28, 2020

The request is to rezone 1,231 ± acres from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D) and to annex 4.4 ± acres with a zoning of Planned Unit Development (P-U-D) for a proposed business park. This document is submitted consistent with requirements of the Unified Development Code of Gainesville, Georgia, Section 9-7-1-1, PUD, Planned Unit Development, as amended 12/17/19. It accompanies other rezoning application submittal material and is an integral part of the rezoning package to be reviewed by staff and to be subject to the public hearing process. As such it may be modified by mutual agreement of the City of Gainesville, Georgia ("City") and the Applicant, City of Gainesville, Georgia (hereinafter "Developer") up to the point of approval by the City Council. Upon approval it shall become an integral part of the zoning approval for the properties herein described and depicted in the accompanying Conceptual Plan (hereinafter "Concept Plan"). Additional terms are provided for its interpretation or modification after approval.

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RELATIONSHIP TO CITY ZONING ACTION

This narrative explains and clarifies the Concept Plan and related development standards specific to the Gainesville 85 Business Park Planned Unit Development district (hereinafter "Project"). This method is common for large, complex developments that will be built over a period of several years. It gives the City, adjacent property owners, the general public and Developer, including its successors and assigns, certainty with respect to development standards, while also providing flexibility to the Developer to be able to respond to changes in market conditions and preferences consistent with the intent of the Planned Unit Development Section of the City's Zoning Ordinance as it exists at the time of initial application.

This document is intended to detail and clarify the conditions of zoning and slight modifications to the Gainesville Unified Land Development Code for the Project as described herein and as reflected in the accompanying Exhibits. Due to the complexity of the Project, its projected build-out over a period of 15 to 20 years, and uncertainty of future economic considerations, the City acknowledges the significant rights vested to the applicant based on this approval, and the need for the Developer to be able to rely on these conditions of approval over the life of the project, as long as the project proceeds in general conformance with the program discussed herein. After approval, the conditions of zoning shall be recorded in the public records of Hall County, Georgia and reference to recording information shall be included on any and all plats created for the development.

It is intended that the submitted boundary perimeter of the Project (hereinafter "Project Boundary") and corresponding acreage of the PUD district will be as shown in submittal material. However, zoning conditions of the Project may be applied to additional property outside the initial Project Boundary, if the Applicant acquires additional property and with City Council approval via the rezoning process. Consideration of different conditions for the addition of property(ies) after approval(s) shall not prompt or require a re-review of conditions of zoning for the Project as it then exists, but shall apply only to additional lands, if any.

CONCEPT PLAN

The development of the Project shall be controlled by the Concept Plan, attached hereto as Exhibit "A", the Project Narrative and other exhibits provided as modified in the final approval. The Plan is considered conceptual in nature, and certain modifications to that Plan are anticipated as reflected in the specific language herein. Beyond such specific language, modifications of the location and arrangement of lots, roads, amenities and other improvements that do not materially conflict with specific standards and requirements of these conditions may be made by the Developer, so long as such modification does not materially alter the location or nature of improvements or change the land use or increase density. The current Plan incorporates light industrial and heavy industrial uses.

PUD ZONING DISTRICT - GAINESVILLE 85 BUSINESS PARK

The Project shown in the Concept Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five

(5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The overall Concept Plan requests approval for a maximum of 5,000,000 SF of light and heavy industrial uses as well as additional uses as specified herein. The Developer acknowledges that the specific standards of these conditions and applicable City codes not otherwise modified herein shall control.

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Maximum number of stories	5
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- Special School
- Trade School
- Bank or Financial Establishment
- Broadcasting Studio
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- Business Service Establishment
- Contractor's Establishment
- Custom Order Shop
- Exterminator
- Health Spa
- Museum
- Office
- Parking Lot – off site
- Parking Structure
- Personal Service Establishment – more than 2500 sf
- Restaurant
- Retreat Center
- Bottling or Canning Plant
- Brewery or Distillery
- Bulk Storage
- Cold Storage
- Distribution including truck terminal
- Apparel Manufacturing
- Ceramics Manufacturing
- Cosmetics Manufacturing
- Electronics Manufacturing
- Fiberglass Insulation Manufacturing
- Ice Manufacturing
- Machine Manufacturing
- Metal Products Manufacturing

- Pharmaceutical/Medical Manufacturing
- Office/Warehouse
- Warehouse or Storage Building
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- Public Use
- Utility Company
- Utility Company Substation
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- ATM Machine
- ATM Drive through
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- Drive Through
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In addition, this PUD zoning shall allow for the following specific uses:

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AESTHETICS

ARCHITECTURE

The Developer has proposed a unified development vernacular of building forms, mass, articulation, exterior treatments, surface materials and finishes, complimentary colors and similar details. This approval will guide development of the buildings, with no further architectural approval required outside of the administrative building permit process. Pictorial examples of the intended quality level and character of industrial architecture are provided in Exhibit "B". Review and compliance will be monitored through the covenants to be filed on the property.

Landscape Standards

Landscape standards shall be in accordance with the Declaration of Covenants, Restrictions and Easements for Gainesville 85 Business Park, to be recorded on the property. Any standards not addressed within the covenants shall meet the standards of the ULDC.

SIGNAGE

Signage and graphics design standards, typical for a Planned Unit Development, are developed to establish a cohesive, distinctive and functional system to visually attract and communicate with everyone who visits and works in Gainesville 85 Business Park. A well-coordinated sign system is also one of the most effective ways of creating lasting identity and way-finding clarity. Project signage along public roadways in 85 Gainesville Industrial Park will be designed consistent with a high-quality image. A coordinated program of signage for individual sites shall be approved in conjunction with the site plan approval of the building, similar to pictorial examples provided in Exhibit "C".

All sign square footage criteria are calculated inclusive of the sign monument.

Signage design criteria is requested as follows:

<u>Sign Type</u>	<u>Maximum Area per Face (SF)</u>	<u>Maximum Height (ft)</u>	<u>Frequency</u>
User Sign Types			
Ground Mounted Sign	200 sf	18 ft	One (1) sign per lot per street frontage
Portable Sign	8 sf		One (1) per establishment
Wall Sign	1 sf of wall signage per 1 lf of wall length	3 ft on 1 st & 2nd floor	One (1) per each tenant having an exterior public entrance
Window Sign	32 sf	12 inches	One (1) per establishment
Projecting Blade Sign	16 sf		One (1) per establishment
Entry Signage	32 sf	8 ft	One (1) per bldg. entrance
Grand Opening and Temporary Signage	32 sf		
Developer Sign Types			
Major Parkway Identification	200 sf	18 ft	One (1) @ SR 129 One (1) on Fullenwider Rd
Secondary Parkway Identification	200 sf	18 ft	One (1) @ Monroe Dr
Way-finding Signage	100 sf	15 ft	As needed
Minor Information and Directional Signs	35 sf	8 ft	As needed
Regulatory Signs			As needed

Entry Feature Monuments

A main entrance feature or signage shall be allowed at the entrances from US 129, Fullenwider Road and Monroe Drive. The main entrance features may include extensive walls, fencing, landscaping and signage that is commensurate with the size of the Project and the scale of the entrances.

ENVIRONMENTAL

FLOOD PLAIN MANAGEMENT

Flood plains will remain undisturbed with the exception of roadway crossings and utility placement. A trail system may also be constructed within this zone.

BUFFERS, LANDSCAPING AND TREE PROTECTION

An external buffer of 50' will be imposed where the site adjoins a residential zoning district (Exhibit "F"). Driveway construction for Lot #5 may be constructed within the buffer and is excluded from this requirement. The buffer may be disturbed and replanted in these areas to the satisfaction of the Declarant.

CULTURAL RESOURCES

A cultural resources literature search by R.S. Webb & Associates, dated August 13, 2018, identified five sites that may have eligibility under NHRP. These sites, as shown on Exhibit "D" will be delineated and protected by an additional 25' buffer around the perimeter. A variance to this buffer may not be granted.

STORMWATER MANAGEMENT, GRADING AND EROSION CONTROL

Stormwater Management

A series of storm water management facilities will be designed to serve the project on a basin wide basis, rather than individual sites. However, individual sites will be required to provide water quality elements for their own stormwater runoff.

Grading and Erosion Control

The Project contemplates multiple areas being open to construction activity concurrently. Similarly, over time multiple phases of concurrent road and lot development may be on going in multiple parcels within multiple phases. At the developer's discretion these may be submitted as stand-alone projects or integrated within common sets of construction plans. Proper erosion control measures are to be maintained at all times with particular attention to steep fill or cut slopes, large areas of grading and areas immediately adjacent to stream buffers. Developer will adhere to all State and Federal requirements regarding erosion and sediment controls.

Stream Buffers

The Project contains several small unnamed tributaries to Allen Creek. The Developer has received a US Army Corps of Engineers' Individual Permit for permitting stream & wetland impacts. If these impacts are exhausted and to the degree feasible, the Developer may avoid additional impacts to the stream channel by use of pre-fabricated span structures, such as ConSpan or OmegaSpan, wooden bridges or other types of alternative crossings that meet development regulations, rather than pipe or culvert. In consideration of the extra expense and effort associated with this limitation of impact to streams, the City agrees that variances to the City's required stream buffers (50' undisturbed & 75' impervious) will be considered where dimensional and topographic hardships may exist. Such buffers may be crossed by utility crossings, roads and trails, provided such are placed as perpendicular to the buffer as practical. Pervious surface trails of the Multi-Use Trail system may meander within buffers at distances greater than 25' from top of bank, except at points of crossing or specific focal points of interest. Unless

DEVELOPMENT PHASING

85 Gainesville Industrial Park is anticipated to be developed over a fifteen to twenty year time frame. At present the following phasing, as depicted on Exhibit "E" is planned on a conservative basis, but may be either accelerated or deferred at the discretion of the Developer, depending on market conditions. It is the Developer's desire and intent to develop all phases of the Project, but no guarantee is made by way of this document,

zoning approval, or accompanying Concept Plan that all phases of the Project will be developed.

Phase I (approximately 2020 - 2025):

- Clearing, grading and construction of infrastructure improvements at Allen Creek Road, the new roadway from Allen Creek Road south to Fullenwider Road and extension of Fullenwider Road east and terminating at a new cul-de-sac.
- Construction of entrance monumentation at Allen Creek Road, if desired.
- Construction of stormwater management facilities serving the Phase 1 development parcels.
- Construction of water and wastewater improvements to serve the Phase 1 development parcels along the proposed roadways.
- Installation of a sanitary sewer pump station, outfall sanitary sewer and force main.

Phase II (approximately 2026 - 2030):

- Extension of Fullenwider Road from the existing portion to the Phase 1 portion.
- Intersection improvements at Fullenwider Road and SR 60.
- Construction of entrance monumentation at Fullenwider Road, if desired.
- Construction of stormwater management facilities serving the Phase 2 development parcels.
- Construction of water and wastewater improvements to serve the Phase 2 development parcels along the proposed roadways.

Phase III (approximately 2031 - 2040):

- Extension of the roadway from Allen Creek Road north to US 129 with water and wastewater improvements to serve the Phase 3 development parcels.
- Construction of entrance monumentation at US 129, if desired.
- Intersection improvements at the new roadway and US 129.

INFRASTRUCTURE IMPROVEMENTS

In general, the Developer shall be responsible for providing the timely construction of all on-site project-related infrastructure necessary to serve the Project, and to also accommodate or facilitate specific concurrent or future additional on-site system-related improvements of the City. The Developer shall not be required to oversize roads, facilities or pipe systems at their expense, unless accommodation is made for credits or rebates of fees and charges for the portion of system-related improvements that exceed otherwise required project-related improvements.

The construction and installation of infrastructure improvements shall be conducted in conformance with the applicable codes, ordinances, policies and procedures of the City and the other applicable governmental agencies and service providers, unless specifically modified herein. Modification of the requirements of other agencies or providers may be referenced here, but the authority to make such modifications lays with those other parties by separate agreement.

ROAD IMPROVEMENTS

On-site Improvements

As provided for through the PUD District, it is intended that the on-site roads shall all be constructed to meet the City standards and specification for public roads, with the following modifications:

Fullenwider Road Extension

Minimum design speed – 25 mph, with design values based on AASHTO standards

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Minimum cul-de-sac pavement radius – 52' to back of curb
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

US 129 Entrance Road

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

Allen Creek Road Connector

- Minimum right-of-way – 60'
- Minimum pavement width (back to back of curb) – 28'
- Minimum pavement design – 2" Type E, 3" Type B & 12" GAB
- Perpetual Easement outside R/W – 5' on both sides
- Maximum grade – 12%

UTILITIES

Water Service

Water service will be provided by the City, through an extension of existing water lines located in Allen Creek Road and Fullenwider Road with a future connection back to US 129.

Sanitary Sewer Service

Sanitary Sewer Service will be provided by the City. Gravity sewers will be constructed throughout the property and will flow to the new 85 Gainesville Business Park pump station located at the southern end of the property. The flow will then be pumped back to the existing Allen Creek pump station located near the soccer complex and eventually to the Flat Creek Water Reclamation Facility for treatment and disposal.

Other Utilities

All utilities are to be placed underground. Electric, gas, phone, cable and/or fiber are to be placed by respective utility providers as available per City of Gainesville standards in common trench or conduit after curbing and prior to driveway/sidewalk installation. Small cell antenna systems for internet and Wi-Fi as an alternative to cable or fiber may be placed in conjunction with street light poles.

AMENDMENTS TO THESE CONDITIONS

It is understood that the Project is being constructed over an extended period of time in a rapidly growing area; therefore, amendments to these conditions are possible and should be anticipated. In order to protect the interests of the parties involved, along with the interests of neighboring property owners and the general public, these conditions shall be amended under the procedures outlined below:

Changes to the Concept Plan

Certain modifications to the Concept Plan are described above, which are exempt because of distance from the original perimeter of the property or can be administered at a staff level and do not require formal amendment of the Concept Plan. However, if a proposed change does not meet the criteria, a formal amendment must be approved through the same public hearing process as required for the original zoning approval. Examples of these would be major changes at the original perimeter of the property, or changes in use or development standards for the property on the whole.

Changes to the Language of these Conditions

Minor changes or clarifications of the language of these conditions may be made as part of a vote by the City Council at any duly called meeting. These include the adjustment of time frames for specific actions while maintaining the overall intent of Project phasing, the modification of technical specifications for infrastructure improvements, and the addition of new language clarifying issues not previously part of this agreement.

Other changes to the language of these conditions must be approved through the same public hearing process as required for the original zoning approval. This specifically includes the deletion of any required improvements, the addition of any permitted land use(s), any increase, above 10%, in the maximum amount of development permitted, or a change to the criteria for buffers or setbacks for development taking place adjacent to the Project Boundary.

EFFECT OF CITY ORDINANCE CHANGES

It is specifically acknowledged that the City may consider changes to its development regulations over the life of this Project's development, construction and occupancy. As such, the parties acknowledge that other development related codes and ordinances change over time, and such changes customarily have different effects on various portions of the Project's development depending upon their stage of completion.

Changes in Conflict with the Concept Plan or these conditions

Changes in City development-related codes, ordinances, policies or practices which are in direct conflict with the details or provisions of the approved Concept Plan or these conditions shall not apply to the continued development of the Project, except where such changes are mandated by State or Federal law, such as changes to standard building codes, or except where such relate to City-wide fees or charges not addressed by the zoning documents.

Changes to Dimensional or Development Standards, or Subdivision Regulations

It is the intent of the City to allow the Project to develop with a consistent look and feel, and with a level of predictability in development cost over time. Therefore, changes to dimensional standards (such as height, setback, etc.), development standards (such as parking or landscaping requirements, or sign regulations), shall not apply to the remaining phases of development, unless there is a demonstrated compelling public health, safety, morals or welfare interest to require the new standard. Exceptions to this policy would be standards mandated by State or Federal law.

Other City Codes and Ordinances

Nothing within this agreement shall affect the ongoing enforcement of other City codes, regardless of changes over time, including codes affecting the accessory uses of property or maintenance of property.

COMMUNITY BENEFIT STATEMENT

For Gainesville 85 Business Park

The Gainesville 85 Business Park is proposed as a Planned Unit Development (PUD) under the City of Gainesville's Unified Land Development Code (Sec. 9-7-1-1) as amended 12/17/19, with specific conditions as proposed in the zoning request. The Project shown in the Conceptual Plan is strategically located east of Interstate 985 between Exits 20 & 22. With close access to US 129 and SR 60, the Park will consist of a network of existing and new roads that will serve approximately nineteen (19) lots varying in size from 2 acres to over 100 acres. The Developer will retain the flexibility to combine or further subdivide the lots in order to accommodate specific needs of future users. Five (5) outparcels have been acquired and will be annexed into the City for the purpose of providing a direct connection to US 129.

The historical use of the land has been mostly agricultural with recent municipal use for a small portion of the site as the gun range for the Gainesville City Police Department. The site has been owned by the City since 2000. The site is bisected by Allen Creek.

The Gainesville 85 Business Park will be a master planned business park with multiple development opportunities for small, medium and large users. The mix of development opportunities will be attractive to a range of industrial uses as well as ancillary support businesses. The superior location and site features will make for a unique opportunity to continue the City's industrial growth in a measured and manageable pattern.

Over 300 acres of the site will be devoted to open space that will include a trail system and protection of at least 5 cultural resource sites. The cultural resource sites will include a 25' buffer area and will be fenced for protection. These sites may contain house ruins and lithic scatter.

The site is designated in the City's Comprehensive Plan dated June 20, 2017 as an "Economic Development Gateways" Character Area. The Character Area vision is included below:

Because many of these industrial / business parks and facilities were built over the last 35 to 45 years, they exhibit modern industrial development norms such as single-story large footprint buildings, extensive parking / loading areas, and reliance on truck transportation. Common site design patterns include campus-style master plans or light industrial subdivisions with low-rise office or office-warehouse buildings. They also are highly visible to motorists entering the city from the south and east, and therefore, act as gateways to Gainesville. The character area also features large, forested tracts of natural land and coexists with recreation and conservation landmarks like the Allen Creek Soccer Complex, the Elachee Nature Science Center, and the Chicopee Woods Agricultural Center. It reaches to the Athens Street corridor, which was once a primary entry to the city from the south but has struggled with economic disinvestment and creeping blight. It has been the subject of recent revitalization planning efforts. The primary vision for the area is to continue to support economic development, while preserving and strengthening important natural and cultural resources. Other goals include creating a positive impression for visitors entering the city from I-985; supporting the revitalization of the Athens Street corridor; and creating better connections to the Downtown / Midtown area. Green design / sustainability standards should be considered in future modifications to site development regulations or as an overlay for the area.

Economic development gateways are located on the city's fringe and are not therefore typical infill development sites. Cutting-edge "green" design and sustainable development practices can open new

opportunities to improve the visual and architectural quality of industrially-zoned development. Expanding pedestrian, bike and transit mobility options should be a priority for all gateway areas. The character area could play a role in an emerging high-tech / green business identity for the region. The Beulah Rucker Museum is located within this character area. Open space preservation should be required in all new industrial or business development, using low-impact design strategies. Protection of sensitive habitat, wildlife corridors, and groundwater recharge areas should be a priority for any new development. Much of the gateway is located within the North Oconee water supply watershed. Most of Gainesville's future economic growth could be accommodated in the gateway areas. Business attraction should be tailored to the skills of Gainesville's diverse population as well as long-term economic sustainability. Maximizing employment options for local residents should be considered in evaluating incentives for new businesses. Aesthetically improving gateways can give this area a competitive advantage and "brand" in attracting new industry and jobs. Cooperation with Hall County and the Greater Hall Chamber of Commerce is essential to realizing the character area's potential.

Land uses allowed in Economic Development Gateways are commercial, industrial, mixed-use, residential (existing uses only), public / institutional, transportation / communications / utilities, and parks / recreation / conservation.

A number of the goals identified in the Comprehensive Plan for this type of development will be achieved through the development of this site. A large amount of open space (approximately 25%), including wetlands, floodplain and cultural resource areas will be retained and protected through the planning and entitlement process. The Developer (City of Gainesville) will control the standards through extensive covenants and oversight for the life of the project. Other quantitative and qualitative benefits include:

- Permanent job creation of approximately 2,500 new jobs at build out;
- Temporary construction jobs during the construction phase of each user;
- New and improved road infrastructure;
- Over \$4,600,000 in annual property tax revenues at build out (not including personal property taxes);
- Increased sales tax revenue based on job growth;
- Approximately \$1,500,000 in Impact Fees over the life of the project;
- Water Meter Fees (estimated at more than \$1,800,000 over the life of the project);
- Sanitary Sewer Tap Fees (estimated at more than \$3,700,000 over the life of the project);
- One time Building Permit Fees (estimated at more than \$1,000,000 over the life of the project);
- Development Impact Fees for public safety improvements (estimated at more than \$2,000,000 over the life of the project); and
- Water & Sewer Use Fees (estimated at more than \$140,000 annually at buildout).
- Gainesville intends to locate a new Maintenance Facility at the Gainesville 85 Business Park that will consolidate several disparate Water Resources and Public Works facilities that currently operate in old buildings poorly designed for their current use. These city facilities support critical city operations including maintenance of water and sewer pipes and pump stations, city vehicle maintenance and fueling, street maintenance and public lands management. The new Maintenance Facility will enhance the City's ability to deliver these services for decades to come.

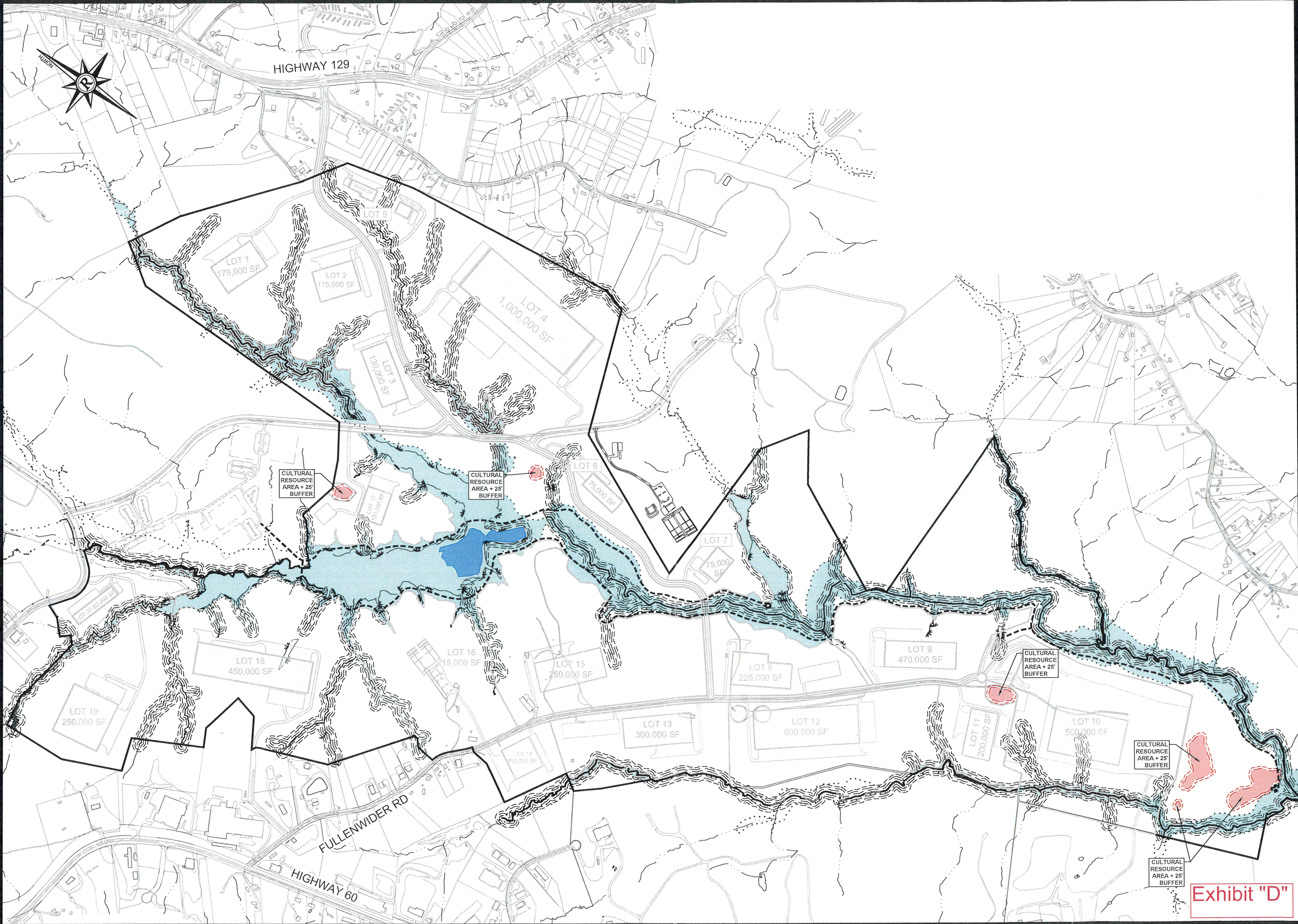


Exhibit "D"

REVISIONS		
NO.	DATE	DESCRIPTION

ANY CHANGES OR ALTERATIONS MADE TO THIS DRAWING MUST BE APPROVED BY THE WRITTEN APPROVAL OF ROCHESTER & ASSOCIATES, INC. AND THE SEAL SHOWN WITH THIS PROJECT. ORIGINAL DRAWINGS ARE CHANGES.

GRAPHIC SCALE
250' 0' 500' 1000'



SHEET
1
OF
1

DATE: 1/21/2020
SCALE: 1"=500'
SUB NO.: 0
DRAWN BY: ATM

CULTURAL RESOURCE AREAS FOR:
85 GAINESVILLE BUSINESS PARK

LOCATED IN
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770) 718-0600 (770) 718-9090 Fax • www.rochester-assoc.com

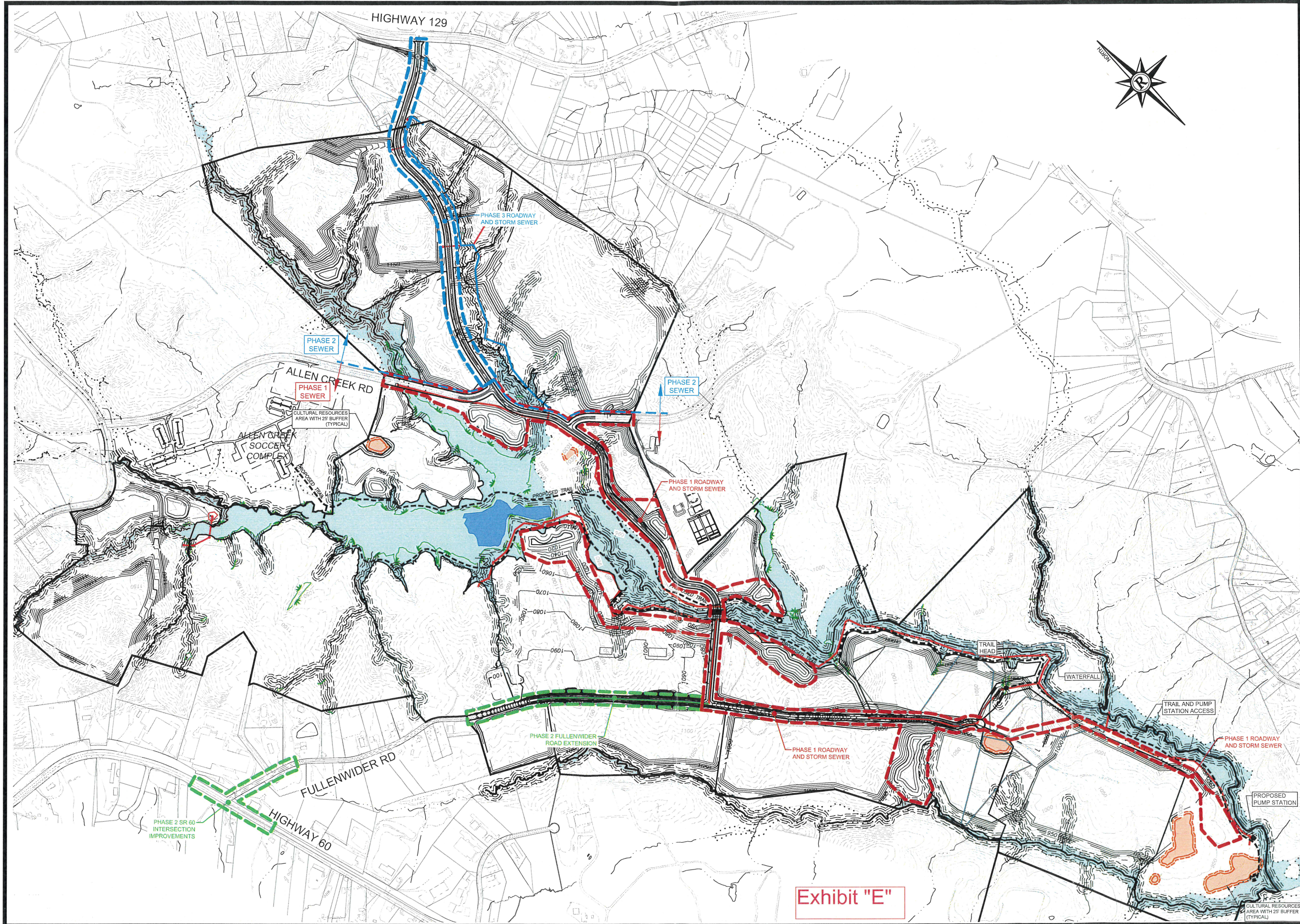
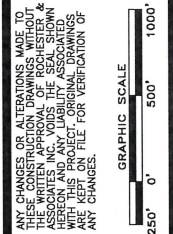


Exhibit "E"

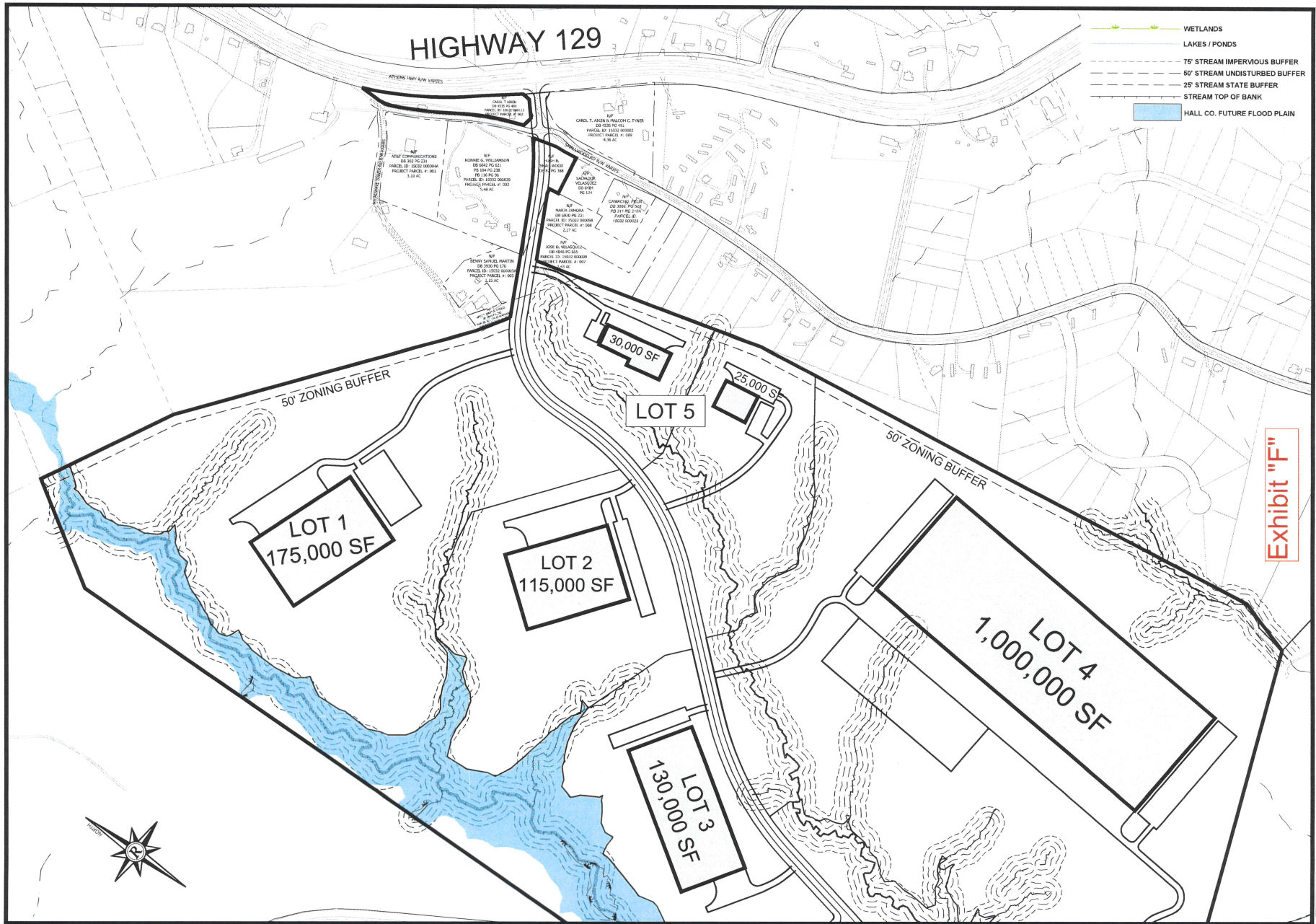
REVISIONS		
NO.	DATE	DESCRIPTION



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OF	1
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SCALE:	1"=500'
JOB NO.:	G190160.COG
DWG NO.:	CNCP.dwg
DRAWN BY:	WTF

PHASING PLAN
FOR:
85 GAINESVILLE BUSINESS PARK
LOCATED IN
LAND LOT/DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GEORGIA

Rochester & Associates, Inc.
425 Oak Street N.W. • Gainesville, Georgia 30501
(770)718.0600 (770)718.9090 Fax • www.rochester-assoc.com

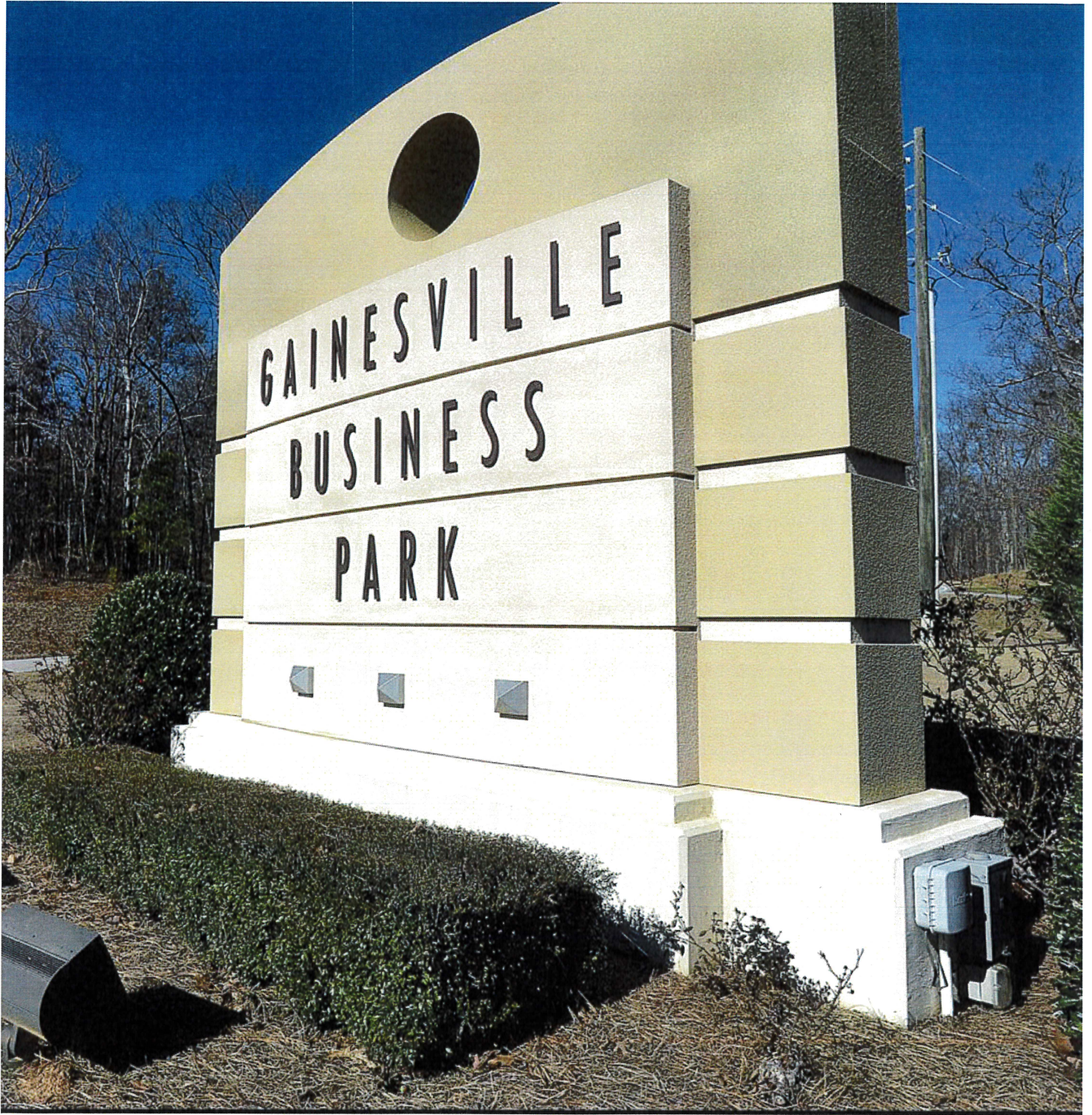












85 Gainesville Business Park Development Traffic Impact Study

Highway 129, Monroe Road, Allen Creek
Road, Fullenwider Road and Highway 60
Gainesville, Georgia

Prepared for: Rochester & Associates, Inc.

Wolverton Project No.

19-TF-057

January 31, 2020



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1. INTRODUCTION

1.1. Study Area

This study was conducted to evaluate the traffic impact of a proposed 5.0 million square foot industrial park in Gainesville, Georgia. The proposed site is on approximately 956.40 acres of land on 20 parcels located north of Chandler Road (State Route 60), west of Monroe Drive, south of Athens Highway (US Route 129 & State Route 11) and straddles both Fullenwider Road and Allen Creek Road. The proposed development is anticipated to be fully open in 2040. A Traffic Impact Analysis was performed to determine how much new traffic would be generated by the proposed development and how the new traffic would impact the existing roadway network. Figure 1 illustrates the location of the site and identifies the roadway network in the vicinity.

The existing intersections that could be impacted by this project include:

1. SR 60 & Fullenwider Road
2. Monroe Drive & Allen Creek Road
3. US 129 (SR 11) & Monroe Drive
4. US 129 (SR 11) & Highlands Village Road / Smallwood Road
5. Highlands Village Road & Smallwood Road

The project site is currently vacant land.

1.2. Proposed Development

The proposed development will consist of a 5.0 million square foot industrial park on 20 parcels totaling approximately 956.40 acres in Gainesville, Georgia. An internal roadway is proposed to intersect at the northern end at the existing intersection of Highlands Village Road & Smallwood Road, continue south and intersect with Allen Creek Road, continuing further south to intersect with Fullenwider Road. As such, the following proposed intersection locations were included for evaluation in this study:

6. Allen Creek Road & Internal Access
7. Internal Access & Street just south of Allen Creek Road
8. Fullenwider & Internal Access

A site plan is included in Appendix A.

1.3. Methodology

Initial evaluations were made to assess the current conditions near the development. Twenty-four (24) hour volume/classification (Automatic Traffic Recorder (ATR)) counts and existing AM and PM peak period turning movement counts (TMC) were conducted at the above noted existing intersections.

The traffic growth rate was obtained from several nearby Georgia Department of Transportation (GDOT) traffic counters, which provide historical count data in the area:

- 1390118, US 129 near Monroe Drive
- 1380116, US 129 near Morgan Drive
- 1390305, SR60 near Calvary Church Road / Old Candler Road
- 1398071 Monroe Drive near Allen Creek Road

Using traffic count data since the year 2010, a growth rate was developed. The traffic growth rate was applied to the existing volumes to estimate the traffic that will exist at the build-out Year 2040 of the site if the proposed development is not developed.

Estimates were made of the traffic that will be generated by the proposed development. These trips were then distributed and assigned to the road network.

The distribution of these new trips was based on the existing peak hour traffic patterns. After the generated traffic for the proposed development was distributed and assigned, it was then superimposed with the future background traffic to provide an estimate of projected traffic once the proposed development is complete.

Capacity analysis was used to evaluate the Existing Year 2019, Future Background Year 2040, and Future with Project Year 2040 conditions for the intersections being studied.

1.4. Planned Transportation Improvements

There are no current or planned transportation improvement or maintenance projects in the study area based on a review of the Georgia Department of Transportation (GDOT) online project database.

Figure 1 - Aerial View of Study Area



2. EXISTING CONDITIONS

Existing conditions in the vicinity of the project were surveyed using a combination of desktop research and on-site data collection. Traffic counts, which included 24-hour volume/classification counts and peak period turning movement counts (TMCs), were performed as follows:

Thursday, October 24, 2019

- 24-hour counts on SR 60, Monroe Drive and US 129 (SR 11)
- TMC's at SR 60 & Fullenwider Road and at Monroe Drive & Allen Creek Road

Tuesday, November 19, 2019

- TMC's at US 129 (SR 11) & Highlands Village Road / Smallwood Road and at Highlands Village Road & Smallwood Road

Wednesday, December 4, 2019

- TMC's at US 129 (SR 11) & Monroe Drive

The counts were performed on different dates due to intersections being added subsequent to the initial counts based upon input from the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO). The counts are included in Appendix B.

2.1. Roadways

US 129 is a four-lane divided roadway that changes orientation and posted speed limit depending on its location. It is classified as an Urban Principal Arterial – Other and provides access to I85 to the east and I95, US 23 to the west. In the vicinity of Highlands Village Road & Smallwood Road, US 129 has a north-south orientation and a posted speed limit of 55 mph. In the vicinity of Monroe Drive, it has an east-west orientation and a posted speed limit of 45 mph. There are no separate pedestrian or bicycle accommodations along US 129 within the project limits.

SR 60 is a two-lane undivided roadway that primarily runs in a north-south direction. SR 60 is classified as an Urban Minor Arterial and has a speed limit of 55 miles per hour (mph) near the site.

Monroe Drive is a two-lane undivided roadway that runs in an east-west direction between Old Candler Road and Allen Creek and runs in north-south direction between Allen Creek and Athens Street. Monroe Drive is classified a Local Road and has a posted speed limit of 45 mph. Monroe Drive intersects at a 4-way unsignalized all-way stop controlled intersection at its westerly limit with Griffin Circle and Old Candler Road. Monroe Drive intersects at an unsignalized "T" intersection with Athens Street at its north limits with Monroe Drive being the stop-controlled approach. Monroe Drive provides access to industrial and commercial businesses, to Allen Creek Road as well as Athens Highway (US 129). There are no separate pedestrian or bicycle accommodations along Monroe Drive.

Fullenwider Road is a two-lane undivided roadway that runs in an east-west direction east of Candler Road and dead ends. Fullenwider Road is classified a Local Road and has a posted speed limit of 35 mph. Fullenwider Road provides access to industrial and commercial businesses. Fullenwider Road crosses railroad tracks at its westerly limit and intersects Candler Road at an unsignalized "T" intersection with

Fullenwider Road being the stop-controlled approach. There are no separate pedestrian or bicycle accommodations along Fullenwider Road.

Allen Creek Road is a two-lane undivided roadway that runs in an east-west direction east of Monroe Drive and dead ends. Allen Creek Road is classified a Local Road and has a posted speed limit of 45 mph and primarily provides access to the Allen Creek Soccer Complex. Allen Creek Road intersects Monroe Drive at an unsignalized “T” intersection with Allen Creek Road being the stop-controlled approach. There are no separate pedestrian or bicycle accommodations along Monroe Drive. However, there is signage alerting motorists to be aware of pedestrians and bicyclists.

2.2. Intersections

The following four unsignalized intersections were identified to be studied:

- SR 60 & Fullenwider Road
- Monroe Drive & Allen Creek Road
- US 129 (SR 11) & Highlands Village Road / Smallwood Road
- Highlands Village Road & Smallwood Road

The following signalized intersection was identified to be studied:

- US 129 (SR 11) & Monroe Drive

The following intersections, which currently do not exist but are proposed as part of the development have also been studied:

- Allen Creek Road & Internal Access
- Internal Access & Street just south of Allen Creek Road
- Fullenwider & Internal Access

Existing geometry and traffic operation control of the existing intersections were inventoried. Figure 2 illustrates the associated geometry and operation control of the study intersections.

2.3. Existing Traffic Flow Patterns

The existing Annual Average Daily Traffic (AADT) volumes on SR 60 north of Fullenwider Road, US 129 north of Gaines Mill Road, and Monroe Drive west of Allen Creek Road were estimated from 24-hour traffic counts collected in October 2019. The estimated AADT is shown in

Table 1. Existing morning and evening peak hour traffic is shown in Figure 2Figure 3 and Figure 4.

Table 1 - Existing Traffic Volumes

ROADWAY	Est. AADT	DHV (AM)	DHV (PM)
	VOLUME	VOLUME	VOLUME
Athens Highway (US 129)	33,675	2,525	2,830
Chandler Road (SR 60)	15,000	1,125	1,215
Monroe Drive	3,075	235	310

Figure 2 – Existing Lane Configuration

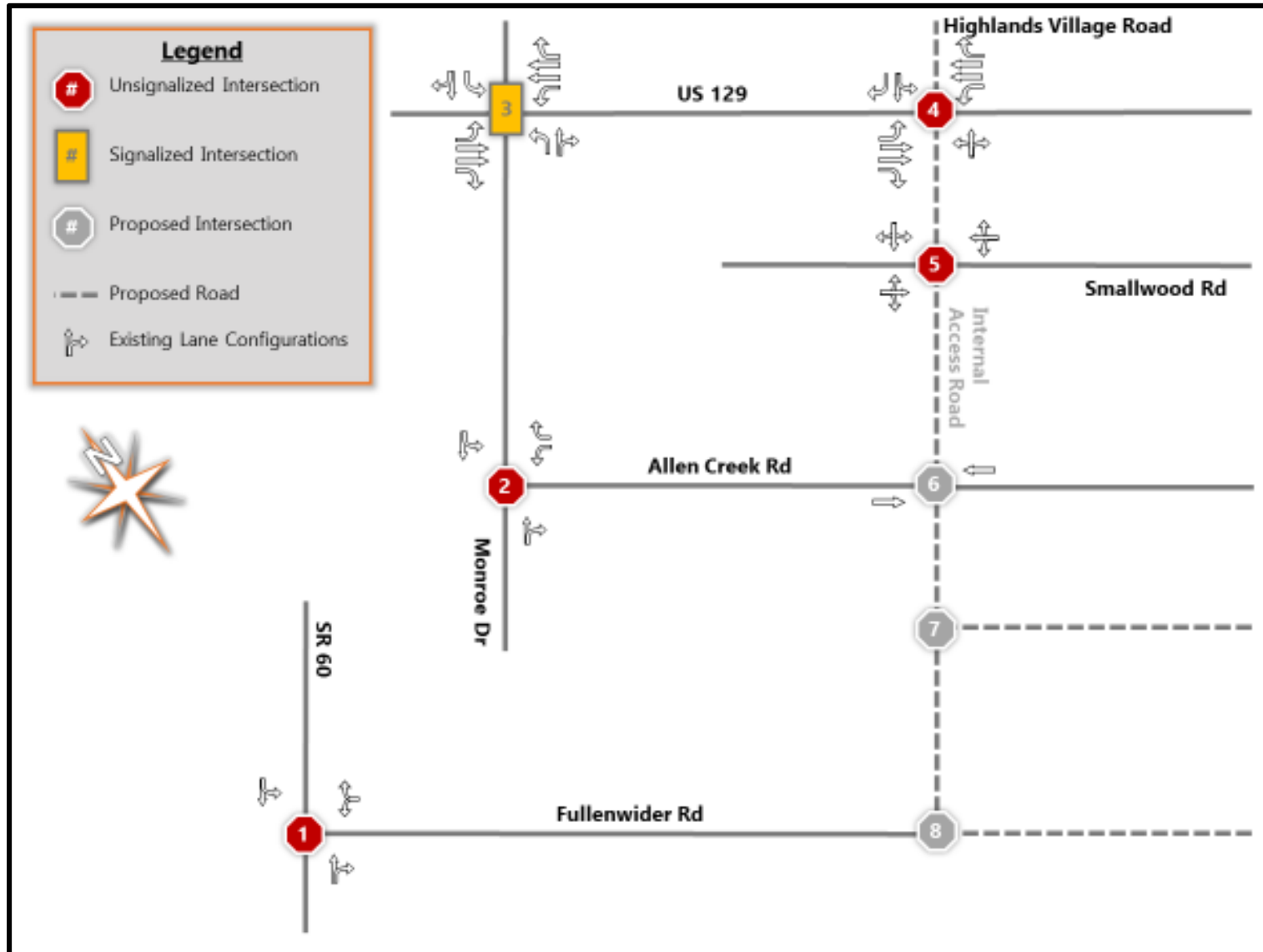


Figure 3 - 2019 Existing Peak Hour Traffic – I

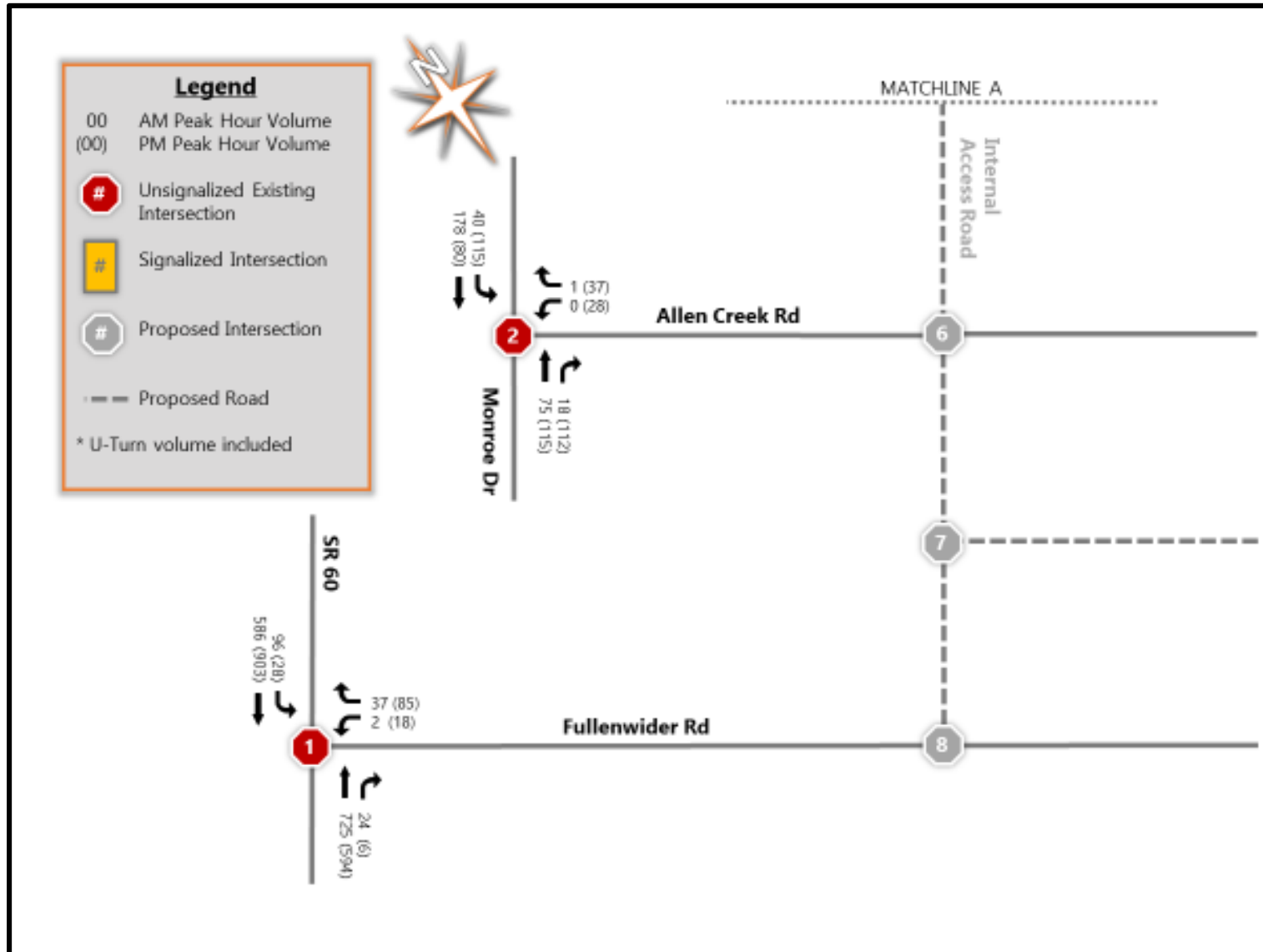
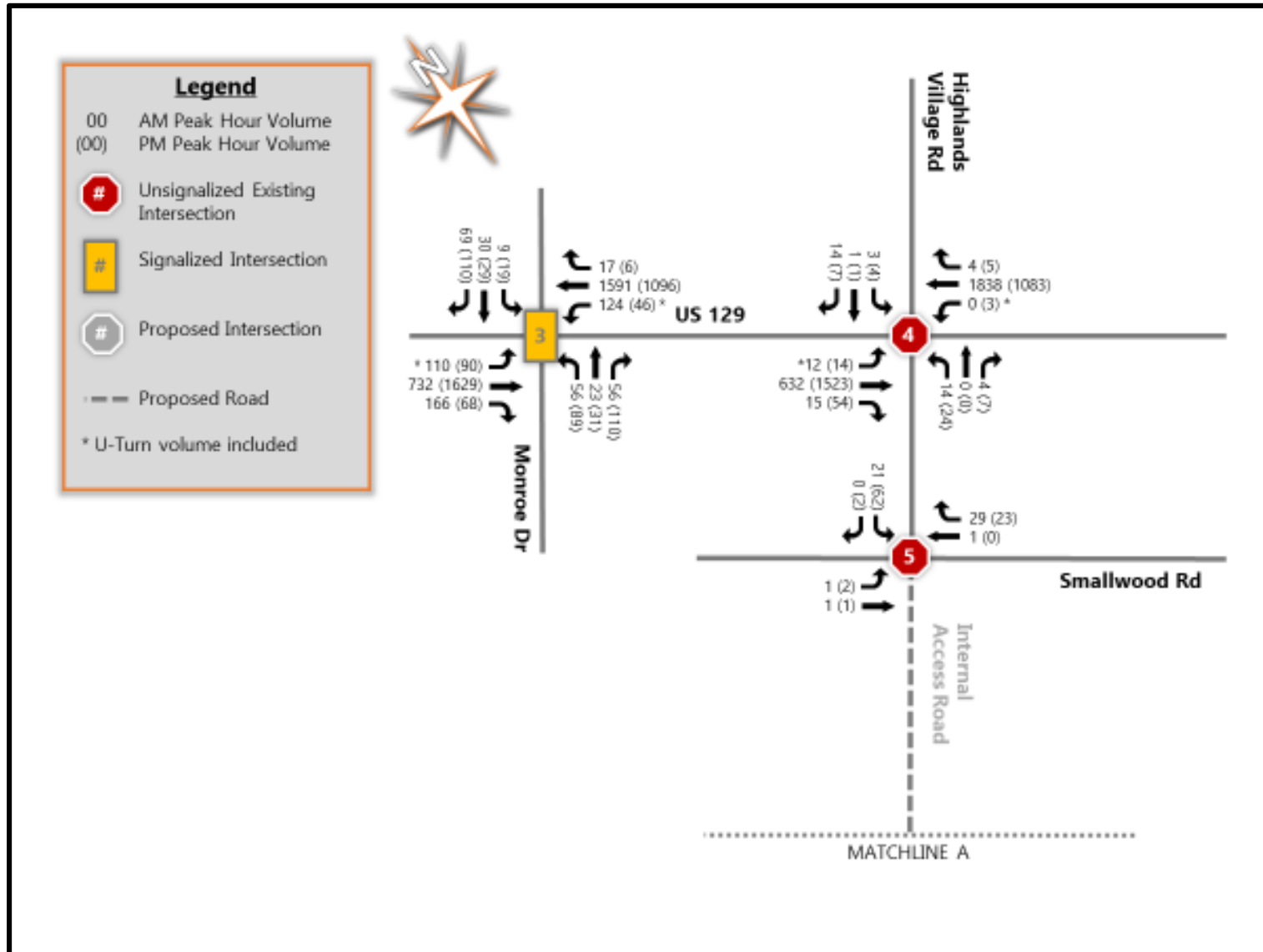


Figure 4 - 2019 Existing Peak Hour Traffic – II



3. TRAFFIC PROJECTIONS

3.1. Future Background Traffic

A build-out year of 2040 was established for the project. An annual growth rate was determined based on a review of traffic volume growth trends from GDOT data, and population growth trends and projections from US Census data.

The average annual growth rate, which was determined to be 2.5 percent per year, was applied to the 2019 traffic at the above noted intersections to establish the 2040 Background Traffic. There are no other known planned/approved development projects in the study area to be considered for the background condition.

The future 2040 Background peak hour traffic is shown in Figure 5 and Figure 6.

3.2. Trip Generation

The traffic that would be generated by the proposed development was estimated using the Institute of Transportation Engineers (ITE) ITE TripGen Web-based App which provides a searchable database of information included in *Trip Generation Manual (TGM) 10th Edition*. The trips that would be generated by the proposed project were estimated using ITE Land Use Code 130 – Industrial Park. The ITE describes an Industrial Park as:

containing a number of industrial or related facilities. It is characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities – some with a large number of small businesses and others with one or two dominant industries.

The total number of project-generated trips was estimated for the typical weekday and the morning and evening peak hours based upon total gross floor area.

Industrial Parks generate new (primary) trips only and do not generate traffic on the adjacent network passing the site (e.g. pass-by traffic). The trip generation results are listed in Table 2. The project may generate 16,850 new trips per day, with 2,000 trips in the morning peak hour and 2,000 trips in the evening peak hour. Industrial Parks typically generate truck trip traffic. There is limited data pertaining to the percentage of truck traffic generated by this type of facility. The ITE 10th Edition reproduced the truck trip generation of the ITE 9th Edition. The ITE Trip Generation Manual, 9th Edition indicates that the truck trips for this land use accounted for 1 to 31 percent of the weekday traffic with the average being approximately 13 percent. In addition to the ITE, the National Cooperative Highway Research Program (NCHRP) Report 739 / National Cooperative Freight Research Program (NCFRP) Report 19, Freight Trip Generation and Land Use, which contains information for estimating truck trips based upon the different land use categories was also reviewed. Lastly, given the proposed location of the site and the existing surrounding land uses which are truck related uses, the existing traffic counts were utilized to estimate the truck trip percentages for this project. The truck trip generation results are listed in Table 3Table 2.

Table 2 - Project Trip Generation Results

Land Use Description	Code	Size	Unit	Weekday			AM Peak Hour			PM Peak Hour		
				Total	Entry	Exit	Total	Entry	Exit	Total	Entry	Exit
Industrial Park	130	6.0	MSF	8,425	8,425	16,850	2,000	1,620	380	2,000	420	1,580

Table 3 - Project Trip Generation Results – by Classification

Mode	AM Peak Hour			PM Peak Hour		
	Total	Entry	Exit	Total	Entry	Exit
Cars	1,780	1,541	239	1,859	332	1,527
Trucks	220	79	141	141	88	53
	2,000	1,620	380	2,000	420	1,580

3.3. Distribution of Project-Generated Trips

Based upon the proposed use, passenger vehicles and truck trips are estimated to have differing distribution patterns. The new trips generated by the proposed project were distributed to the surrounding roadway network based on the location of each access drive, the potential regional distribution, and discussions with the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO). The distribution patterns are shown in

Figure 7 - New Trip Distribution Percentages – Passenger Vehicles



Figure 8 for passenger vehicles and Figure 8 for the truck trips.

3.4. Assignment of Project-Generated Trips

The number of trips were assigned to the project driveways based on the trip distribution determined for the study area and the proximity of each driveway to the existing and future proposed internal roadways. See Figure 9 and Figure 10

The project-generated traffic was superimposed with the 2040 Background traffic to provide an estimate of traffic that would be present when the proposed development opens. The 2040 With Project peak hour traffic is shown in Figure 11 and Figure 14.

Figure 5 - 2040 Background Peak Hour Traffic – I

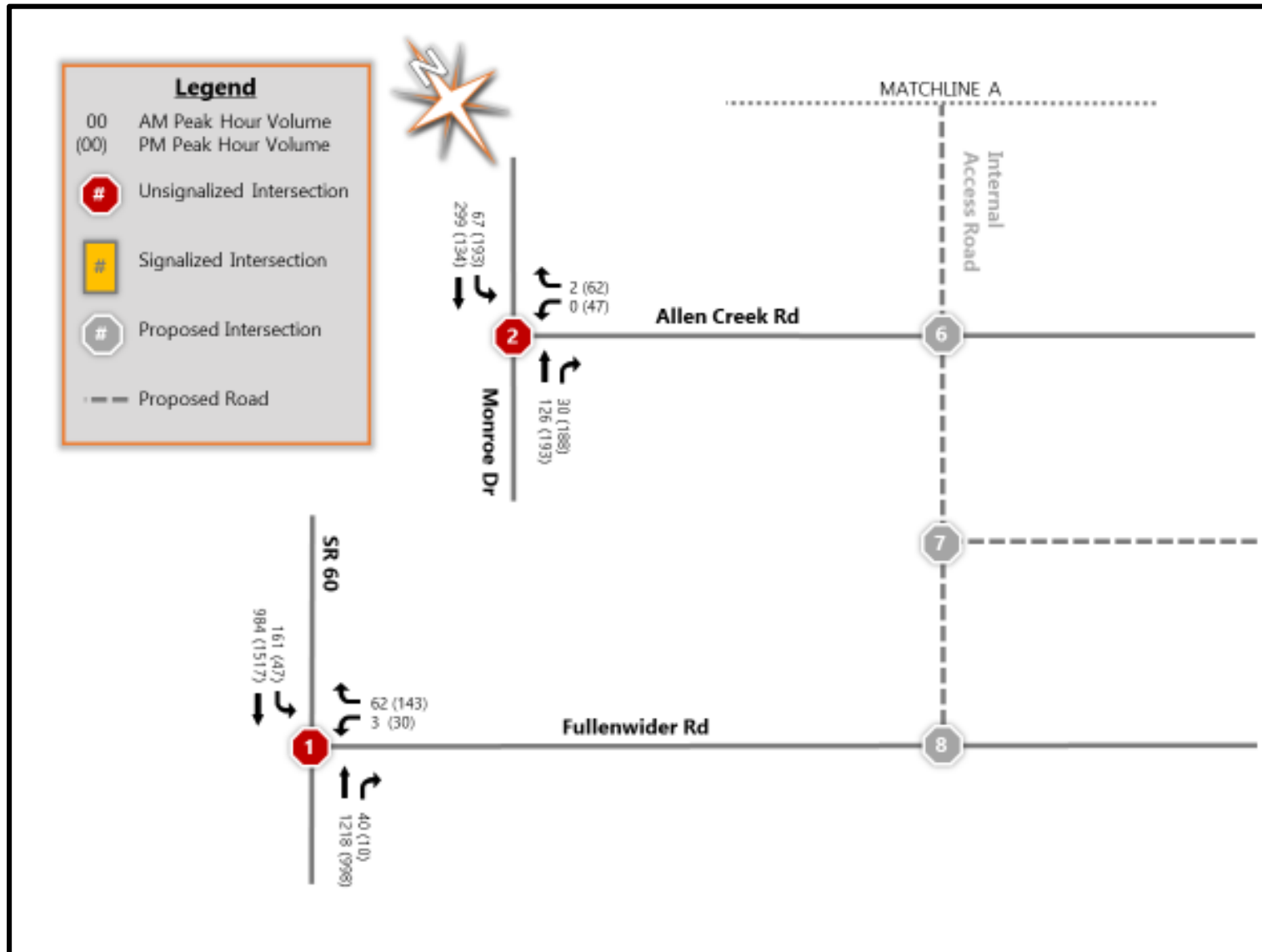


Figure 6 - 2040 Background Peak Hour Traffic – II

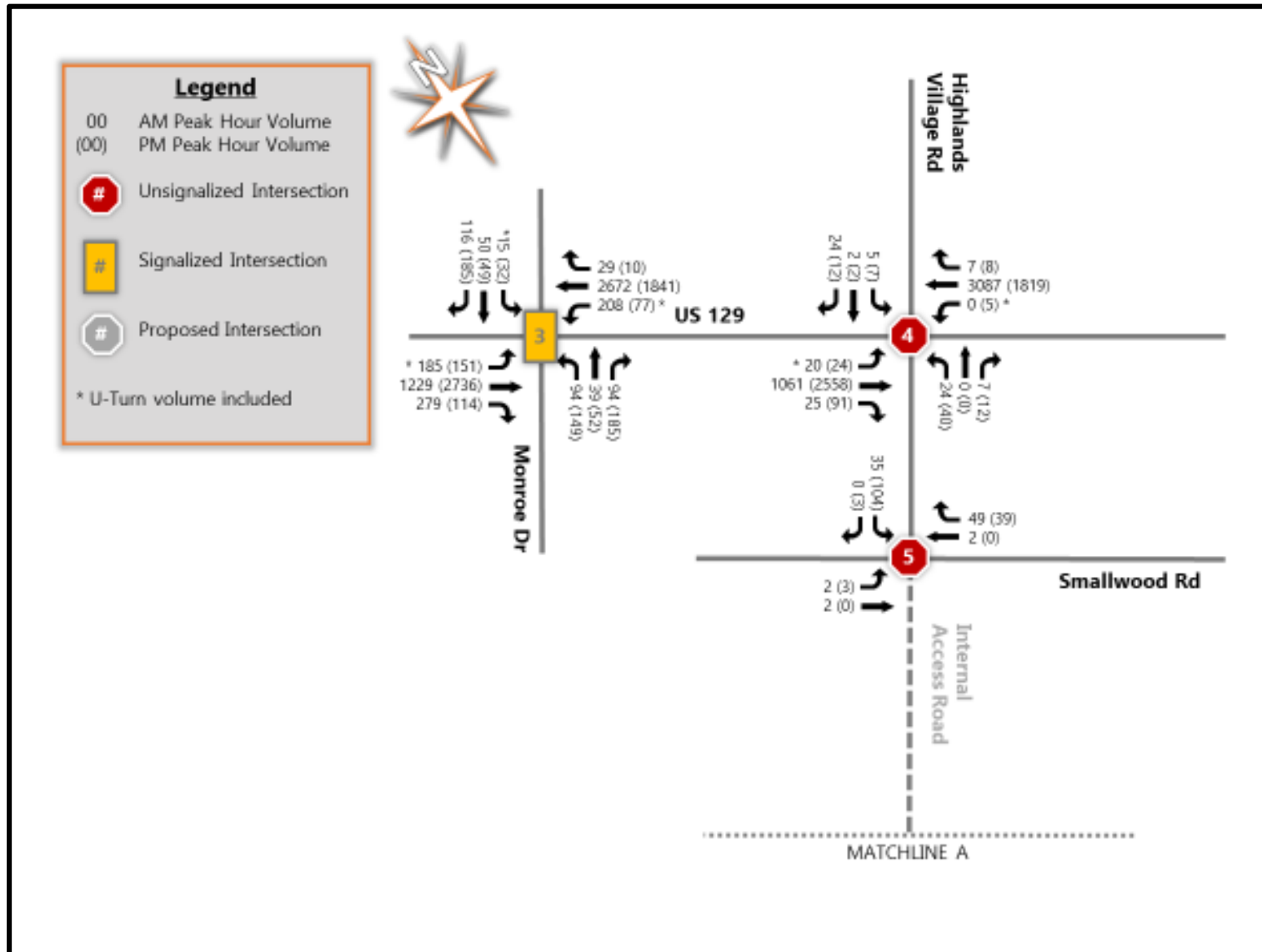


Figure 7 - New Trip Distribution Percentages – Passenger Vehicles



Figure 8 - New Trip Distribution Percentages – Truck Trips



Figure 9 - New Trip Passenger Distribution Volumes – I

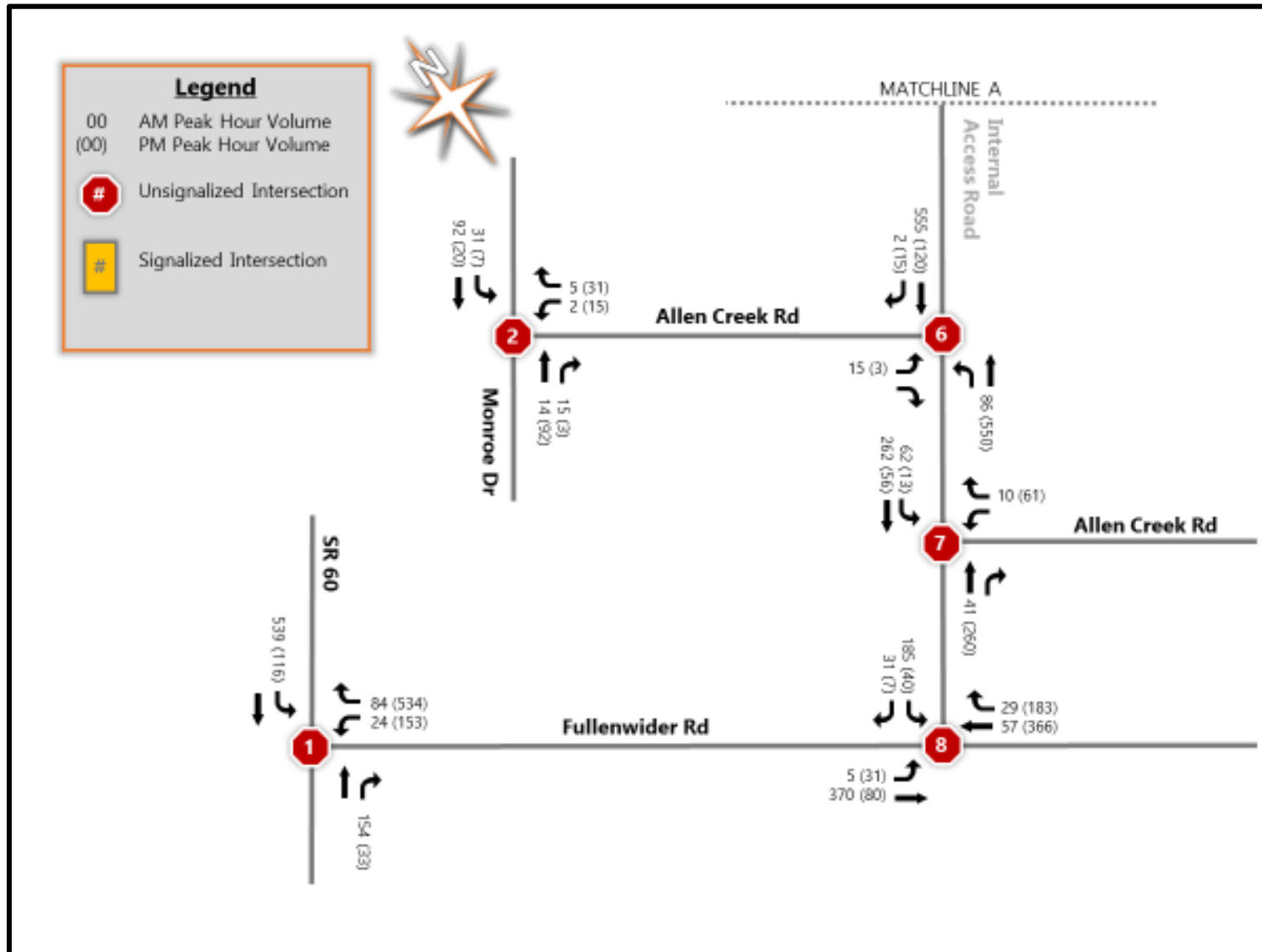


Figure 10 - New Trip Passenger Vehicle Distribution Volumes – II

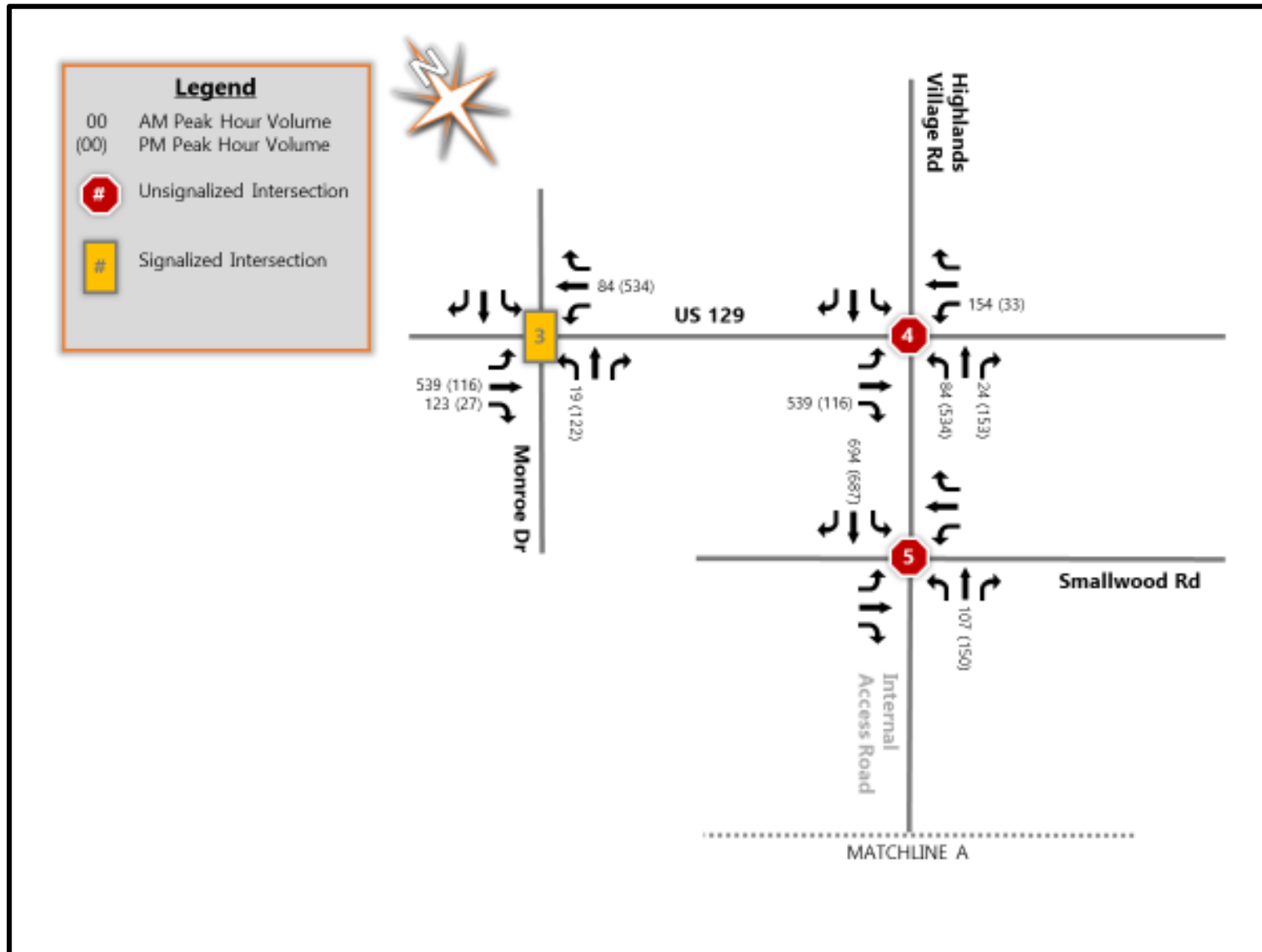


Figure 11 - New Trip Truck Distribution Volumes – I

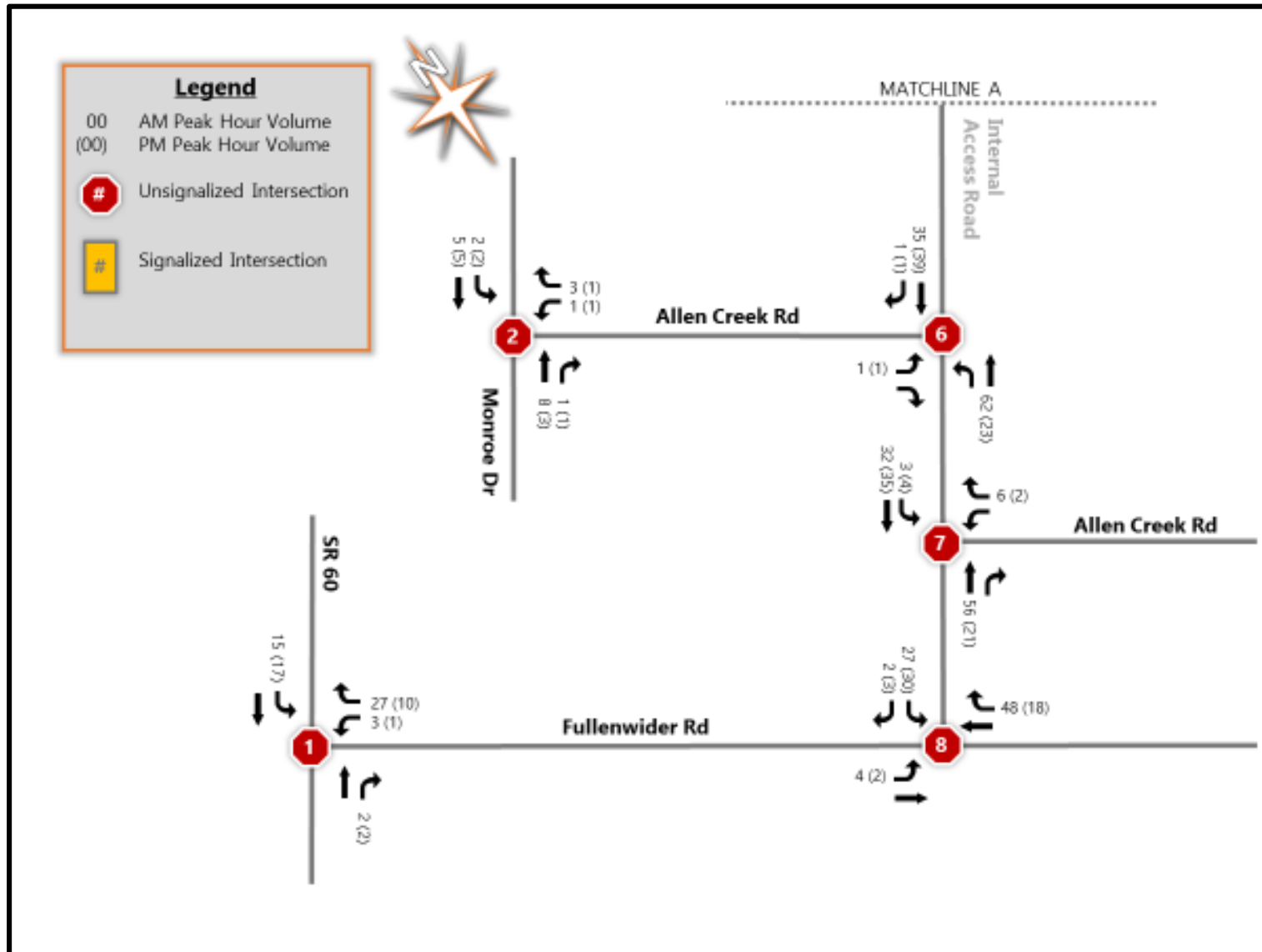


Figure 12 - New Trip Truck Distribution Volumes – II

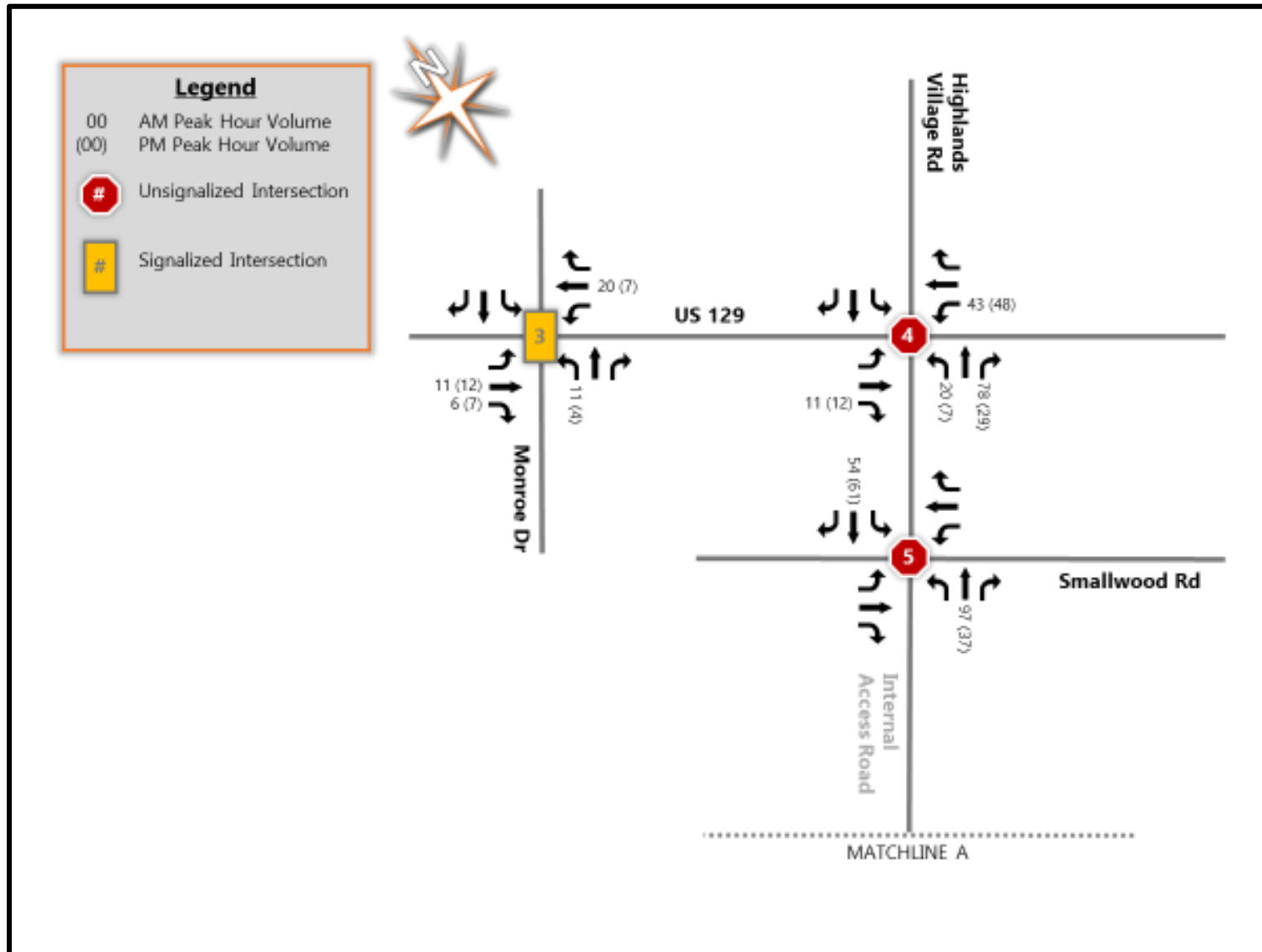


Figure 13 - 2040 With Project Peak Hour Traffic – I

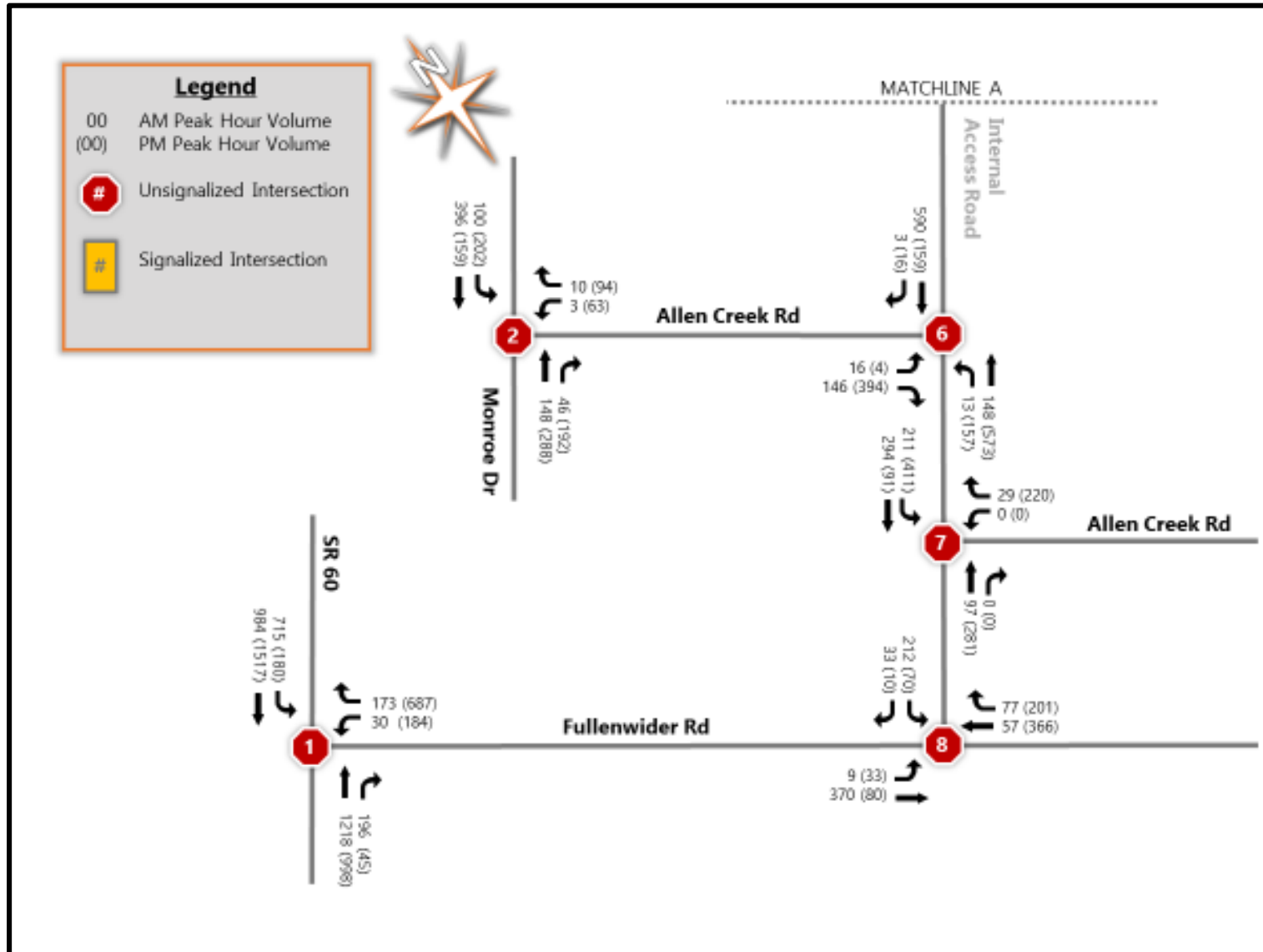
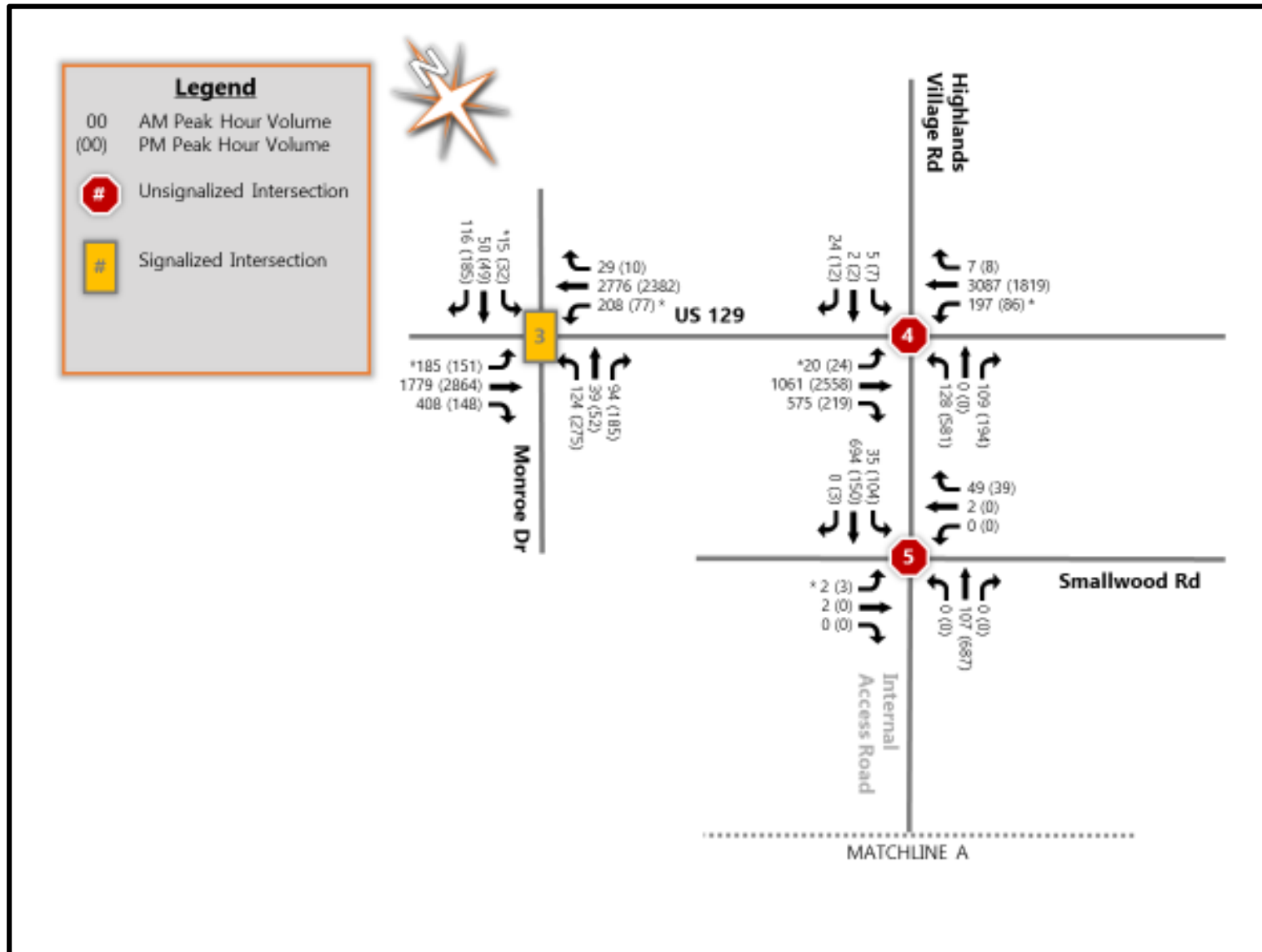


Figure 14 - 2040 With Project Peak Hour Traffic – II



4. CAPACITY ANALYSIS

4.1. Level of Service Criteria

In order to quantify the impacts of additional traffic and to determine any needed roadway and/or operational improvements, a capacity analysis was performed for the Future Background and the Future with Project peak hour conditions based on the methodology outlined in the *Highway Capacity Manual (HCM)*. Various computer programs are available which implement the *HCM* methodology. Synchro 10 software was used to evaluate the study area intersections.

HCM defines level of service (LOS) in terms of the amount of control delay, including initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The LOS categories range from A to F, with different thresholds specified according to the type of traffic control at the intersection. The LOS definitions are provided in Table 4.

Table 4 – Intersection Capacity LOS Criteria

Level of Service (LOS)	Unsignalized Control Delay per Vehicle (sec)	Signalized Control Delay per Vehicle (sec)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

Rural, sparsely developed areas have a minimum LOS requirement of C based on rural residents' expectation for relatively uncongested conditions in combination with design flexibility associated with lower right of way costs. The minimum LOS for urban areas is D, reflecting the greater acceptance of delay and congestion by urban residents. Additionally, the increased density of developments makes right of way costs much higher in urban areas. The project site is located in Gainesville. The study area is in an urban location. A minimum LOS D is assumed for the study intersections.

4.2. Intersection Capacity Analysis

Intersection capacity analysis was performed for the morning and evening peak hours for the Existing Year (2019), Future Background Year (2040) and the Future with Project (2040) conditions. For Existing Year, Future Background Year, and Future with Project Year, the existing lane configurations and traffic control were used. Table 5 shows the resulting analysis during the AM peak hour and Table 6 shows the PM peak hours. Main street through and right turn movements at two-way stop-controlled intersections are assumed to not experience any delay, so those movements are not included in the capacity analysis results. *Synchro* printouts are contained in Appendix C.

Table 5 - 2040 Intersection LOS and Average Delay Results – AM Peak Hour

Int. #	Roadway	Approach	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
				sec/veh	LOS	sec/veh	LOS	sec/veh	LOS	sec/veh	LOS
1	SR 60	Southbound	Left	10.1	B	15.7	C	355.9	F	355.9	F
	Fullenwider Road	Westbound	Left/Right ¹	19.8	C	436.5	F	291.5	F	-	-
			Right	NA		NA		NA		141.0	F
2	Monroe Drive	Southbound	Left	7.5	A	7.8	A	8.0	A	8.0	A
	Allen Creek Road	Westbound	Left	0.0	A	0.0	A	21.4	C	20.2	C
			Right	8.8	A	9.1	A	9.8	A	9.6	A
3	Monroe Drive	Northbound	Left	84.4	F	140.7	F	236.7	F	111.2	F
			Through/Right ²	27.9	C	37.7	D	37.8	D	57.2	E
			Right ²	NA		NA		NA		14.1	B
			Overall	51.4	D	80.4	F	134.0	F	68.4	E
		Southbound	Left	57.9	E	56.9	E	56.9	E	56.0	E
			Through/Right ²	33.3	C	47.4	D	47.3	D	58.7	E
			Right ²	NA		NA		NA		18.4	B
			Overall	35.3	D	48.2	D	48.1	D	32.7	C
	US Route 129	Eastbound	Left	17.3	B	184.4	F	185.1	F	163.9	F
			Through	9.2	A	16.0	B	24.9	C	24.9	C
			Right	1.5	A	1.7	A	3.7	A	3.7	A
			Overall	8.8	A	32.1	C	33.7	C	32.1	C
		Westbound	Left	4.9	A	22.2	C	185.9	F	164.9	F
			Through	15.3	B	145.0	F	171.6	F	171.6	F
			Right	0.1	A	0.1	A	0.1	A	0.1	A
			Overall	14.4	B	134.7	F	170.9	F	169.5	F
4	US Route 129	Northbound	Left	0.0	A	0.0	A	82.7	F	82.7	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
			Overall	0.0	A	0.0	A	4.9	A	4.9	A
		Southbound	Left	42.7	E	1383.0	F	1377.1	F	1377.1	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
			Overall	0.8	A	25.0	C	16.6	C	16.6	C
	Smallwood Road	Eastbound	Left/Through/Right ³	124.1	F	-	-	-	-	-	-
			Right	NA		NA		NA		25.2	D
	Highlands Village Road	Westbound	Left/Through	391.9	F	-	-	-	-	-	-
			Right	24.4	C	100.8	F	98.5	F	98.5	F
			Overall	106.1	F	-	-	-	-	-	-
5	Internal Road	Northbound	Left	-	-	-	-	0.0	A	0.0	A
	Highlands Village Road	Southbound	Left	8.4	A	8.5	A	7.7	A	7.7	A
	Smallwood Road	Eastbound	Left/Through/Right ⁴	7.2	A	7.3	A	24.1	C	24.1	C
		Westbound	Left/Through/Right ⁴	-	-	-	-	9.7	A	9.7	A
6	Internal Road	Northbound	Left	NA		NA		9.5	A	9.5	A
	Allen Creek Road	Eastbound	Left/Right					17.9	C	16.6	C
			Right					NA		16.4	C
7	Internal Road	Southbound	Left/Through	NA		NA		7.9	A	7.9	A
	Allen Creek Road	Westbound	Left/Right					9.3	A	0.0	A
			Right					NA		9.3	A
8	Internal Road	Southbound	Left/Right ¹	NA		NA		18.8	C	17.5	C
			Right					NA		8.8	A
	Fullenwider Road	Eastbound	Left					8.0	A	8.0	A

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

¹ In Future with Project - Mitigation condition, movement is exclusive left turn lane

² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

Table 6 - 2040 Intersection LOS and Average Delay Results – PM Peak Hour

Int. #	Roadway	Approach	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
				sec/veh	LOS	sec/veh	LOS	sec/veh	LOS	sec/veh	LOS
1	SR 60	Southbound	Left	9.8	A	12.8	B	15.4	C	15.4	C
	Fullenwider Road	Westbound	Left/Right ¹	28.8	D	57.4	F	1366.6	F	>1400	F
				NA		NA		NA		942.3	F
2	Monroe Drive	Southbound	Left	8.2	A	9.3	A	10.1	B	10.1	B
	Allen Creek Road	Westbound	Left	14.9	B	31.7	D	61.0	F	42.4	E
				9.6	A	11.0	B	12.8	B	11.4	B
3	Monroe Drive	Northbound	Left	102.6	F	382.4	F	985.2	F	203.2	F
			Through/Right ²	29.7	C	51.8	D	52.2	D	58.3	E
			Right ²	NA		NA		NA		39.8	D
		Southbound	Overall	58.0	E	179.7	F	553.8	F	129.5	F
			Left	62.2	E	72.0	E	72.4	E	58.5	E
			Through/Right ²	26.0	C	46.4	D	49.5	D	58.1	E
	US Route 129	Eastbound	Right ²	NA		NA		NA		38.1	D
			Overall	30.3	C	49.5	D	52.3	D	44.3	D
		Westbound	Left	6.7	A	73.0	E	73.0	E	73.0	E
			Through	16.2	B	157.6	F	183.8	F	183.8	F
			Right	2.2	A	4.9	A	6.3	A	6.3	A
		Overall	Overall	15.2	B	147.6	F	170.2	F	170.2	F
4	US Route 129	Northbound	Left	19.6	C	79.9	F	69.5	F	69.5	F
			Through	0.0	A	0.0	A	0.0	A	0.0	A
			Right	0.0	A	0.0	A	0.0	A	0.0	A
		Southbound	Overall	0.1	A	0.2	A	3.1	A	3.1	A
			Left	11.4	B	20.0	C	20.2	C	20.2	C
			Through	0.0	A	0.0	A	0.0	A	0.0	A
	Smallwood Road	Eastbound	Right	0.0	A	0.0	A	0.0	A	0.0	A
			Overall	0.1	A	0.2	A	0.2	A	0.2	A
		Westbound	Left/Through/Right ³	380.0	F	-	-	-	F	332.4	F
			Right	NA		NA		NA		-	F
		Highlands Village Road	Left/Through	138.0	F	4728.1	F	-	-	-	-
			Right	12.6	B	19.0	C	19.0	C	19.0	C
5	Internal Road	Northbound	Overall	64.9	F	2037.2	F	-	-	-	-
			Left/Through/Right ⁴	-	-	-	-	15.7	C	15.7	C
	Highlands Village Road	Southbound	Left	9.0	A	9.4	A	0.0	A	0.0	A
			Left	-	-	-	-	10.1	B	10.1	B
6	Smallwood Road	Eastbound	Left/Through/Right ⁴	0.0	A	0.0	A	36.4	E	36.4	E
			Left/Through/Right ⁴	-	-	-	-	15.7	C	15.7	C
	Internal Road	Southbound	Left	8.0	A	8.0	A	8.0	A	8.0	A
			Left/Right	NA		NA		14.1	B	28.0	D
7	Allen Creek Road	Eastbound	Right	NA		NA		NA		13.2	B
			Left/Through	NA		NA		9.4	A	9.4	A
	Internal Road	Westbound	Left/Right	NA		NA		NA		0.0	A
			Right	NA		NA		12.2	B	12.2	B
8	Internal Road	Southbound	Left/Right ¹	NA		NA		17.9	C	15.7	C
			Right	NA		NA		NA		11.2	B
9	Fullenwider Road	Eastbound	Left	NA		NA		9.0	A	9.0	A
			Left	NA		NA		NA		NA	

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

¹ In Future with Project - Mitigation condition, movement is exclusive left turn lane

² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

Existing Conditions (2019)

The following movements are currently operating inadequately and are expected to continue to operate inadequately for Future Background Year 2040 conditions:

US 129 & Monroe Drive

- Northbound left on Monroe Drive during both peak hours
- Southbound left on Monroe Drive during both peak hours

US 129 & Highlands Village Road / Smallwood Road

- Southbound left on US 129 during AM peak hour
- Eastbound left/through/right on Smallwood Road during both peak hours
- Westbound left/through on Highlands Village Road during both peak hours

Future Background Year 2040 conditions

In addition, while the following movements currently operate adequately in Existing Year 2019, these movements are expected to operate inadequately for Future Background Year 2040 conditions:

SR 60 & Fullenwider Road

- Westbound left/right on Fullenwider Road during both peak hours

US 129 & Monroe Drive

- Eastbound left on US 129 during both peak hours
- Eastbound through on US 129 during PM peak hour
- Westbound left on US 129 during the PM peak hour
- Westbound through on US 129 during AM peak hour

US 129 & Highlands Village Road / Smallwood Road

- Northbound left on US 129 during PM peak hour
- Westbound right on Highlands Village Road during the AM peak hour

Future with Project 2040 conditions

In addition to the above movements that are expected to operate inadequately for Future Background conditions, the following movements are expected to operate inadequately for Future with Project conditions with the anticipated project traffic superimposed:

SR 60 & Fullenwider Road

- Southbound left on SR 60 during AM peak hour

Monroe Drive & Allen Creek Road

- Westbound left on Allen Creek Road during PM peak hour

US 129 & Monroe Drive

- Westbound left on US 129 during the AM peak hour
- Westbound through on US 129 during the PM peak hour

US 129& Highlands Village Road / Smallwood Road

- Northbound left on US 129 during the AM peak hour

While the Smallwood Road eastbound left/through movement at the Highlands Village Road / Internal Access shows LOS E during the PM peak hour, it is noted that the Smallwood Road eastbound left turn movement volume during the PM peak hour is 3 vehicles. Given the LOS volume and the fact that the delay for this movement during the PM peak hour is just 1.4 seconds of delay above the LOS D threshold, no improvements are necessary or recommended to accommodate this movement.

4.3. Need for Auxiliary Turn Lanes

It is apparent that the added project traffic will add delay at existing intersections. To gauge the impact of additional turn lanes at the intersections expected to experience inadequate LOS when the development is fully open in Future with Project Year, further analysis was performed with additional turn lanes in locations to and from the development that were expected to potentially mitigate the heavy delays.

The GDOT manual *Regulations for Driveway and Encroachment Control*, which stipulates guidelines for determining when auxiliary lanes are required, was used along with the capacity analysis results to assess the locations where left and/or right turn lanes should be provided. Table 7 shows the timing for when turn lanes should be added as well as the overall lanes proposed for the intersections created by the internal access road.

Table 7 – Geometric Improvement and Estimated Timing

Int. #	Intersection	2019 Existing	2040 Future Background	2040 Future with Project
1	SR 60 & Fullenwider Road	NA	Southbound Left	Northbound Right Westbound Right
2	Monroe Drive & Allen Creek Road	NA	Northbound Right Southbound Left	NA
3	US 129 & Monroe Drive	Northbound Right Southbound Right	NA	NA
4	US Route 129 & Highlands Village Road / Smallwood Road	NA	NA	Eastbound Right
5	Highlands Village Road / Internal Road & Smallwood Road ^A	NA	NA	Shared Eastbound Right Shared Westbound Left Shared Northbound Left / Through / Right Shared Southbound Right
6	Internal Road & Allen Creek Road ^A	NA	NA	Eastbound Left Eastbound Right Shared Northbound Left/Through Shared Southbound Through/Right
7	Internal Road & Allen Creek Road ^A	NA	NA	Westbound Left Westbound Right Shared Northbound Through/Right Southbound Left Southbound Through
8	Internal Road & Fullenwider Road ^A	NA	NA	Shared Eastbound Left/Through Westbound Through Westbound Right Southbound Left Southbound Right

Note: All movements are exclusive lanes unless otherwise noted

^A Added movements to develop intersection

Despite the additional turn lanes at these locations, inadequate LOS prevailed for several movements at the following locations:

- SR 60 & Fullenwider Road
- US 129 & Monroe Drive
- US 129 & Highlands Village Road / Smallwood Road
- Highlands Village Road & Internal Access / Smallwood Road

The study intersections remain with the existing operational control (e.g. unsignalized for 7 of the intersections and signalized for the 1 intersection) in the Future with Project Year 2040 scenario. The

primary reason for this is because the GDOT Intersection Control Evaluation (ICE) process performed during the design phase will include a full traffic signal warrant analysis and therefore is not within the scope of this study.

GDOT requires a minimum of 1320 feet of space (0.25 miles) between traffic signals on a state route. The US 129 & Highlands Village Road/Smallwood Road intersection appears to be more than 1.0 mile from the signalized intersection of US 129 & Old County Dump Road / Athens Street (to the west) and US 129 & SR 323 (Gillsville Highway) (to the east). The SR60 & Fullenwider Road is approximately 0.7 miles from the signalized intersection of SR 60 & Calvary Church Road/Old Chandler Road to the north and is more than 1.0 mile to the signalized intersection to the south. Therefore, a traffic signal at these intersections could be feasible and still meet the spacing requirements. The spacing criteria will more completely be evaluated as part of the GDOT ICE process.

4.4. Queue Lengths

The 95th percentile queue is the maximum distance to the back of the queue (BOQ) that would be expected 95 percent of the time. Most of the time, the queue will be shorter, and the chances of a longer queue occurring are very small; therefore, the 95th percentile BOQ distance is typically used to determine a reasonable storage length for intersection turn lanes. The 95th percentile queue lengths, which are expressed in feet, are shown in Table 8 for each intersection during both peak hours for the Existing, the Background Condition and the With Project Conditions. All turn bays must exceed the queue lengths or meet minimum deceleration criteria as stipulated by GDOT, whichever is longer. See GDOT standards for bay taper and deceleration lengths.

Table 8 – Queue Lengths

Int. #	Roadway	Approach	Movement	AM PEAK HOUR				PM PEAK HOUR			
				2019 Existing	2040 Future Background	2040 Future with Project	2040 Future with Project - Mitigation	2019 Existing	2040 Future Background	2040 Future with Project	2040 Future with Project - Mitigation
1	SR 60	Southbound	Left	10	38	1150	1150	3	8	43	43
	Fullenwider Road	Westbound	Left/Right ¹	13	168	353	-	53	145	2355	688
			Right	NA	NA	NA	225	NA	NA	NA	1698
2	Monroe Drive	Southbound	Left	3	5	8	8	10	23	28	28
	Allen Creek Road	Westbound	Left	0	0	3	0	8	33	73	55
			Right	0	0	0	0	5	10	20	15
3	Monroe Drive	Northbound	Left	104	222	304	248	162	397	729	583
			Through/Right ²	73	140	140	74	126	270	271	95
			Right ²	NA	NA	NA	55	NA	NA	NA	194
		Southbound	Left	26	38	38	37	47	72	72	66
			Through/Right ²	97	188	188	91	113	252	262	90
			Right ²	NA	NA	NA	79	NA	NA	NA	189
	US Route 129	Eastbound	Left	62	355	355	355	41	224	224	224
			Through	206	420	818	818	714	2136	2286	2286
			Right	27	33	82	82	19	44	63	63
		Westbound	Left	47	102	381	381	24	117	117	117
			Through	641	1916	2041	2041	379	1059	1794	1794
			Right	0	0	0	0	0	0	0	0
4	US Route 129	Northbound	Left	0	0	203	203	0	8	88	88
			Through	-	-	-	-	-	-	-	-
			Right	-	-	-	-	-	-	-	-
		Southbound	Left	10	98	98	98	3	8	8	8
			Through	-	-	-	-	-	-	-	-
			Right	-	-	-	-	-	-	-	-
	Smallwood Road	Eastbound	Left/Through/Right ³	38	-	-	-	90	-	-	-
			Right	NA	NA	NA	50	NA	NA	NA	350
Highlands Village Road	Westbound	Left/Through	23	-	-	-	13	60	-	-	
		Right	8	43	43	43	0	3	3	3	
5	Internal Road	Northbound	Left	NA	NA	0	0	NA	NA	0	0
	Highlands Village Road	Southbound	Left	0	0	3	3	0	0	13	13
	Smallwood Road	Eastbound	Left/Through/Right ⁴	0	0	3	3	0	0	3	3
		Westbound	Left/Through/Right ⁴	0	0	5	5	0	0	10	10
6	Internal Road	Northbound	Left	NA	NA	3	3	NA	NA	10	10
	Allen Creek Road	Left/Right	45			5	78			3	
		Right	0			38	0			70	
7	Internal Road	Southbound	Left/Through	NA	NA	13	13	NA	NA	40	40
	Allen Creek Road	Left/Right	3			0	35			0	
		Right	0			3	0			35	
8	Internal Road	Southbound	Left/Right ¹	NA	NA	73	58			23	18
		Right	0			3	0			3	
	Fullenwider Road	Eastbound	Left			0	0			3	3

Note: - Value not provided, as volume exceeds capacity

NA - Not Applicable as movement, approach, intersection, etc. may not exist

¹ In Future with Project - Mitigation condition, movement is exclusive left turn lane

² In Future with Project - Mitigation condition, movement is exclusive through and exclusive right turn lane

³ In Future with Project - Mitigation condition, movement is shared through / left turn lane

⁴ In Future with Project - Mitigation condition, the movement is shared left / through / right turn lane. During other conditions, the eastbound approach consists of shared left/through and the westbound consists of shared through/right turn lane

5. CONCLUSIONS

This traffic study was conducted to evaluate the traffic impact of a proposed 5 million square foot industrial park development located in Gainesville, Georgia. The proposed site is on approximately 956.40 acres of land on 20 parcels located north of Chandler Road (State Route 60), west of Monroe Drive, south of Athens Highway (US Route 129 & State Route 11) and straddles both Fullenwider Road and Allen Creek Road. The proposed development is anticipated to be fully open in 2040. The project site is currently vacant land.

The existing intersections that could be impacted by this project include:

1. SR 60 & Fullenwider Road
2. Monroe Drive & Allen Creek Road
3. US 129 (SR 11) & Monroe Drive
4. US 129 (SR 11) & Highlands Village Road / Smallwood Road
5. Highlands Village Road & Smallwood Road

An internal roadway is proposed to intersect at the northern end at the existing intersection of Highlands Village Road & Smallwood Road, continue south and intersect with Allen Creek Road, continuing further south to intersect with Fullenwider Road. As such, the following proposed intersection locations were included for evaluation in this study:

6. Allen Creek Road & Internal Access
7. Internal Access & Street just south of Allen Creek Road
8. Fullenwider & Internal Access

The proposed development could generate a total of 2,000 new trips during the weekday morning peak hour and 2,000 new trips during the weekday evening peak hour. The site generated trips were distributed to the surrounding roadway network based on the location of each access drive, the potential regional distribution, and discussions with the applicant and the Gainesville-Hall Metropolitan Planning Organization (MPO).

Intersection capacity analysis was performed for the morning and evening peak hours for the Existing Year (2019), Future Background Year (2040) and the Future with Project (2040) conditions. For Existing Year, Future Background Year, and Future with Project Year, the existing lane configurations and traffic control were used. The analyses showed that several movements at the study area intersections are currently or are anticipated to operate at less than desirable LOS (LOS E or LOS F) Table 9 shows when these movements experience the LOS E/F operations.

While the Smallwood Road eastbound left/through movement at the Highlands Village Road / Internal Access shows LOS E during the PM peak hour, it is noted that the Smallwood Road eastbound left turn movement volume during the PM peak hour is 3 vehicles. Given the LOS volume and the fact that the delay for this movement during the PM peak hour is just 1.4 seconds of delay above the LOS D threshold, no improvements are necessary or recommended to accommodate this movement.

Table 9 –Condition during which LOS E/F operations of movements begin

Int. #	Intersection	Movement	2019 Existing		2040 Future Background		2040 Future with Project		2040 Future with Project - Mitigation	
			AM	PM	AM	PM	AM	PM	AM	PM
1	SR 60 & Fullenwider Road	Westbound L/R			√	√			√	
		Westbound R								
		Southbound L					√			
2	Monroe Drive & Allen Creek Road	Westbound L						√		
3	US 129 & Monroe Drive	Eastbound L			√	√				
		Eastbound T				√				
		Westbound L				√	√			
		Westbound T			√			√		
		Northbound L	√	√						
		Northbound T							√	√
		Southbound L	√	√						
		Southbound T							√	√
4	US Route 129 & Highlands Village Road / Smallwood Road	Southbound L	√	√					√	
		Northbound L				√	√			
		Eastbound L/T/R	√	√						
		Eastbound R								√
		Westbound L/T	√	√						
		Westbound R			√					

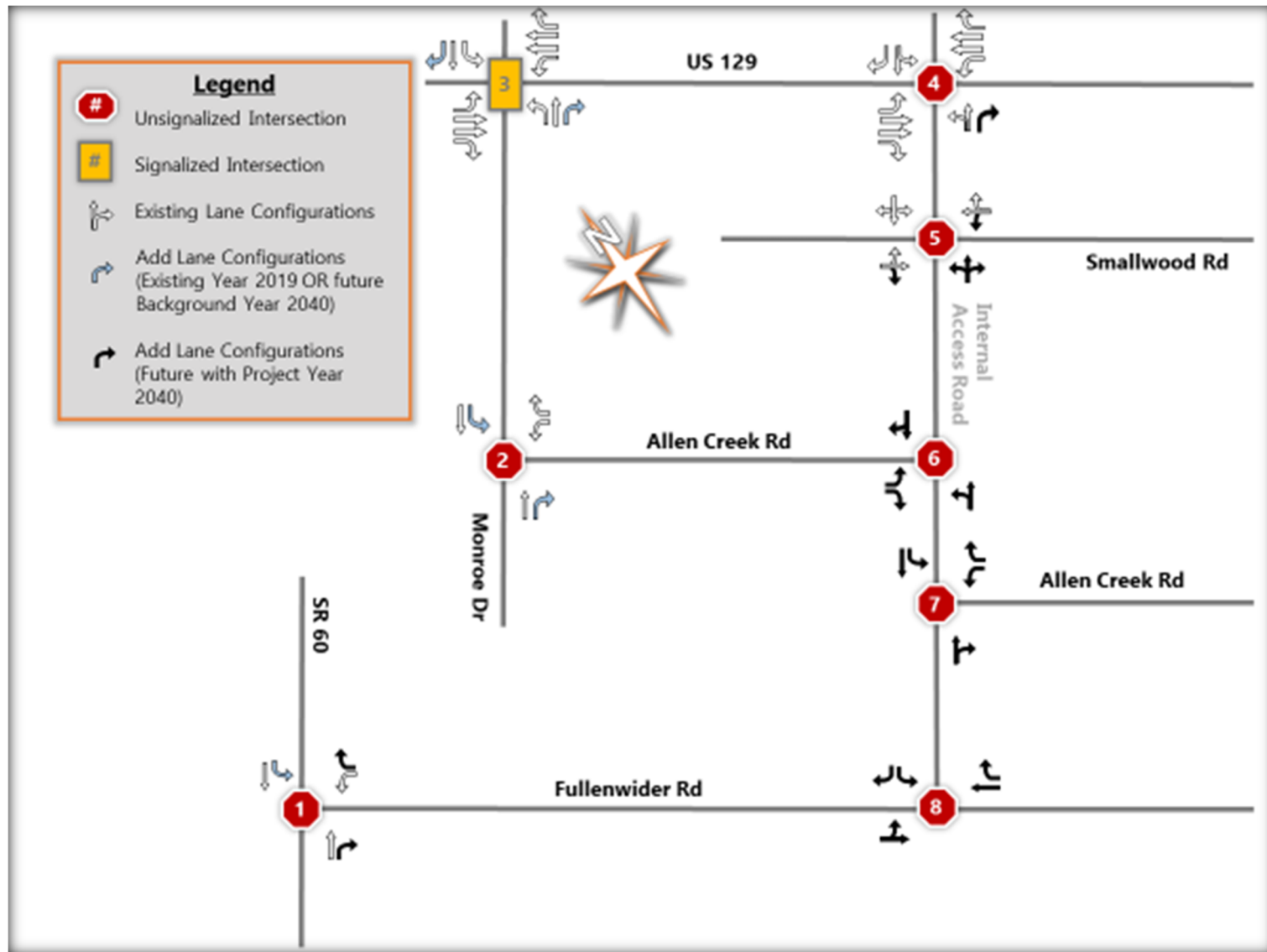
It is apparent that the several of the movements to the existing study area intersections are currently experiencing less than desirable LOS and are expected to continue in the 2040 Future Background Condition. It is also apparent that added project traffic will add delay at existing intersections and proposed. To gauge the impact of additional turn lanes at the intersections expected to experience inadequate LOS when the development is fully open in Future with Project Year 2040, further analysis was performed with additional turn lanes in locations to and from the development that were expected to potentially mitigate the heavy delays. Despite the additional turn lanes at these locations, inadequate LOS prevailed for several of the movements at the study intersections.

The existing unsignalized study intersections remained unsignalized in the Future with Project Year 2040 scenario because the GDOT Intersection Control Evaluation (ICE) process performed during the design phase will include a traffic signal warrant analysis and therefore is not within the scope of this study.

A GDOT ICE procedure will be required for the intersections SR 60, US 129 and Monroe Avenue intersections that are either new or involve proposed changes. A traffic signal warrant study is required as part of the ICE Analysis. Once the control at the intersection is determined, the lanes needed to provide adequate LOS can be determined.

Figure 15 shows the proposed lane configurations at each of the study intersections.

Figure 15 – Proposed Lane Configuration



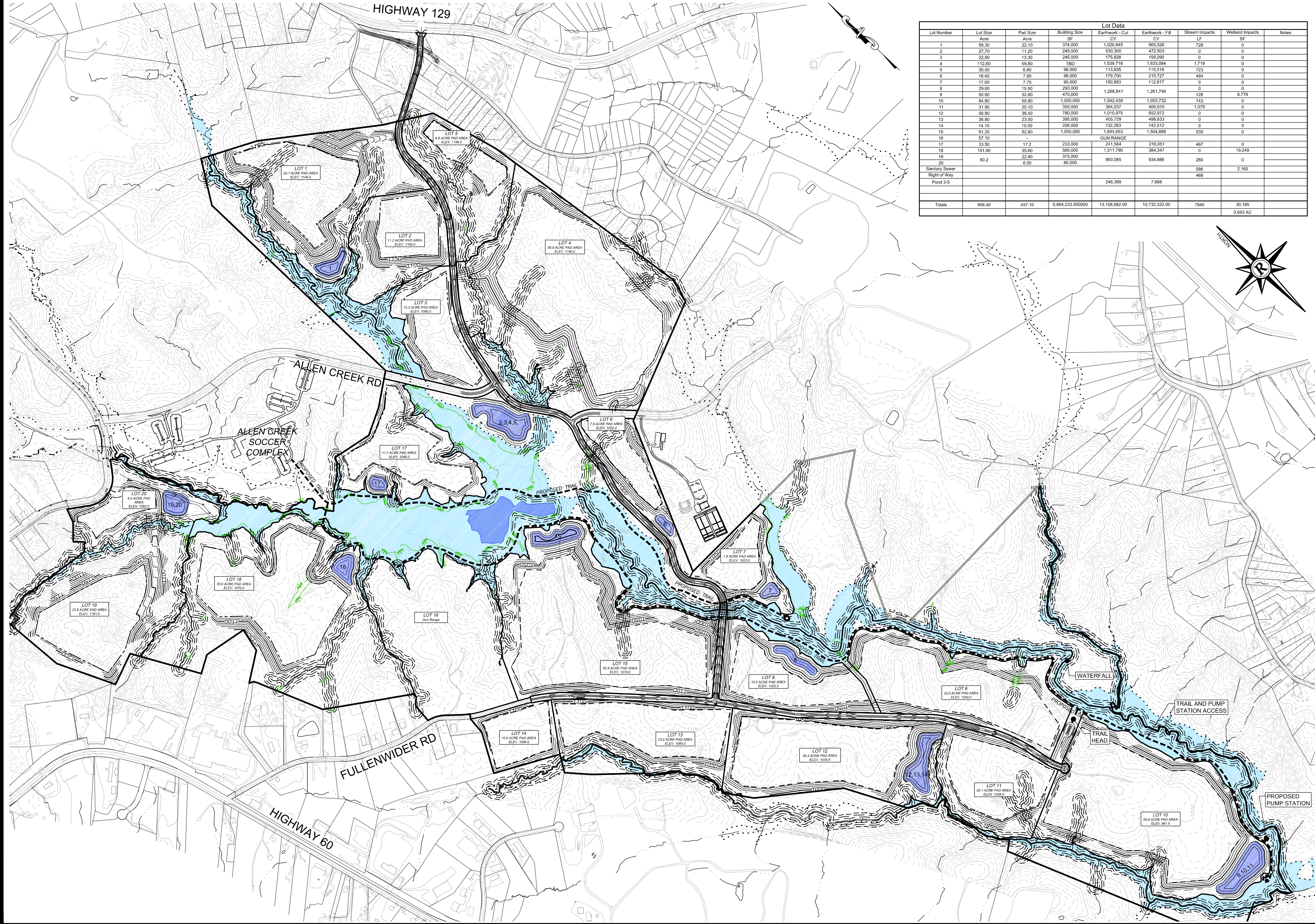
6. REFERENCES

- Trip Generation, 10th Edition, Institute of Transportation Engineers, Washington, DC, 2017.
- Trip Generation Handbook, 3rd Edition, Institute of Transportation Engineers, Washington, DC, 2014.
- Highway Capacity Manual, 6th Edition, Transportation Research Board, Washington, DC, 2016.
- Synchro, Version 10, Trafficware Ltd., Sugar Land, TX, 2014.
- Regulations for Driveway and Encroachment Control, Georgia Department of Transportation, Atlanta, GA, 2016.



Appendix A

Site Plan



Lot Data								
Lot Number	Lot Size Acre	Pad Size Acre	Building Size SF	Earthwork - Cut CY	Earthwork - Fill CY	Stream Impacts LF	Wetland Impacts SF	Notes
1	59.30	22.10	374,000	1,026,845	965,526	728	0	
2	27.70	11.20	245,000	530,300	472,503	0	0	
3	22.90	13.30	245,000	175,828	159,290	0	0	
4	112.50	59.80	780	1,539,716	1,633,084	1,719	0	
5	30.00	6.80	98,000	113,935	115,518	723	0	
6	18.40	7.90	98,000	179,700	215,727	484	0	
7	17.00	7.70	90,000	150,883	112,817	0	0	
8	29.60	15.50	283,000	1,268,841	1,261,748	0	0	
9	50.60	32.90	470,000	1,000,000	1,053,732	128	8,775	
10	84.80	65.80	1,000,000	1,542,439	1,053,732	743	0	
11	31.90	20.10	350,000	394,037	400,910	1,079	0	
12	56.80	36.40	780,000	1,010,975	652,972	0	0	
13	36.80	23.50	395,000	405,729	498,633	0	0	
14	14.10	10.00	296,000	132,263	142,012	0	0	
15	91.20	62.80	1,000,000	1,844,653	1,504,888	535	0	
16	57.10	-	-	GUN RANGE	-	-	-	
17	33.50	17.2	233,000	241,564	216,051	467	0	
18	101.90	35.60	565,000	1,311,790	384,347	0	19,249	
19	-	22.80	375,000	-	-	280	0	
20	80.2	6.00	80,000	993,085	934,886	-	-	
Sanitary Sewer	-	-	-	-	-	586	2,160	
Right of Way	-	-	-	-	-	468	-	
Pond 2-5	-	-	-	246,399	7,688	-	-	
Totals	956.40	457.10	6,664,233.000000	13,108,982.00	10,732,332.00	7940	30,185	0.693 AC

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OVERALL GRADING PLAN

FOR:

ALLEN CREEK BUSINESS PARK

LOCATED IN

LAND LOT/DISTRICT

CITY OF

HALL COUNTY, GEORGIA

NO.		DATE	DESCRIPTION	REVISIONS

ANY CHANGES OR ALTERATIONS MADE TO THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE CLIENT. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CLIENT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

GRAPHIC SCALE

250' 0' 500' 1000'

SHEET

1

OF

2

DATE: 06.20.18

SCALE: 1"=500'

JOB NO. G190760.COG

DRAWN BY: MPP



Appendix B

Traffic Counts

All Traffic Data Services, Inc

Page 1

alltrafficdata.net

Site Code: 1
Station ID: 1
SR-60 NORTH OF FULLENWIDER ROAD

Start Time	24-Oct-19 Thu	NB		Hour Totals		SB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		16	114			31	135				
12:15		16	115			7	112				
12:30		20	128			12	148				
12:45		19	96	71	453	11	130	61	525	132	978
01:00		16	110			15	154				
01:15		25	112			6	135				
01:30		27	98			7	139				
01:45		15	114	83	434	7	134	35	562	118	996
02:00		17	127			7	164				
02:15		16	114			10	142				
02:30		20	151			16	137				
02:45		29	145	82	537	13	142	46	585	128	1122
03:00		20	139			11	170				
03:15		17	140			17	143				
03:30		21	155			14	181				
03:45		15	192	73	626	11	167	53	661	126	1287
04:00		11	183			18	163				
04:15		28	164			22	156				
04:30		31	173			44	172				
04:45		34	159	104	679	47	252	131	743	235	1422
05:00		33	180			53	190				
05:15		59	166			75	158				
05:30		83	137			81	228				
05:45		106	165	281	648	83	172	292	748	573	1396
06:00		90	139			73	171				
06:15		128	138			108	145				
06:30		157	106			174	151				
06:45		176	87	551	470	208	101	563	568	1114	1038
07:00		177	80			169	138				
07:15		179	73			159	109				
07:30		223	62			137	103				
07:45		169	55	748	270	106	85	571	435	1319	705
08:00		141	49			130	103				
08:15		162	35			106	98				
08:30		132	46			100	73				
08:45		126	42	561	172	98	61	434	335	995	507
09:00		132	29			100	66				
09:15		153	26			88	71				
09:30		95	20			101	73				
09:45		111	27	491	102	88	47	377	257	868	359
10:00		94	30			80	54				
10:15		103	18			83	43				
10:30		119	25			98	30				
10:45		93	19	409	92	95	32	356	159	765	251
11:00		132	24			88	32				
11:15		95	33			96	33				
11:30		131	25			116	30				
11:45		123	11	481	93	106	15	406	110	887	203
Total		3935	4576			3325	5688			7260	10264
Percent		46.2%	53.8%			36.9%	63.1%			41.4%	58.6%
Grand Total		3935	4576			3325	5688			7260	10264
Percent		46.2%	53.8%			36.9%	63.1%			41.4%	58.6%
ADT		ADT 17,524		AADT 17,524							

All Traffic Data Services, Inc

alltrafficdata.net

Site Code: 2

Station ID: 2

MONROE DRIVE WEST OF ALLEN CREEK ROAD

Start Time	24-Oct-19 Thu	EB		Hour Totals		WB		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	26			4	31				
12:15		1	31			0	24				
12:30		1	20			1	23				
12:45		3	23	12	100	1	24	6	102	18	202
01:00		2	27			3	18				
01:15		3	18			1	21				
01:30		2	21			2	27				
01:45		1	18	8	84	0	24	6	90	14	174
02:00		0	28			0	22				
02:15		3	26			3	21				
02:30		0	40			2	23				
02:45		1	32	4	126	1	19	6	85	10	211
03:00		5	28			2	27				
03:15		0	25			2	23				
03:30		3	36			4	25				
03:45		2	25	10	114	2	32	10	107	20	221
04:00		2	54			2	28				
04:15		1	39			1	34				
04:30		1	52			6	30				
04:45		3	58	7	203	6	20	15	112	22	315
05:00		1	64			6	26				
05:15		3	37			5	37				
05:30		4	64			15	26				
05:45		7	65	15	230	20	35	46	124	61	354
06:00		9	39			16	40				
06:15		16	30			27	36				
06:30		15	32			31	15				
06:45		16	34	56	135	47	17	121	108	177	243
07:00		14	44			35	30				
07:15		21	26			27	28				
07:30		36	14			44	51				
07:45		19	14	90	98	65	16	171	125	261	223
08:00		24	10			47	15				
08:15		30	7			17	14				
08:30		16	9			18	16				
08:45		26	12	96	38	18	40	100	85	196	123
09:00		18	9			23	25				
09:15		19	10			13	9				
09:30		17	5			19	16				
09:45		15	4	69	28	15	4	70	54	139	82
10:00		19	2			12	6				
10:15		16	4			19	3				
10:30		18	2			16	6				
10:45		15	4	68	12	14	3	61	18	129	30
11:00		10	3			20	5				
11:15		21	2			18	4				
11:30		23	7			21	12				
11:45		28	1	82	13	30	3	89	24	171	37
Total		517	1181			701	1034			1218	2215
Percent		30.4%	69.6%			40.4%	59.6%			35.5%	64.5%
Grand Total		517	1181			701	1034			1218	2215
Percent		30.4%	69.6%			40.4%	59.6%			35.5%	64.5%

ADT ADT 3,433 AADT 3,433

All Traffic Data Services, Inc

Page 1

alltrafficdata.net

Site Code: 3
Station ID: 3
HWY-129 NORTH OF GAINES MILL ROAD

Start Time	24-Oct-19 Thu	NB		Hour Totals		Direction 2		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		38	227			59	246				
12:15		44	221			49	226				
12:30		32	259			54	276				
12:45		37	260	151	967	28	232	190	980	341	1947
01:00		18	204			33	240				
01:15		26	210			32	287				
01:30		24	249			30	209				
01:45		16	222	84	885	39	246	134	982	218	1867
02:00		18	238			28	287				
02:15		20	250			45	278				
02:30		28	254			30	271				
02:45		44	275	110	1017	26	310	129	1146	239	2163
03:00		25	286			40	300				
03:15		21	314			33	361				
03:30		62	302			34	380				
03:45		48	304	156	1206	37	413	144	1454	300	2660
04:00		34	316			38	399				
04:15		62	322			42	496				
04:30		100	317			51	464				
04:45		130	397	326	1352	46	460	177	1819	503	3171
05:00		136	344			54	490				
05:15		194	320			90	498				
05:30		273	337			104	523				
05:45		268	355	871	1356	100	456	348	1967	1219	3323
06:00		322	300			148	388				
06:15		394	312			190	406				
06:30		403	270			188	394				
06:45		454	234	1573	1116	212	302	738	1490	2311	2606
07:00		439	201			222	346				
07:15		534	226			194	369				
07:30		641	208			212	326				
07:45		548	169	2162	804	176	298	804	1339	2966	2143
08:00		396	174			194	270				
08:15		353	124			198	284				
08:30		337	142			196	232				
08:45		294	130	1380	570	158	236	746	1022	2126	1592
09:00		231	104			156	227				
09:15		245	122			185	167				
09:30		268	96			186	168				
09:45		244	103	988	425	192	143	719	705	1707	1130
10:00		211	74			198	158				
10:15		216	102			194	150				
10:30		232	94			186	128				
10:45		234	66	893	336	186	104	764	540	1657	876
11:00		162	56			186	106				
11:15		231	69			206	108				
11:30		257	61			202	86				
11:45		222	47	872	233	228	54	822	354	1694	587
Total		9566	10267			5715	13798			15281	24065
Percent		48.2%	51.8%			29.3%	70.7%			38.8%	61.2%
Grand Total		9566	10267			5715	13798			15281	24065
Percent		48.2%	51.8%			29.3%	70.7%			38.8%	61.2%

ADT ADT 39,346 AADT 39,346

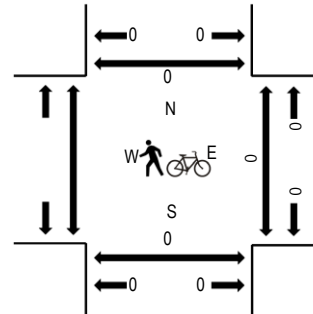
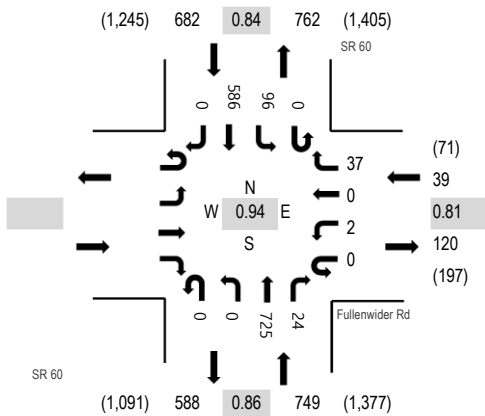


(303) 216-2439
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Location: #1 SR 60 & Fullenwider Rd AM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 06:45 AM - 07:45 AM
Peak 15-Minutes: 06:45 AM - 07:00 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Eastbound				Fullenwider Rd Westbound				SR 60 Northbound				SR 60 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM					0	0	0	8	0	0	162	4	0	19	158	0	351	1,450	0	0	0	0
6:45 AM					0	1	0	9	0	0	161	10	0	23	189	0	393	1,470	0	0	0	0
7:00 AM					0	0	0	9	0	0	185	6	0	27	137	0	364	1,393	0	0	0	0
7:15 AM					0	0	0	12	0	0	162	6	0	25	137	0	342	1,314	0	0	0	0
7:30 AM					0	1	0	7	0	0	217	2	0	21	123	0	371	1,243	0	0	0	0
7:45 AM					0	1	0	6	0	0	163	6	0	23	117	0	316		0	0	0	0
8:00 AM					0	0	0	10	0	0	133	2	0	10	130	0	285		0	0	0	0
8:15 AM					0	1	0	6	0	0	155	3	0	10	96	0	271		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	8	0	0	7	0	0	3	19	0	37
Lights					0	1	0	22	0	0	696	24	0	91	523	0	1,357
Mediums					0	1	0	7	0	0	22	0	0	2	44	0	76
Total					0	2	0	37	0	0	725	24	0	96	586	0	1,470

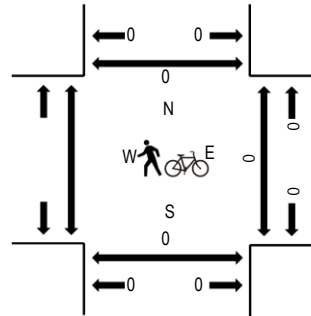
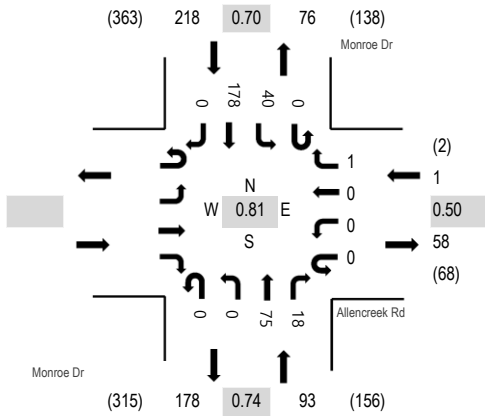


(303) 216-2439
www.alltrafficdata.net

Location: #2 Monroe Dr & Allencreek Rd AM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time					Allencreek Rd				Monroe Dr				Monroe Dr				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				Northbound				Southbound						West East South North			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM					0	0	0	0	0	0	15	0	0	0	36	0	51	222		0	0	0
6:45 AM					0	0	0	1	0	0	15	0	0	1	52	0	69	260		0	0	0
7:00 AM					0	0	0	0	0	0	12	1	0	1	29	0	43	287		0	0	0
7:15 AM					0	0	0	0	0	0	11	7	0	9	32	0	59	312		0	0	0
7:30 AM					0	0	0	1	0	0	23	9	0	15	41	0	89	299		0	0	0
7:45 AM					0	0	0	0	0	0	16	2	0	13	65	0	96		0	0	0	
8:00 AM					0	0	0	0	0	0	25	0	0	3	40	0	68		0	0	0	
8:15 AM					0	0	0	0	0	0	19	1	0	6	20	0	46		0	0	0	

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	1	0	0	0	2	0	3
Lights					0	0	0	1	0	0	66	18	0	40	166	0	291
Mediums					0	0	0	0	0	0	8	0	0	0	10	0	18
Total					0	0	0	1	0	0	75	18	0	40	178	0	312

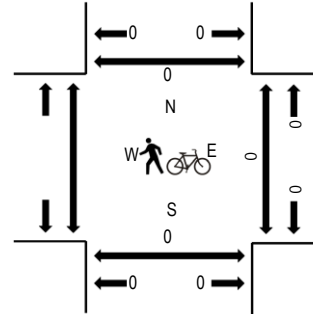
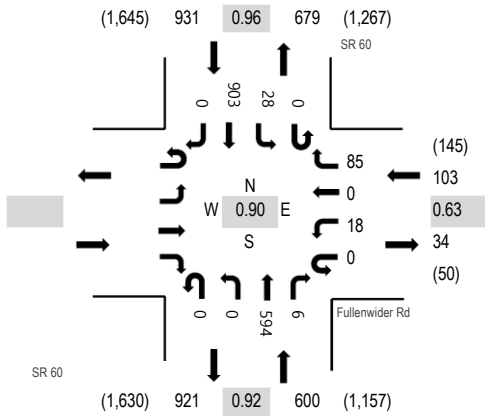


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Location: #1 SR 60 & Fullenwider Rd PM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles

Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Eastbound				Fullenwider Rd Westbound				SR 60 Northbound				SR 60 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM					0	4	0	21	0	0	141	4	0	13	192	0	375	1,634	0	0	0	0
4:45 PM					0	4	0	19	0	0	130	1	0	7	242	0	403	1,632	0	0	0	0
5:00 PM					0	9	0	32	0	0	166	1	0	6	242	0	456	1,572	0	0	0	0
5:15 PM					0	1	0	13	0	0	157	0	0	2	227	0	400	1,433	0	0	0	0
5:30 PM					0	2	0	4	0	0	135	0	0	3	229	0	373	1,313	0	0	0	0
5:45 PM					0	2	0	12	0	0	156	1	0	2	170	0	343		0	0	0	0
6:00 PM					0	5	0	13	0	0	129	0	0	5	165	0	317		0	0	0	0
6:15 PM					0	1	0	3	0	0	136	0	0	5	135	0	280		0	0	0	0

Peak Rolling Hour Flow Rates

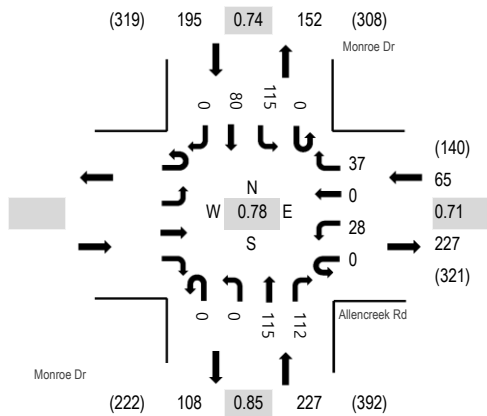
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	2	0	0	12	2	0	3	11	0	30
Lights					0	18	0	78	0	0	557	4	0	18	863	0	1,538
Mediums					0	0	0	5	0	0	25	0	0	7	29	0	66
Total					0	18	0	85	0	0	594	6	0	28	903	0	1,634



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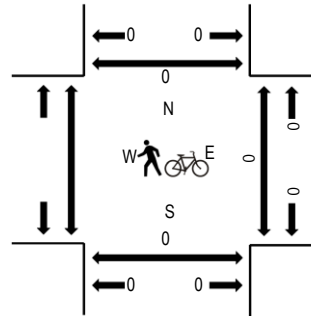
Location: #2 Monroe Dr & Allencreek Rd PM
Date and Start Time: Thursday, October 24, 2019
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Eastbound				Allencreek Rd Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM					0	0	0	0	0	0	38	9	0	6	22	0	75	380	0	0	0	0
4:45 PM					0	0	0	3	0	0	39	13	0	8	21	0	84	415	0	0	0	0
5:00 PM					0	4	0	9	0	0	48	19	0	16	22	0	118	487	0	0	0	0
5:15 PM					0	6	0	10	0	0	24	13	0	24	26	0	103	482	0	0	0	0
5:30 PM					0	9	0	3	0	0	23	35	0	29	11	0	110	471	0	0	0	0
5:45 PM					0	9	0	15	0	0	20	45	0	46	21	0	156		0	0	0	0
6:00 PM					0	20	0	14	0	0	20	17	0	22	20	0	113		0	0	0	0
6:15 PM					0	16	0	22	0	0	20	9	0	10	15	0	92		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks					0	0	0	0	0	0	0	1	0	0	2	0	3
Lights					0	28	0	37	0	0	114	110	0	115	71	0	475
Mediums					0	0	0	0	0	0	1	1	0	0	7	0	9
Total					0	28	0	37	0	0	115	112	0	115	80	0	487



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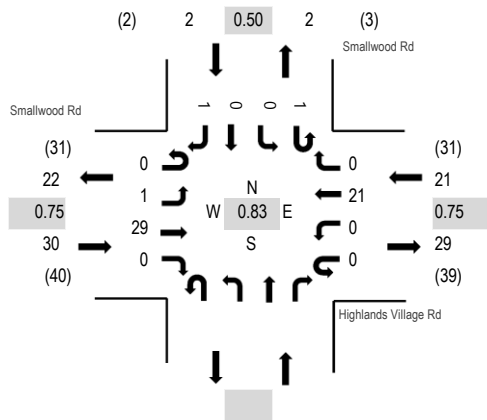
Location: #1 Smallwood Rd & Highlands Village Rd AM

Date and Start Time: Tuesday, November 19, 2019

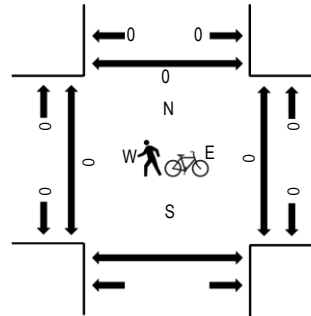
Peak Hour: 06:30 AM - 07:30 AM

Peak 15-Minutes: 06:30 AM - 06:45 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Smallwood Rd Eastbound				Highlands Village Rd Westbound				Northbound				Smallwood Rd Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	0	8	0	0	0	0	7	0				1	0	0	0	16	53	0	0	0	0
6:45 AM	0	0	10	0	0	0	0	5	0				0	0	0	0	15	44	0	0	0	0
7:00 AM	0	0	6	0	0	0	0	3	0				0	0	0	0	9	34	0	0	0	0
7:15 AM	0	1	5	0	0	0	0	6	0				0	0	0	1	13	30	0	0	0	0
7:30 AM	0	0	5	0	0	0	0	2	0				0	0	0	0	7	20	0	0	0	0
7:45 AM	0	0	1	0	0	0	0	3	1				0	0	0	0	5		0	0	0	0
8:00 AM	0	0	3	0	0	0	0	2	0				0	0	0	0	5		0	0	0	0
8:15 AM	0	0	1	0	0	0	0	2	0				0	0	0	0	3		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Lights	0	1	29	0	0	0	17	0					1	0	0	1	49
Mediums	0	0	0	0	0	0	4	0					0	0	0	0	4
Total	0	1	29	0	0	0	21	0					1	0	0	1	53



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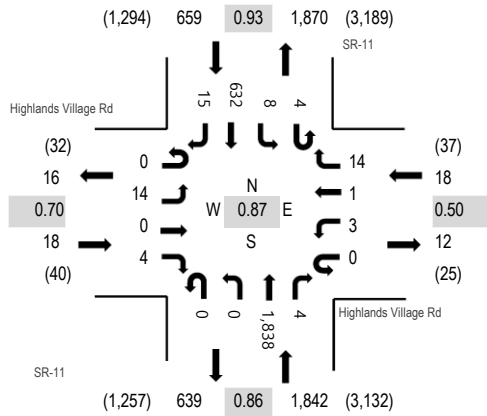
Location: #2 SR-11 & Highlands Village Rd AM

Date and Start Time: Tuesday, November 19, 2019

Peak Hour: 07:00 AM - 08:00 AM

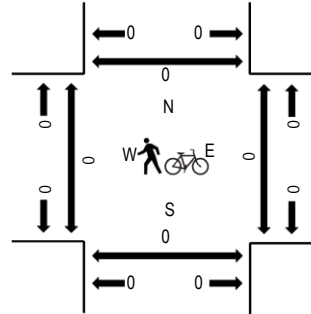
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Highlands Village Rd Eastbound				Highlands Village Rd Westbound				SR-11 Northbound				SR-11 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	8	0	0	0	0	1	11	0	2	337	5	0	1	160	4	529	2,189	0	0	0	0
6:45 AM	0	10	0	0	0	0	0	2	0	0	307	0	0	0	149	5	473	2,390	0	0	0	0
7:00 AM	0	4	0	1	0	0	0	2	0	0	386	1	1	2	149	3	549	2,537	0	0	0	0
7:15 AM	0	4	0	1	0	2	1	5	0	0	453	0	0	4	162	6	638	2,523	0	0	0	0
7:30 AM	0	5	0	2	0	0	0	5	0	0	532	3	1	1	179	2	730	2,314	0	0	0	0
7:45 AM	0	1	0	0	0	1	0	2	0	0	467	0	2	1	142	4	620		0	0	0	0
8:00 AM	0	2	0	0	0	2	0	3	0	0	352	1	0	5	168	2	535		0	0	0	0
8:15 AM	0	2	0	0	0	0	0	0	1	0	284	1	1	0	138	2	429		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	52	0	0	0	33	0	85
Lights	0	14	0	4	0	3	1	12	0	0	1,733	3	4	6	570	14	2,364
Mediums	0	0	0	0	0	0	0	2	0	0	53	1	0	2	29	1	88
Total	0	14	0	4	0	3	1	14	0	0	1,838	4	4	8	632	15	2,537



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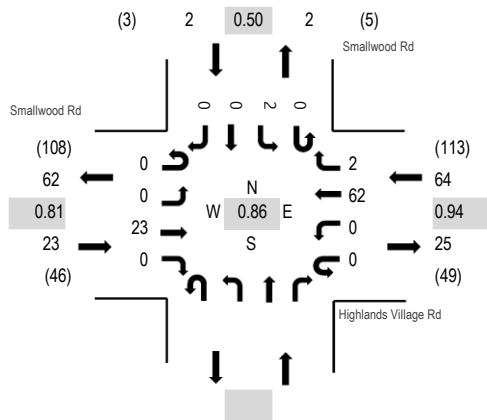
Location: #1 Smallwood Rd & Highlands Village Rd PM

Date and Start Time: Tuesday, November 19, 2019

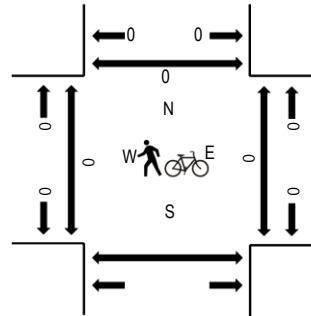
Peak Hour: 05:30 PM - 06:30 PM

Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	Smallwood Rd Eastbound				Highlands Village Rd Westbound				Northbound				Smallwood Rd Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	0	2	0	0	0	0	8	1				0	0	0	0	11	73	0	0		0
4:45 PM	0	0	9	0	0	0	0	13	1				0	0	0	0	23	88	0	0		0
5:00 PM	0	0	6	0	0	0	0	14	0				0	1	0	0	21	88	0	0		0
5:15 PM	0	0	6	0	0	0	0	11	1				0	0	0	0	18	86	0	0		0
5:30 PM	0	0	8	0	0	0	0	16	1				0	1	0	0	26	89	0	0		0
5:45 PM	0	0	7	0	0	0	0	16	0				0	0	0	0	23		0	0		0
6:00 PM	0	0	5	0	0	0	0	14	0				0	0	0	0	19		0	0		0
6:15 PM	0	0	3	0	0	0	0	16	1				0	1	0	0	21		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Lights	0	0	22	0	0	0	62	2					0	2	0	0	88
Mediums	0	0	1	0	0	0	0	0					0	0	0	0	1
Total	0	0	23	0	0	0	62	2					0	2	0	0	89



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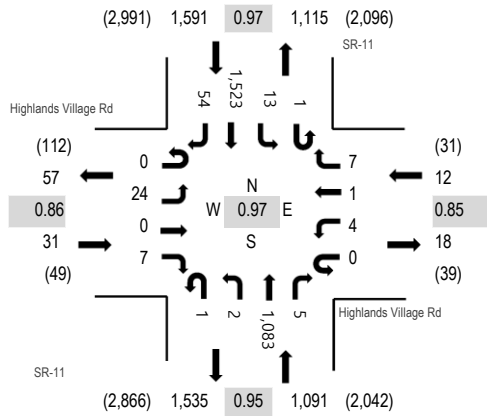
Location: #2 SR-11 & Highlands Village Rd PM

Date and Start Time: Tuesday, November 19, 2019

Peak Hour: 04:45 PM - 05:45 PM

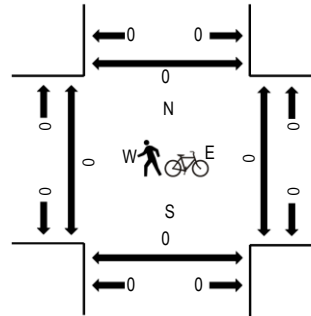
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Highlands Village Rd Eastbound				Highlands Village Rd Westbound				SR-11 Northbound				SR-11 Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	2	0	0	0	1	0	6	0	0	278	1	0	6	373	9	676	2,717	0	0	0	0
4:45 PM	0	8	0	1	0	1	1	2	0	0	278	0	0	3	382	14	690	2,725	0	0	0	0
5:00 PM	0	6	0	1	0	0	0	1	0	0	279	1	0	3	395	13	699	2,664	0	0	0	0
5:15 PM	0	6	0	0	0	1	0	1	0	2	242	2	0	4	384	10	652	2,485	0	0	0	0
5:30 PM	0	4	0	5	0	2	0	3	1	0	284	2	1	3	362	17	684	2,396	0	0	0	0
5:45 PM	0	5	1	0	0	1	1	3	0	0	229	1	1	3	369	15	629		0	0	0	0
6:00 PM	0	5	0	0	0	0	0	5	0	0	210	0	0	7	279	14	520		0	1	0	0
6:15 PM	0	5	0	0	0	0	0	2	0	1	230	1	0	1	308	15	563		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	43	0	0	0	42	0	85
Lights	0	23	0	7	0	4	1	7	1	2	1,018	5	1	13	1,458	53	2,593
Mediums	0	1	0	0	0	0	0	0	0	0	22	0	0	0	23	1	47
Total	0	24	0	7	0	4	1	7	1	2	1,083	5	1	13	1,523	54	2,725



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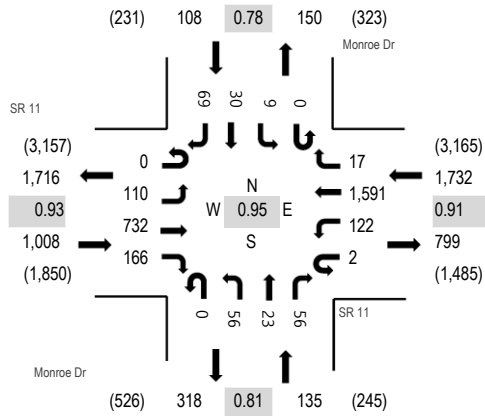
Location: #1 Monroe Dr & SR 11 AM

Date and Start Time: Wednesday, December 4, 2019

Peak Hour: 07:00 AM - 08:00 AM

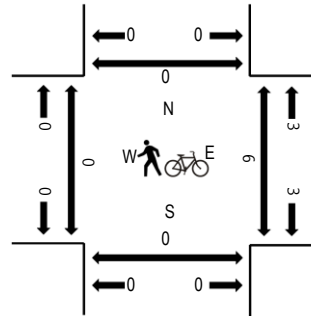
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 11 Eastbound				SR 11 Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
6:30 AM	0	26	153	25	0	24	351	13	0	7	3	1	0	1	6	30	640	2,781	0	0	0	0
6:45 AM	0	32	169	19	3	35	354	18	0	4	9	19	0	3	11	26	702	2,929	0	1	0	0
7:00 AM	0	24	176	32	1	28	346	8	0	14	0	13	0	5	4	10	661	2,983	0	3	0	0
7:15 AM	0	31	189	51	1	31	410	3	0	11	6	17	0	1	9	18	778	2,947	0	1	0	0
7:30 AM	0	26	170	43	0	30	441	3	0	18	13	13	0	2	9	20	788	2,710	0	0	0	0
7:45 AM	0	29	197	40	0	33	394	3	0	13	4	13	0	1	8	21	756		0	2	0	0
8:00 AM	0	38	163	30	0	22	314	3	0	17	11	6	0	1	2	18	625		0	0	0	0
8:15 AM	0	15	152	20	1	7	285	3	0	17	2	14	0	0	7	18	541		0	2	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	6	32	4	0	2	45	1	0	2	0	4	0	0	2	2	100
Lights	0	101	674	151	2	117	1,509	14	0	40	22	39	0	9	26	61	2,765
Mediums	0	3	26	11	0	3	37	2	0	14	1	13	0	0	2	6	118
Total	0	110	732	166	2	122	1,591	17	0	56	23	56	0	9	30	69	2,983



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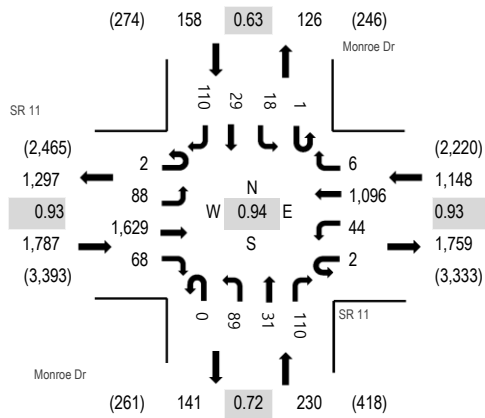
Location: #1 Monroe Dr & SR 11 PM

Date and Start Time: Wednesday, December 4, 2019

Peak Hour: 04:45 PM - 05:45 PM

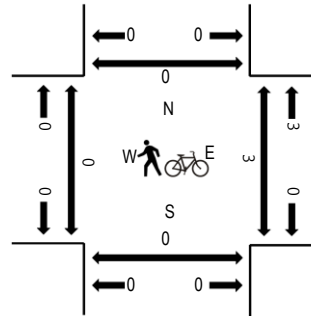
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	SR 11 Eastbound				SR 11 Westbound				Monroe Dr Northbound				Monroe Dr Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:30 PM	0	25	366	17	0	12	247	6	0	24	11	25	0	5	8	35	781	3,270	0	3	0	0
4:45 PM	1	22	375	28	0	17	266	0	0	12	10	21	0	2	9	20	783	3,323	0	2	0	0
5:00 PM	1	14	388	15	0	10	240	2	0	40	10	33	0	12	5	56	826	3,297	0	0	0	0
5:15 PM	0	24	451	11	1	8	299	1	0	20	6	28	1	2	9	19	880	3,254	0	0	0	0
5:30 PM	0	28	415	14	1	9	291	3	0	17	5	28	0	2	6	15	834	3,035	0	1	0	0
5:45 PM	0	14	416	15	0	11	230	3	0	20	6	17	0	1	5	19	757		0	0	0	0
6:00 PM	0	16	394	8	0	13	279	3	0	19	8	20	0	2	5	16	783		0	0	0	0
6:15 PM	0	16	309	10	0	12	250	6	0	14	6	18	0	1	4	15	661		0	1	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	41	4	0	5	33	0	0	2	0	3	0	1	2	1	92
Lights	2	86	1,562	62	2	36	1,050	5	0	86	29	106	1	17	27	109	3,180
Mediums	0	2	26	2	0	3	13	1	0	1	2	1	0	0	0	0	51
Total	2	88	1,629	68	2	44	1,096	6	0	89	31	110	1	18	29	110	3,323



Appendix C

Synchro and HCM Reports

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	37	725	24	96	586
Future Volume (vph)	2	37	725	24	96	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.872		0.996			
Flt Protected	0.998					0.993
Satd. Flow (prot)	1169	0	1822	0	0	1713
Flt Permitted	0.998					0.993
Satd. Flow (perm)	1169	0	1822	0	0	1713
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	50%	41%	4%	0%	5%	11%
Adj. Flow (vph)	2	39	771	26	102	623
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	797	0	0	725
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 89.1%				ICU Level of Service E		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	37	725	24	96	586
Future Vol, veh/h	2	37	725	24	96	586
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	50	41	4	0	5	11
Mvmt Flow	2	39	771	26	102	623
Major/Minor						
	Minor1		Major1		Major2	
Conflicting Flow All	1611	784	0	0	797	0
Stage 1	784	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Critical Hdwy	6.9	6.61	-	-	4.15	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.669	-	-	2.245	-
Pot Cap-1 Maneuver	89	338	-	-	812	-
Stage 1	376	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	72	338	-	-	812	-
Mov Cap-2 Maneuver	72	-	-	-	-	-
Stage 1	304	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Approach						
	WB		NB		SB	
HCM Control Delay, s	19.8		0		1.4	
HCM LOS	C					
Minor Lane/Major Mvmt						
	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	284	812	-	
HCM Lane V/C Ratio	-	-	0.146	0.126	-	
HCM Control Delay (s)	-	-	19.8	10.1	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	0.5	0.4	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	1	75	18	40	178
Future Volume (vph)	0	1	75	18	40	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.974			
Flt Protected						0.991
Satd. Flow (prot)	1900	1615	1687	0	0	1781
Flt Permitted						0.991
Satd. Flow (perm)	1900	1615	1687	0	0	1781
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	12%	0%	0%	7%
Adj. Flow (vph)	0	1	93	22	49	220
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1	115	0	0	269
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 21.6%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	75	18	40	178
Future Vol, veh/h	0	1	75	18	40	178
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	12	0	0	7
Mvmt Flow	0	1	93	22	49	220
Major/Minor						
	Minor1	Major1		Major2		
Conflicting Flow All	422	104	0	0	115	0
Stage 1	104	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	592	956	-	-	1487	-
Stage 1	925	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	570	956	-	-	1487	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Approach						
	WB	NB		SB		
HCM Control Delay, s	8.8	0		1.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	956	1487	-
HCM Lane V/C Ratio	-	-	-	0.001	0.033	-
HCM Control Delay (s)	-	-	0	8.8	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0.1	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	110	732	166	2	122	1591	17	56	23	56	9	30
Future Volume (vph)	110	732	166	2	122	1591	17	56	23	56	9	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.99	
Frt			0.850				0.850		0.893			0.896
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3343	1482	0	1737	3438	1369	1399	1385	0	1805	1516
Flt Permitted	0.096				0.338			0.650			0.703	
Satd. Flow (perm)	169	3343	1445	0	618	3438	1369	957	1385	0	1321	1516
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			175				76		59			64
Link Speed (mph)		45			45			45				45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Confl. Peds. (#/hr)			6								6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	9%	0%	4%	5%	18%	29%	4%	30%	0%	13%
Adj. Flow (vph)	116	771	175	2	128	1675	18	59	24	59	9	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	771	175	0	130	1675	18	59	83	0	9	105
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	69
Future Volume (vph)	69
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Flt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	12%
Adj. Flow (vph)	73
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	114.8	106.5	106.5		114.6	106.3	106.3	16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.77	0.71	0.71		0.76	0.71	0.71	0.11	0.11		0.11	0.11
v/c Ratio	0.55	0.32	0.16		0.24	0.69	0.02	0.58	0.41		0.06	0.48
Control Delay	17.3	9.2	1.5		4.9	15.3	0.1	84.4	27.9		57.9	33.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	17.3	9.2	1.5		4.9	15.3	0.1	84.4	27.9		57.9	33.3
LOS	B	A	A		A	B	A	F	C		E	C
Approach Delay		8.8				14.4			51.4			35.3
Approach LOS		A				B			D			D
Queue Length 50th (ft)	20	137	0		23	447	0	56	22		8	37
Queue Length 95th (ft)	62	206	27		47	641	0	104	73		26	97
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	231	2373	1077		556	2436	992	144	258		199	282
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.50	0.32	0.16		0.23	0.69	0.02	0.41	0.32		0.05	0.37

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 14.9

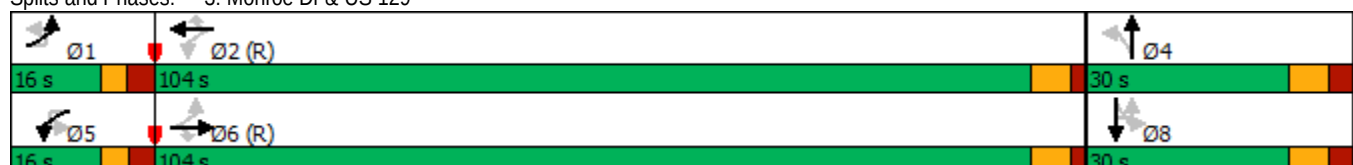
Intersection LOS: B

Intersection Capacity Utilization 76.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBR
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: US 129 & Highlands Village Rd

Existing AM
12/10/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	14	0	4	3	1	14	0	1838	4	4	8	632
Future Volume (vph)	14	0	4	3	1	14	0	1838	4	4	8	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.968				0.850			0.850			
Flt Protected		0.963			0.964						0.950	
Satd. Flow (prot)	0	1771	0	0	1832	1417	1900	3406	1292	0	1555	3282
Flt Permitted		0.963			0.964						0.950	
Satd. Flow (perm)	0	1771	0	0	1832	1417	1900	3406	1292	0	1555	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		424			653			2889				1747
Travel Time (s)		11.6			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	14%	0%	6%	25%	0%	25%	10%
Adj. Flow (vph)	16	0	5	3	1	16	0	2113	5	5	9	726
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	4	16	0	2113	5	0	14	726
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 67.5%	ICU Level of Service C											
Analysis Period (min) 15												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	15
Future Volume (vph)	15
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1509
Flt Permitted	
Satd. Flow (perm)	1509
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	7%
Adj. Flow (vph)	17
Shared Lane Traffic (%)	
Lane Group Flow (vph)	17
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	1.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	14	0	4	3	1	14	0	1838	4	4	8	632	15
Future Vol, veh/h	14	0	4	3	1	14	0	1838	4	4	8	632	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	14	0	6	25	0	25	10	7
Mvmt Flow	16	0	5	3	1	16	0	2113	5	5	9	726	17
Major/Minor	Minor2		Minor1		Major1		Major2						
Conflicting Flow All	1811	2872	363	2504	2884	1057	743	0	0	2113	2118	0	0
Stage 1	754	754	-	2113	2113	-	-	-	-	-	-	-	-
Stage 2	1057	2118	-	391	771	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.18	4.1	-	-	6.4	4.6	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.44	2.2	-	-	2.5	2.45	-	-
Pot Cap-1 Maneuver	50	17	640	15	16	202	873	-	-	64	185	-	-
Stage 1	372	420	-	53	93	-	-	-	-	-	-	-	-
Stage 2	244	92	-	610	413	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	39	15	640	13	14	202	873	-	-	109	109	-	-
Mov Cap-2 Maneuver	39	15	-	13	14	-	-	-	-	-	-	-	-
Stage 1	372	366	-	53	93	-	-	-	-	-	-	-	-
Stage 2	222	92	-	528	360	-	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB						
HCM Control Delay, s	124.1		106.1		0		0.8						
HCM LOS	F		F										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR				
Capacity (veh/h)	873	-	-	49	13	202	109	-	-				
HCM Lane V/C Ratio	-	-	-	0.422	0.354	0.08	0.127	-	-				
HCM Control Delay (s)	0	-	-	124.1	391.9	24.4	42.7	-	-				
HCM Lane LOS	A	-	-	F	F	C	E	-	-				
HCM 95th %tile Q(veh)	0	-	-	1.5	0.9	0.3	0.4	-	-				



Lane Group	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations		↕	↕			↕	
Traffic Volume (vph)	1	29	21	0	1	0	1
Future Volume (vph)	1	29	21	0	1	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.932	
Flt Protected		0.999				0.976	
Satd. Flow (prot)	0	1898	1597	0	0	1728	0
Flt Permitted		0.999				0.976	
Satd. Flow (perm)	0	1898	1597	0	0	1728	0
Link Speed (mph)		25	30			25	
Link Distance (ft)		1416	424			1013	
Travel Time (s)		38.6	9.6			27.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	19%	0%	0%	0%	0%
Adj. Flow (vph)	1	35	25	0	1	0	1
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	36	25	0	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	R NA	Left	Right
Median Width(ft)		0	0			12	
Link Offset(ft)		0	0			0	
Crosswalk Width(ft)		16	16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	9	15	9
Sign Control		Free	Free			Stop	
Intersection Summary							
Area Type:	Other						
Control Type:	Unsignalized						
Intersection Capacity Utilization	13.3%			ICU Level of Service A			
Analysis Period (min)	15						

Intersection							
Int Delay, s/veh	0.4						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	1	29	21	0	1	0	1
Future Vol, veh/h	1	29	21	0	1	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	19	0	0	0	0
Mvmt Flow	1	35	25	0	1	0	1
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	25	0	-	0	0	62	25
Stage 1	-	-	-	-	0	25	-
Stage 2	-	-	-	-	0	37	-
Critical Hdwy	4.1	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1603	-	-	-	0	949	1057
Stage 1	-	-	-	-	0	1003	-
Stage 2	-	-	-	-	0	991	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1603	-	-	-	0	948	1057
Mov Cap-2 Maneuver	-	-	-	-	0	948	-
Stage 1	-	-	-	-	0	1002	-
Stage 2	-	-	-	-	0	991	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.2	0		8.4			
HCM LOS	A						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	1603	-	-	-	1057		
HCM Lane V/C Ratio	0.001	-	-	-	0.001		
HCM Control Delay (s)	7.2	0	-	-	8.4		
HCM Lane LOS	A	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-	0		

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	85	594	6	28	903
Future Volume (vph)	18	85	594	6	28	903
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.889		0.999			
Flt Protected	0.991					0.999
Satd. Flow (prot)	1570	0	1786	0	0	1808
Flt Permitted	0.991					0.999
Satd. Flow (perm)	1570	0	1786	0	0	1808
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	8%	6%	33%	36%	4%
Adj. Flow (vph)	20	94	660	7	31	1003
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	667	0	0	1034
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 83.0%				ICU Level of Service E		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	85	594	6	28	903
Future Vol, veh/h	18	85	594	6	28	903
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	8	6	33	36	4
Mvmt Flow	20	94	660	7	31	1003
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1729	664	0	0	667	0
Stage 1	664	-	-	-	-	-
Stage 2	1065	-	-	-	-	-
Critical Hdwy	6.4	6.28	-	-	4.46	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	-	-	2.524	-
Pot Cap-1 Maneuver	98	450	-	-	782	-
Stage 1	516	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	450	-	-	782	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	470	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	28.8	0		0.3		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	263	782	-	
HCM Lane V/C Ratio	-	-	0.435	0.04	-	
HCM Control Delay (s)	-	-	28.8	9.8	0	
HCM Lane LOS	-	-	D	A	A	
HCM 95th %tile Q(veh)	-	-	2.1	0.1	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	28	37	115	112	115	80
Future Volume (vph)	28	37	115	112	115	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.933			
Flt Protected	0.950					0.971
Satd. Flow (prot)	1805	1615	1747	0	0	1765
Flt Permitted	0.950					0.971
Satd. Flow (perm)	1805	1615	1747	0	0	1765
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	1%	2%	0%	11%
Adj. Flow (vph)	36	47	147	144	147	103
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	47	291	0	0	250
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 36.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	37	115	112	115	80
Future Vol, veh/h	28	37	115	112	115	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	1	2	0	11
Mvmt Flow	36	47	147	144	147	103
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	616	219	0	0	291	0
Stage 1	219	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	457	826	-	-	1282	-
Stage 1	822	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	401	826	-	-	1282	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11.9	0	4.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	401	826	1282	-
HCM Lane V/C Ratio	-	-	0.09	0.057	0.115	-
HCM Control Delay (s)	-	-	14.9	9.6	8.2	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	0.4	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	88	1629	68	2	44	1096	6	89	31	110	1
Future Volume (vph)	2	88	1629	68	2	44	1096	6	89	31	110	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		0	
Storage Lanes		1		1		1		1	1		0	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor										0.99		
Frt				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1482	0	1539	3471	1380	1752	1585	0	0
Flt Permitted		0.198				0.089			0.505			
Satd. Flow (perm)	0	369	3471	1482	0	144	3471	1380	932	1585	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		96		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Confl. Peds. (#/hr)											3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	9%	0%	18%	4%	17%	3%	6%	4%	0%
Adj. Flow (vph)	2	94	1733	72	2	47	1166	6	95	33	117	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	1733	72	0	49	1166	6	95	150	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	18	29	110
Future Volume (vph)	18	29	110
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		0
Storage Lanes	1		0
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Ped Bike Factor	1.00		
Frt		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1708	1637	0
Flt Permitted	0.499		
Satd. Flow (perm)	893	1637	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		103	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Confl. Peds. (#/hr)	3		
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	6%	7%	1%
Adj. Flow (vph)	19	31	117
Shared Lane Traffic (%)			
Lane Group Flow (vph)	20	148	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		Cl+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		121.5	114.9	114.9		118.6	111.6	111.6	21.2	21.2		
Actuated g/c Ratio		0.76	0.72	0.72		0.74	0.70	0.70	0.13	0.13		
v/c Ratio		0.28	0.70	0.07		0.30	0.48	0.01	0.77	0.51		
Control Delay		6.7	16.2	2.2		9.6	12.6	0.0	102.6	29.7		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		6.7	16.2	2.2		9.6	12.6	0.0	102.6	29.7		
LOS		A	B	A		A	B	A	F	C		
Approach Delay			15.2				12.4			58.0		
Approach LOS			B				B			E		
Queue Length 50th (ft)		21	531	1		10	275	0	97	51		
Queue Length 95th (ft)		41	714	19		24	379	0	162	123		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180			
Base Capacity (vph)		420	2491	1083		188	2420	983	160	352		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.23	0.70	0.07		0.26	0.48	0.01	0.59	0.43		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 17.9

Intersection LOS: B

Intersection Capacity Utilization 84.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	21.2	21.2	
Actuated g/C Ratio	0.13	0.13	
v/c Ratio	0.17	0.48	
Control Delay	62.2	26.0	
Queue Delay	0.0	0.0	
Total Delay	62.2	26.0	
LOS	E	C	
Approach Delay		30.3	
Approach LOS		C	
Queue Length 50th (ft)	19	42	
Queue Length 95th (ft)	47	113	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		
Base Capacity (vph)	154	367	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.13	0.40	
Intersection Summary			

Lanes, Volumes, Timings
4: US 129 & Highlands Village Rd

Existing PM
12/12/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	24	0	7	4	1	7	1	2	1083	5	1	13
Future Volume (vph)	24	0	7	4	1	7	1	2	1083	5	1	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.970				0.850				0.850		
Flt Protected		0.962			0.962			0.950				0.950
Satd. Flow (prot)	0	1719	0	0	1828	1615	0	1805	3406	1615	0	1805
Flt Permitted		0.962			0.962			0.950				0.950
Satd. Flow (perm)	0	1719	0	0	1828	1615	0	1805	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		269			653				2889			
Travel Time (s)		7.3			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Adj. Flow (vph)	25	0	7	4	1	7	1	2	1116	5	1	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	5	7	0	3	1116	5	0	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 57.2%	ICU Level of Service B											
Analysis Period (min) 15												

		
Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	1523	54
Future Volume (vph)	1523	54
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1583
Flt Permitted		
Satd. Flow (perm)	3471	1583
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	2%
Adj. Flow (vph)	1570	56
Shared Lane Traffic (%)		
Lane Group Flow (vph)	1570	56
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

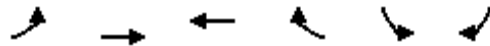
Intersection															
Int Delay, s/veh	4.7														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Vol, veh/h	24	0	7	4	1	7	1	2	1083	5	1	13	1523	54	
Future Vol, veh/h	24	0	7	4	1	7	1	2	1083	5	1	13	1523	54	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	Yield	-	-	-	None	-	-	-	None	
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150	
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-	
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97	97	
Heavy Vehicles, %	4	0	0	0	0	0	0	0	6	0	0	0	4	2	
Mvmt Flow	25	0	7	4	1	7	1	2	1116	5	1	13	1570	56	

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	2163	2725	785	1935	2776	558	1570	1626	0	0	1116	1121	0	0
Stage 1	1598	1598	-	1122	1122	-	-	-	-	-	-	-	-	-
Stage 2	565	1127	-	813	1654	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	26	21	340	41	19	478	145	405	-	-	285	631	-	-
Stage 1	109	167	-	223	284	-	-	-	-	-	-	-	-	-
Stage 2	472	282	-	343	157	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	~ 24	20	340	39	18	478	250	250	-	-	579	579	-	-
Mov Cap-2 Maneuver	~ 24	20	-	39	18	-	-	-	-	-	-	-	-	-
Stage 1	108	163	-	220	281	-	-	-	-	-	-	-	-	-
Stage 2	458	279	-	328	153	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB				SB					
HCM Control Delay, s	\$ 380		64.9		0.1				0.1					
HCM LOS	F		F											

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	250	-	-	30	32	478	579	-	-
HCM Lane V/C Ratio	0.012	-	-	1.065	0.161	0.015	0.025	-	-
HCM Control Delay (s)	19.6	-	-	\$ 380	138	12.6	11.4	-	-
HCM Lane LOS	C	-	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.6	0.5	0	0.1	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	23	62	2	2	0
Future Volume (vph)	0	23	62	2	2	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996					
Flt Protected	0.950					
Satd. Flow (prot)	0	1827	1892	0	1805	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1827	1892	0	1805	0
Link Speed (mph)	25		30	25		
Link Distance (ft)	1416		269	945		
Travel Time (s)	38.6		6.1	25.8		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	27	72	2	2	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	27	74	0	2	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)	0		0	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control	Free		Free	Stop		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 13.4%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	62	2	2	0
Future Vol, veh/h	0	23	62	2	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	0	0
Mvmt Flow	0	27	72	2	2	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	74	0	-	0	100	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1538	-	-	-	904	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	1001	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1538	-	-	-	904	995
Mov Cap-2 Maneuver	-	-	-	-	904	-
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	1001	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1538	-	-	-	904	
HCM Lane V/C Ratio	-	-	-	-	0.003	
HCM Control Delay (s)	0	-	-	-	9	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	62	1218	40	161	984
Future Volume (vph)	3	62	1218	40	161	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.871		0.996			
Flt Protected	0.998					0.993
Satd. Flow (prot)	1168	0	1822	0	0	1713
Flt Permitted	0.998					0.993
Satd. Flow (perm)	1168	0	1822	0	0	1713
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	50%	41%	4%	0%	5%	11%
Adj. Flow (vph)	3	66	1296	43	171	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	0	1339	0	0	1218
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 141.2%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	12.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	62	1218	40	161	984
Future Vol, veh/h	3	62	1218	40	161	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	50	41	4	0	5	11
Mvmt Flow	3	66	1296	43	171	1047
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	2707	1318	0	0	1339	0
Stage 1	1318	-	-	-	-	-
Stage 2	1389	-	-	-	-	-
Critical Hdwy	6.9	6.61	-	-	4.15	-
Critical Hdwy Stg 1	5.9	-	-	-	-	-
Critical Hdwy Stg 2	5.9	-	-	-	-	-
Follow-up Hdwy	3.95	3.669	-	-	2.245	-
Pot Cap-1 Maneuver	16	159	-	-	505	-
Stage 1	199	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 3	159	-	-	505	-
Mov Cap-2 Maneuver	~ 3	-	-	-	-	-
Stage 1	38	-	-	-	-	-
Stage 2	182	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 436.5	0	2.2			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	47	505	-	
HCM Lane V/C Ratio	-	-	1.471	0.339	-	
HCM Control Delay (s)	-	-	\$ 436.5	15.7	0	
HCM Lane LOS	-	-	F	C	A	
HCM 95th %tile Q(veh)	-	-	6.7	1.5	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	2	126	30	67	299
Future Volume (vph)	0	2	126	30	67	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.974			
Flt Protected						0.991
Satd. Flow (prot)	1900	1615	1687	0	0	1781
Flt Permitted						0.991
Satd. Flow (perm)	1900	1615	1687	0	0	1781
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	12%	0%	0%	7%
Adj. Flow (vph)	0	2	156	37	83	369
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2	193	0	0	452
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.6%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection							
Int Delay, s/veh	1						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Vol, veh/h	0	2	126	30	67	299	
Future Vol, veh/h	0	2	126	30	67	299	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	65	-	-	-	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	81	81	81	81	81	81	
Heavy Vehicles, %	0	0	12	0	0	7	
Mvmt Flow	0	2	156	37	83	369	
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	710	175	0	0	193	0	
Stage 1	175	-	-	-	-	-	
Stage 2	535	-	-	-	-	-	
Critical Hdwy	6.4	6.2	-	-	4.1	-	
Critical Hdwy Stg 1	5.4	-	-	-	-	-	
Critical Hdwy Stg 2	5.4	-	-	-	-	-	
Follow-up Hdwy	3.5	3.3	-	-	2.2	-	
Pot Cap-1 Maneuver	403	874	-	-	1392	-	
Stage 1	860	-	-	-	-	-	
Stage 2	591	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	373	874	-	-	1392	-	
Mov Cap-2 Maneuver	373	-	-	-	-	-	
Stage 1	796	-	-	-	-	-	
Stage 2	591	-	-	-	-	-	
Approach	WB	NB		SB			
HCM Control Delay, s	9.1	0		1.4			
HCM LOS	A						
Minor Lane/Major Mvmt		NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)		-	-	-	874	1392	-
HCM Lane V/C Ratio		-	-	-	0.003	0.059	-
HCM Control Delay (s)		-	-	0	9.1	7.8	0
HCM Lane LOS		-	-	A	A	A	A
HCM 95th %tile Q(veh)		-	-	-	0	0.2	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1229	279	3	205	2672	29	94	39	94	15	50
Future Volume (vph)	185	1229	279	3	205	2672	29	94	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.98								0.99	
Frt			0.850				0.850		0.894			0.895
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3343	1482	0	1736	3438	1369	1399	1388	0	1805	1514
Flt Permitted	0.041				0.159			0.466			0.569	
Satd. Flow (perm)	72	3343	1445	0	291	3438	1369	686	1388	0	1071	1514
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			294				76		68			65
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Confl. Peds. (#/hr)			6								6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	8%	9%	0%	4%	5%	18%	29%	4%	30%	0%	13%
Adj. Flow (vph)	195	1294	294	3	216	2813	31	99	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1294	294	0	219	2813	31	99	140	0	16	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Ped Bike Factor	
Flt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	12%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	108.4	98.2	98.2		107.8	97.8	97.8	22.6	22.6		22.6	22.6
Actuated g/C Ratio	0.72	0.65	0.65		0.72	0.65	0.65	0.15	0.15		0.15	0.15
v/c Ratio	1.23	0.59	0.28		0.73	1.26	0.03	0.96	0.53		0.10	0.62
Control Delay	184.4	16.0	1.7		22.2	145.0	0.1	140.7	37.7		56.9	47.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	184.4	16.0	1.7		22.2	145.0	0.1	140.7	37.7		56.9	47.4
LOS	F	B	A		C	F	A	F	D		E	D
Approach Delay		32.1				134.7			80.4			48.2
Approach LOS		C				F			F			D
Queue Length 50th (ft)	~187	356	0		52	~1806	0	98	64		14	102
Queue Length 95th (ft)	#355	420	33		102	#1916	0	#222	140		38	188
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	158	2188	1047		307	2241	919	103	266		161	283
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	1.23	0.59	0.28		0.71	1.26	0.03	0.96	0.53		0.10	0.62

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 94.4

Intersection LOS: F

Intersection Capacity Utilization 121.6%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBR
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	24	0	7	5	2	24	0	3087	7	7	13	1061
Future Volume (vph)	24	0	7	5	2	24	0	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.970				0.850			0.850			
Flt Protected		0.963			0.964						0.950	
Satd. Flow (prot)	0	1775	0	0	1832	1417	1900	3406	1292	0	1552	3282
Flt Permitted		0.963			0.964						0.950	
Satd. Flow (perm)	0	1775	0	0	1832	1417	1900	3406	1292	0	1552	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		424			653			2889				1747
Travel Time (s)		11.6			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	0%	0%	14%	0%	6%	25%	0%	25%	10%
Adj. Flow (vph)	28	0	8	6	2	28	0	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	8	28	0	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	102.0%											
Analysis Period (min)	15											
	ICU Level of Service G											

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	25
Future Volume (vph)	25
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1509
Flt Permitted	
Satd. Flow (perm)	1509
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	7%
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	29
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	6.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	24	0	7	5	2	24	0	3087	7	7	13	1061	25
Future Vol, veh/h	24	0	7	5	2	24	0	3087	7	7	13	1061	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	0	0	0	0	0	14	0	6	25	0	25	10	7
Mvmt Flow	28	0	8	6	2	28	0	3548	8	8	15	1220	29

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3041	4822	610	4204	4843	1774	1249	0
Stage 1	1266	1266	-	3548	3548	-	-	-
Stage 2	1775	3556	-	656	1295	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	7.18	4.1	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.44	2.2	-
Pot Cap-1 Maneuver	~ 6	1	442	~ 1	~ 1	63	564	-
Stage 1	182	242	-	6	16	-	-	-
Stage 2	88	16	-	426	235	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	442	-	0	63	564	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	182	0	-	6	16	-	-	-
Stage 2	42	16	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	25
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	564	-	-	-	-	63	~ 10	-	-
HCM Lane V/C Ratio	-	-	-	-	-	0.438	2.299	-	-
HCM Control Delay (s)	0	-	-	-	-	100.8	\$ 1383	-	-
HCM Lane LOS	A	-	-	-	-	F	F	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-	1.7	3.9	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	2	49	35	0	2	0	2
Future Volume (vph)	2	49	35	0	2	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't						0.932	
Flt Protected		0.998				0.976	
Satd. Flow (prot)	0	1896	1597	0	0	1728	0
Flt Permitted		0.998				0.976	
Satd. Flow (perm)	0	1896	1597	0	0	1728	0
Link Speed (mph)		30	25			25	
Link Distance (ft)		1416	424			1013	
Travel Time (s)		32.2	11.6			27.6	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	19%	0%	0%	0%	0%
Adj. Flow (vph)	2	59	42	0	2	0	2
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	61	42	0	0	4	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	R NA	Left	Right
Median Width(ft)		0	0			12	
Link Offset(ft)		0	0			0	
Crosswalk Width(ft)		16	16			16	
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	9	15	9
Sign Control		Free	Free			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 14.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection							
Int Delay, s/veh	0.5						
Movement	EBL	EBT	WBT	WBR	SBU	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	2	49	35	0	2	0	2
Future Vol, veh/h	2	49	35	0	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	-	0	-
Grade, %	-	0	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	19	0	0	0	0
Mvmt Flow	2	59	42	0	2	0	2
Major/Minor	Major1	Major2		Minor2			
Conflicting Flow All	42	0	-	0	0	105	42
Stage 1	-	-	-	-	0	42	-
Stage 2	-	-	-	-	0	63	-
Critical Hdwy	4.1	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1580	-	-	-	0	898	1034
Stage 1	-	-	-	-	0	986	-
Stage 2	-	-	-	-	0	965	-
Platoon blocked, %		-	-	-	-		
Mov Cap-1 Maneuver	1580	-	-	-	0	897	1034
Mov Cap-2 Maneuver	-	-	-	-	0	897	-
Stage 1	-	-	-	-	0	985	-
Stage 2	-	-	-	-	0	965	-
Approach	EB	WB		SB			
HCM Control Delay, s	0.3	0		8.5			
HCM LOS	A						
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	1580	-	-	-	1034		
HCM Lane V/C Ratio	0.002	-	-	-	0.002		
HCM Control Delay (s)	7.3	0	-	-	8.5		
HCM Lane LOS	A	A	-	-	A		
HCM 95th %tile Q(veh)	0	-	-	-	0		

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	143	998	10	47	1517
Future Volume (vph)	30	143	998	10	47	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.888		0.999			
Flt Protected	0.991					0.999
Satd. Flow (prot)	1568	0	1786	0	0	1808
Flt Permitted	0.991					0.999
Satd. Flow (perm)	1568	0	1786	0	0	1808
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	8%	6%	33%	36%	4%
Adj. Flow (vph)	33	159	1109	11	52	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	192	0	1120	0	0	1738
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	134.9%			ICU Level of Service H		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	143	998	10	47	1517
Future Vol, veh/h	30	143	998	10	47	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	8	6	33	36	4
Mvmt Flow	33	159	1109	11	52	1686
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2905	1115	0	0	1120	0
Stage 1	1115	-	-	-	-	-
Stage 2	1790	-	-	-	-	-
Critical Hdwy	6.4	6.28	-	-	4.46	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.372	-	-	2.524	-
Pot Cap-1 Maneuver	~ 18	246	-	-	514	-
Stage 1	316	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	246	-	-	514	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	57.4	0		0.4		
HCM LOS	F					
Minor Lane/Major Mvmt		NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)		-	-	246	514	-
HCM Lane V/C Ratio		-	-	0.781	0.102	-
HCM Control Delay (s)		-	-	57.4	12.8	0
HCM Lane LOS		-	-	F	B	A
HCM 95th %tile Q(veh)		-	-	5.8	0.3	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	47	62	193	188	193	134
Future Volume (vph)	47	62	193	188	193	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.933			
Flt Protected	0.950					0.971
Satd. Flow (prot)	1805	1615	1747	0	0	1765
Flt Permitted	0.950					0.971
Satd. Flow (perm)	1805	1615	1747	0	0	1765
Link Speed (mph)	45		45			45
Link Distance (ft)	6268		1559			1338
Travel Time (s)	95.0		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	0%	0%	1%	2%	0%	11%
Adj. Flow (vph)	60	79	247	241	247	172
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	79	488	0	0	419
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 52.7%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	62	193	188	193	134
Future Vol, veh/h	47	62	193	188	193	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	0	0	1	2	0	11
Mvmt Flow	60	79	247	241	247	172
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1034	368	0	0	488	0
Stage 1	368	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	259	682	-	-	1086	-
Stage 1	704	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	682	-	-	1086	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	527	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	19.9	0	5.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	194	682	1086	-
HCM Lane V/C Ratio	-	-	0.311	0.117	0.228	-
HCM Control Delay (s)	-	-	31.7	11	9.3	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	1.3	0.4	0.9	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2736	114	3	74	1841	10	149	52	185	2
Future Volume (vph)	3	148	2736	114	3	74	1841	10	149	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		0	
Storage Lanes		1		1		1		1	1		0	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1482	0	1538	3471	1380	1752	1606	0	0
Flt Permitted		0.038				0.040			0.301			
Satd. Flow (perm)	0	71	3471	1482	0	65	3471	1380	555	1606	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		91		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	9%	0%	18%	4%	17%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	2911	121	3	79	1959	11	159	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	2911	121	0	82	1959	11	159	252	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			CI+Ex				CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	pm+pt	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases	1	1	6		5	5	2			4		
Permitted Phases	6	6		6	2	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		0
Storage Lanes	1		0
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Frt		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1709	1637	0
Flt Permitted	0.294		
Satd. Flow (perm)	529	1637	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		102	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	6%	7%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	249	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	CI+Ex	CI+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6		
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17		
v/c Ratio		0.82	1.28	0.12		0.69	0.91	0.01	1.67	0.72		
Control Delay		73.0	157.6	4.9		61.1	34.3	0.0	382.4	51.8		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		73.0	157.6	4.9		61.1	34.3	0.0	382.4	51.8		
LOS		E	F	A		E	C	A	F	D		
Approach Delay			147.6				35.2			179.7		
Approach LOS			F				D			F		
Queue Length 50th (ft)		114	~2036	18		40	924	0	~241	163		
Queue Length 95th (ft)		#224	#2136	44		#117	1059	0	#397	270		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180			
Base Capacity (vph)		212	2270	994		128	2154	883	95	352		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.75	1.28	0.12		0.64	0.91	0.01	1.67	0.72		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.67

Intersection Signal Delay: 106.3

Intersection LOS: F

Intersection Capacity Utilization 124.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	27.6	27.6	
Actuated g/C Ratio	0.17	0.17	
v/c Ratio	0.37	0.68	
Control Delay	72.0	46.4	
Queue Delay	0.0	0.0	
Total Delay	72.0	46.4	
LOS	E	D	
Approach Delay		49.5	
Approach LOS		D	
Queue Length 50th (ft)	32	147	
Queue Length 95th (ft)	72	252	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		
Base Capacity (vph)	91	366	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.37	0.68	
Intersection Summary			

Lanes, Volumes, Timings
4: US 129 & Highland Village Rd/Highlands Village Rd

No-Build PM
12/10/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	40	0	12	7	2	12	2	3	1819	8	2	22
Future Volume (vph)	40	0	12	7	2	12	2	3	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.969				0.850				0.850		
Flt Protected		0.963			0.963			0.950				0.950
Satd. Flow (prot)	0	1720	0	0	1830	1615	0	1805	3406	1615	0	1805
Flt Permitted		0.963			0.963			0.950				0.950
Satd. Flow (perm)	0	1720	0	0	1830	1615	0	1805	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		424			653				2889			
Travel Time (s)		11.6			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	0%
Adj. Flow (vph)	41	0	12	7	2	12	2	3	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	9	12	0	5	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 87.0%	ICU Level of Service E											
Analysis Period (min) 15												



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	91
Future Volume (vph)	2558	91
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1583
Flt Permitted		
Satd. Flow (perm)	3471	1583
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	2%
Adj. Flow (vph)	2637	94
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	94
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

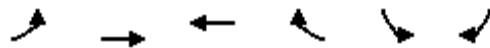
Intersection														
Int Delay, s/veh	9.5													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Vol, veh/h	40	0	12	7	2	12	2	3	1819	8	2	22	2558	91
Future Vol, veh/h	40	0	12	7	2	12	2	3	1819	8	2	22	2558	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	4	0	0	0	0	0	0	0	6	0	0	0	4	2
Mvmt Flow	41	0	12	7	2	12	2	3	1875	8	2	23	2637	94

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3636	4580	1319	3254	4666	938	2637	2731	0	0	1875	1883	0	0
Stage 1	2687	2687	-	1885	1885	-	-	-	-	-	-	-	-	-
Stage 2	949	1893	-	1369	2781	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.58	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.58	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.54	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 2	1	150	~ 4	~ 1	269	29	150	-	-	92	323	-	-
Stage 1	~ 21	47	-	75	121	-	-	-	-	-	-	-	-	-
Stage 2	276	120	-	157	42	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	150	~ 3	~ 1	269	53	53	-	-	264	264	-	-
Mov Cap-2 Maneuver	-	1	-	~ 3	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 19	43	-	68	110	-	-	-	-	-	-	-	-	-
Stage 2	234	109	-	130	38	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s		\$ 2037.2	0.2	0.2
HCM LOS	-	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	53	-	-	-	2	269	264	-	-
HCM Lane V/C Ratio	0.097	-	-	-	4.639	0.046	0.094	-	-
HCM Control Delay (s)	79.9	-	-	-	\$ 4728.1	19	20	-	-
HCM Lane LOS	F	-	-	-	F	C	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	2.4	0.1	0.3	-	-

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



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	39	104	3	3	0
Future Volume (vph)	0	39	104	3	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					
Flt Protected	0.950					
Satd. Flow (prot)	0	1827	1894	0	1805	0
Flt Permitted	0.950					
Satd. Flow (perm)	0	1827	1894	0	1805	0
Link Speed (mph)	25		30	25		
Link Distance (ft)	1416		424	1013		
Travel Time (s)	38.6		9.6	27.6		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	4%	0%	0%	0%	0%
Adj. Flow (vph)	0	45	121	3	3	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	45	124	0	3	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)	0		0	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control	Free		Free	Stop		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 15.7%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	39	104	3	3	0
Future Vol, veh/h	0	39	104	3	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	4	0	0	0	0
Mvmt Flow	0	45	121	3	3	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	124	0	-	0	168	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1475	-	-	-	827	933
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1475	-	-	-	827	933
Mov Cap-2 Maneuver	-	-	-	-	827	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		9.4		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1475	-	-	-	827	
HCM Lane V/C Ratio	-	-	-	-	0.004	
HCM Control Delay (s)	0	-	-	-	9.4	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	173	1218	196	715	984
Future Volume (vph)	30	173	1218	196	715	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.885		0.981			
Flt Protected	0.993					0.979
Satd. Flow (prot)	1304	0	1799	0	0	1728
Flt Permitted	0.993					0.979
Satd. Flow (perm)	1304	0	1799	0	0	1728
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	30%	4%	1%	3%	11%
Adj. Flow (vph)	32	184	1296	209	761	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	0	1505	0	0	1808
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 189.7%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	94.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	173	1218	196	715	984
Future Vol, veh/h	30	173	1218	196	715	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	17	30	4	1	3	11
Mvmt Flow	32	184	1296	209	761	1047
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	3970	1401	0	0	1505	0
Stage 1	1401	-	-	-	-	-
Stage 2	2569	-	-	-	-	-
Critical Hdwy	6.57	6.5	-	-	4.13	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.57	-	-	2.227	-
Pot Cap-1 Maneuver	~ 3	~ 149	-	-	~ 442	-
Stage 1	211	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 149	-	-	~ 442	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	291.5	0		149.8		
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	149	~ 442	-	
HCM Lane V/C Ratio	-	-	1.449	1.721	-	
HCM Control Delay (s)	-	-	291.5	\$ 355.9	0	
HCM Lane LOS	-	-	F	F	A	
HCM 95th %tile Q(veh)	-	-	14.1	46	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	10	148	46	100	396
Future Volume (vph)	3	10	148	46	100	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.968			
Flt Protected	0.950					0.990
Satd. Flow (prot)	1357	1242	1632	0	0	1788
Flt Permitted	0.950					0.990
Satd. Flow (perm)	1357	1242	1632	0	0	1788
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	33%	30%	16%	2%	2%	6%
Adj. Flow (vph)	4	12	183	57	123	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	12	240	0	0	612
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 50.3%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	10	148	46	100	396
Future Vol, veh/h	3	10	148	46	100	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	33	30	16	2	2	6
Mvmt Flow	4	12	183	57	123	489
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	947	212	0	0	240	0
Stage 1	212	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.73	6.5	-	-	4.12	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	-	-	2.218	-
Pot Cap-1 Maneuver	255	763	-	-	1327	-
Stage 1	755	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	223	763	-	-	1327	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.5	0	1.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	223	763	1327	-
HCM Lane V/C Ratio	-	-	0.017	0.016	0.093	-
HCM Control Delay (s)	-	-	21.4	9.8	8	0
HCM Lane LOS	-	-	C	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	0.3	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Future Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		0	135	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850		0.894			0.895
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3406	1495	0	1736	3406	1380	1378	1377	0	1805	1520
Flt Permitted	0.041				0.049			0.466			0.569	
Satd. Flow (perm)	72	3406	1495	0	90	3406	1380	676	1377	0	1081	1520
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			330				76		68			65
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	6%	8%	0%	4%	6%	17%	31%	5%	31%	0%	14%
Adj. Flow (vph)	195	1873	429	3	216	2922	31	131	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1873	429	0	219	2922	31	131	140	0	16	175
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100		20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0		0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm	NA
Protected Phases	1	6			5	2			4			8
Permitted Phases	6		6	5	2		2	4			8	
Detector Phase	1	6	6	5	5	2	2	4	4		8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4	12.4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	11%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0		30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%		20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6		22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None	None
Act Effct Green (s)	108.0	97.8	97.8		108.2	97.8	97.8	22.6	22.6		22.6	22.6
Actuated g/C Ratio	0.72	0.65	0.65		0.72	0.65	0.65	0.15	0.15		0.15	0.15
v/c Ratio	1.23	0.84	0.39		1.25	1.32	0.03	1.30	0.53		0.10	0.62
Control Delay	185.1	24.9	3.7		185.9	171.6	0.1	236.7	37.8		56.9	47.3
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	185.1	24.9	3.7		185.9	171.6	0.1	236.7	37.8		56.9	47.3
LOS	F	C	A		F	F	A	F	D		E	D
Approach Delay		33.7				170.9			134.0			48.1
Approach LOS		C				F			F			D
Queue Length 50th (ft)	~187	702	34		~206	~1934	0	~162	64		14	102
Queue Length 95th (ft)	#355	818	82		#381	#2041	0	#304	140		38	188
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180			135	
Base Capacity (vph)	158	2220	1089		175	2220	926	101	265		162	284
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	1.23	0.84	0.39		1.25	1.32	0.03	1.30	0.53		0.10	0.62

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 109.6

Intersection LOS: F

Intersection Capacity Utilization 126.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129



Lane Group	SBR
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Future Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		0	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt		0.938				0.850			0.850			
Flt Protected		0.974			0.964		0.950				0.950	
Satd. Flow (prot)	0	1225	0	0	1832	1429	1480	3406	1252	0	1570	3282
Flt Permitted		0.974			0.964		0.950				0.950	
Satd. Flow (perm)	0	1225	0	0	1832	1429	1480	3406	1252	0	1570	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		254			653			2889				1747
Travel Time (s)		6.9			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	16%	0%	72%	0%	0%	13%	22%	6%	29%	0%	23%	10%
Adj. Flow (vph)	147	0	125	6	2	28	226	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	0	0	8	28	226	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 119.1%	ICU Level of Service H											
Analysis Period (min) 15												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	575
Future Volume (vph)	575
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	2%
Adj. Flow (vph)	661
Shared Lane Traffic (%)	
Lane Group Flow (vph)	661
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	8.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Future Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	16	0	72	0	0	13	22	6	29	0	23	10	2
Mvmt Flow	147	0	125	6	2	28	226	3548	8	8	15	1220	661

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3493	5274	610	4656	5927	1774	1881	0
Stage 1	1266	1266	-	4000	4000	-	-	-
Stage 2	2227	4008	-	656	1927	-	-	-
Critical Hdwy	7.82	6.5	8.34	7.5	6.5	7.16	4.54	-
Critical Hdwy Stg 1	6.82	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.82	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.66	4	4.02	3.5	4	3.43	2.42	-
Pot Cap-1 Maneuver	~ 2	0	301	0	0	64	245	-
Stage 1	159	242	-	~ 3	9	-	-	-
Stage 2	~ 37	9	-	426	115	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	301	-	0	64	245	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	~ 12	0	-	0	~ 1	-	-	-
Stage 2	-	1	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.9	16.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	245	-	-	-	-	64	~ 10	-	-
HCM Lane V/C Ratio	0.924	-	-	-	-	0.431	2.299	-	-
HCM Control Delay (s)	82.7	-	-	-	-	98.5	1377.1	-	-
HCM Lane LOS	F	-	-	-	-	F	F	-	-
HCM 95th %tile Q(veh)	8.1	-	-	-	-	1.7	3.9	-	-

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Future Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.869											
Flt Protected	0.976											0.998
Satd. Flow (prot)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Flt Permitted	0.976											0.998
Satd. Flow (perm)	0	1854	0	0	1651	0	0	995	0	0	1746	0
Link Speed (mph)	25											
Link Distance (ft)	1001											
Travel Time (s)	27.3											
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	91%	0%	20%	8%	0%
Adj. Flow (vph)	2	2	0	0	2	59	0	129	0	42	836	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	61	0	0	129	0	0	878	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	0											
Link Offset(ft)	0											
Crosswalk Width(ft)	16											
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control	Stop											
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 55.1%	ICU Level of Service B											
Analysis Period (min) 15												

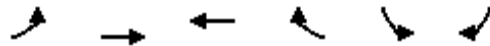
Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Future Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	91	0	20	8	0
Mvmt Flow	2	2	0	0	2	59	0	129	0	42	836	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1080	1049	836	1050	1049	129	836	0	0	129	0	0
Stage 1	920	920	-	129	129	-	-	-	-	-	-	-
Stage 2	160	129	-	921	920	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	197	229	370	207	229	926	807	-	-	1353	-	-
Stage 1	327	352	-	880	793	-	-	-	-	-	-	-
Stage 2	847	793	-	327	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	175	216	370	196	216	926	807	-	-	1353	-	-
Mov Cap-2 Maneuver	175	216	-	196	216	-	-	-	-	-	-	-
Stage 1	327	332	-	880	793	-	-	-	-	-	-	-
Stage 2	791	793	-	306	332	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	24.1		9.7		0		0.4					
HCM LOS	C		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	807	-	-	193	820	1353	-	-				
HCM Lane V/C Ratio	-	-	-	0.025	0.075	0.031	-	-				
HCM Control Delay (s)	0	-	-	24.1	9.7	7.7	0	-				
HCM Lane LOS	A	-	-	C	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-				

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	146	13	148	590	5
Future Volume (vph)	16	146	13	148	590	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.878				0.999	
Flt Protected	0.995			0.996		
Satd. Flow (prot)	1621	0	0	1341	1787	0
Flt Permitted	0.995			0.996		
Satd. Flow (perm)	1621	0	0	1341	1787	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	2%	31%	42%	6%	33%
Adj. Flow (vph)	17	159	14	161	641	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	176	0	0	175	646	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 47.9%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	146	13	148	590	5
Future Vol, veh/h	16	146	13	148	590	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	31	42	6	33
Mvmt Flow	17	159	14	161	641	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	833	644	646	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.46	6.22	4.41	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.318	2.479	-	-	-
Pot Cap-1 Maneuver	333	473	815	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	473	815	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.9	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	815	-	453	-	-	
HCM Lane V/C Ratio	0.017	-	0.389	-	-	
HCM Control Delay (s)	9.5	0	17.9	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	1.8	-	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	29	97	0	211	294
Future Volume (vph)	0	29	97	0	211	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.980
Satd. Flow (prot)	1226	0	1203	0	0	1729
Flt Permitted						0.980
Satd. Flow (perm)	1226	0	1203	0	0	1729
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	34%	58%	0%	3%	11%
Adj. Flow (vph)	0	32	105	0	229	320
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	105	0	0	549
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 43.8%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	97	0	211	294
Future Vol, veh/h	0	29	97	0	211	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	34	58	0	3	11
Mvmt Flow	0	32	105	0	229	320
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	883	105	0	0	105	0
Stage 1	105	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Critical Hdwy	6.4	6.54	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.606	-	-	2.227	-
Pot Cap-1 Maneuver	319	869	-	-	1480	-
Stage 1	924	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	259	869	-	-	1480	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		3.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	869	1480	-	
HCM Lane V/C Ratio	-	-	0.036	0.155	-	
HCM Control Delay (s)	-	-	9.3	7.9	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.1	0.5	-	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	370	57	77	212	33
Future Volume (vph)	9	370	57	77	212	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.922		0.982	
Flt Protected		0.999			0.959	
Satd. Flow (prot)	0	1878	1291	0	1597	0
Flt Permitted		0.999			0.959	
Satd. Flow (perm)	0	1878	1291	0	1597	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	44%	0%	0%	62%	13%	6%
Adj. Flow (vph)	10	402	62	84	230	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	412	146	0	266	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.1%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	370	57	77	212	33
Future Vol, veh/h	9	370	57	77	212	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	44	0	0	62	13	6
Mvmt Flow	10	402	62	84	230	36
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	146	0	-	0	526	104
Stage 1	-	-	-	-	104	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	4.54	-	-	-	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.596	-	-	-	3.617	3.354
Pot Cap-1 Maneuver	1215	-	-	-	494	940
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1215	-	-	-	489	940
Mov Cap-2 Maneuver	-	-	-	-	489	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	639	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		18.8		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1215	-	-	-	523	
HCM Lane V/C Ratio	0.008	-	-	-	0.509	
HCM Control Delay (s)	8	0	-	-	18.8	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	2.9	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	687	998	45	180	1517
Future Volume (vph)	184	687	998	45	180	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893		0.994			
Flt Protected	0.990					0.995
Satd. Flow (prot)	1638	0	1778	0	0	1790
Flt Permitted	0.990					0.995
Satd. Flow (perm)	1638	0	1778	0	0	1790
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	11%	19%	4%
Adj. Flow (vph)	204	763	1109	50	200	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	967	0	1159	0	0	1886
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 207.6%				ICU Level of Service H		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	330.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	184	687	998	45	180	1517
Future Vol, veh/h	184	687	998	45	180	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	3	6	11	19	4
Mvmt Flow	204	763	1109	50	200	1686
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3220	1134	0	0	1159	0
Stage 1	1134	-	-	-	-	-
Stage 2	2086	-	-	-	-	-
Critical Hdwy	6.41	6.23	-	-	4.29	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	-	-	2.371	-
Pot Cap-1 Maneuver	~ 11	~ 245	-	-	546	-
Stage 1	308	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	0	~ 245	-	-	546	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 1366.6	0	1.6			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	245	546	-	
HCM Lane V/C Ratio	-	-	3.95	0.366	-	
HCM Control Delay (s)	-	-	\$ 1366.6	15.4	0	
HCM Lane LOS	-	-	F	C	A	
HCM 95th %tile Q(veh)	-	-	94.2	1.7	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	94	288	192	202	159
Future Volume (vph)	63	94	288	192	202	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.946			
Flt Protected	0.950					0.973
Satd. Flow (prot)	1770	1599	1762	0	0	1739
Flt Permitted	0.950					0.973
Satd. Flow (perm)	1770	1599	1762	0	0	1739
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	2%	1%	2%	2%	1%	13%
Adj. Flow (vph)	81	121	369	246	259	204
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	121	615	0	0	463
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 59.9%	ICU Level of Service B					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	7.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	94	288	192	202	159
Future Vol, veh/h	63	94	288	192	202	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	1	2	2	1	13
Mvmt Flow	81	121	369	246	259	204
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1214	492	0	0	615	0
Stage 1	492	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	201	579	-	-	970	-
Stage 1	615	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	140	579	-	-	970	-
Mov Cap-2 Maneuver	140	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	32.1	0		5.6		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	140	579	970	-
HCM Lane V/C Ratio	-	-	0.577	0.208	0.267	-
HCM Control Delay (s)	-	-	61	12.8	10.1	0
HCM Lane LOS	-	-	F	B	B	A
HCM 95th %tile Q(veh)	-	-	2.9	0.8	1.1	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Future Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frts				0.850				0.850		0.883		
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1455	0	1538	3471	1346	1752	1606	0	0
Flt Permitted		0.038				0.040			0.301			
Satd. Flow (perm)	0	71	3471	1455	0	65	3471	1346	555	1606	0	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70		90		
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	11%	0%	18%	4%	20%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	3047	157	3	79	2534	11	293	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	3047	157	0	82	2534	11	293	252	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100		20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0		0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA		Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4			8
Detector Phase	1	1	6	6	5	5	2	2	4	4		8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4		12.4
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0		35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%		21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6		27.6



Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00
Fr t		0.881	
Flt Protected	0.950		
Satd. Flow (prot)	1693	1640	0
Flt Permitted	0.294		
Satd. Flow (perm)	524	1640	0
Right Turn on Red			Yes
Satd. Flow (RTOR)		93	
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	7%	6%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	249	0
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	
Detector Template	Left	Thru	
Leading Detector (ft)	20	100	
Trailing Detector (ft)	0	0	
Detector 1 Position(ft)	0	0	
Detector 1 Size(ft)	20	6	
Detector 1 Type	CI+Ex	CI+Ex	
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	
Protected Phases		8	
Permitted Phases	8		
Detector Phase	8	8	
Switch Phase			
Minimum Initial (s)	5.0	5.0	
Minimum Split (s)	12.4	12.4	
Total Split (s)	35.0	35.0	
Total Split (%)	21.9%	21.9%	
Maximum Green (s)	27.6	27.6	

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4		4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0		3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4		
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0		5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None		None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6		
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17		
v/c Ratio		0.82	1.34	0.16		0.69	1.18	0.01	3.08	0.72		
Control Delay		73.0	183.8	6.3		61.1	114.0	0.0	985.2	52.2		
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay		73.0	183.8	6.3		61.1	114.0	0.0	985.2	52.2		
LOS		E	F	A		E	F	A	F	D		
Approach Delay			170.2				111.9			553.8		
Approach LOS			F				F			F		
Queue Length 50th (ft)		114	~2191	32		40	~1680	0	~531	164		
Queue Length 95th (ft)		#224	#2286	63		#117	#1794	0	#729	271		
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)												
Base Capacity (vph)		212	2270	976		128	2154	862	95	351		
Starvation Cap Reductn		0	0	0		0	0	0	0	0		
Spillback Cap Reductn		0	0	0		0	0	0	0	0		
Storage Cap Reductn		0	0	0		0	0	0	0	0		
Reduced v/c Ratio		0.75	1.34	0.16		0.64	1.18	0.01	3.08	0.72		

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 3.08

Intersection Signal Delay: 173.5

Intersection LOS: F

Intersection Capacity Utilization 135.1%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129





Lane Group	SBL	SBT	SBR
Yellow Time (s)	4.4	4.4	
All-Red Time (s)	3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	
Total Lost Time (s)	7.4	7.4	
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	
Recall Mode	None	None	
Act Effct Green (s)	27.6	27.6	
Actuated g/C Ratio	0.17	0.17	
v/c Ratio	0.38	0.69	
Control Delay	72.4	49.5	
Queue Delay	0.0	0.0	
Total Delay	72.4	49.5	
LOS	E	D	
Approach Delay		52.3	
Approach LOS		D	
Queue Length 50th (ft)	32	157	
Queue Length 95th (ft)	72	262	
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)			
Base Capacity (vph)	90	359	
Starvation Cap Reductn	0	0	
Spillback Cap Reductn	0	0	
Storage Cap Reductn	0	0	
Reduced v/c Ratio	0.38	0.69	
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Future Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		0	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt		0.966				0.850				0.850		
Flt Protected		0.964			0.963			0.950				0.950
Satd. Flow (prot)	0	1681	0	0	1830	1615	0	1159	3406	1615	0	1805
Flt Permitted		0.964			0.963			0.950				0.950
Satd. Flow (perm)	0	1681	0	0	1830	1615	0	1159	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		254			653				2889			
Travel Time (s)		6.9			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.92	0.97
Heavy Vehicles (%)	2%	0%	15%	0%	0%	0%	0%	57%	6%	0%	0%	0%
Adj. Flow (vph)	599	0	200	7	2	12	2	87	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	799	0	0	9	12	0	89	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	128.8%											
Analysis Period (min)	15											
ICU Level of Service H												



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	219
Future Volume (vph)	2558	219
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1524
Flt Permitted		
Satd. Flow (perm)	3471	1524
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	6%
Adj. Flow (vph)	2637	226
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	226
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

Intersection														
Int Delay, s/veh	1.2													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219
Future Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	-	None	-	-	-	None
Storage Length	-	-	-	-	-	0	-	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	92	97	97	97	92	97	97	97
Heavy Vehicles, %	2	0	15	0	0	0	0	57	6	0	0	0	4	6
Mvmt Flow	599	0	200	7	2	12	2	87	1875	8	2	23	2637	226
Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3804	4748	1319	3422	4966	938	2637	2863	0	0	1875	1883	0	0
Stage 1	2687	2687	-	2053	2053	-	-	-	-	-	-	-	-	-
Stage 2	1117	2061	-	1369	2913	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.5	7.2	7.5	6.5	6.9	6.4	5.24	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4	3.45	3.5	4	3.3	2.5	2.77	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 1	1	~ 131	~ 3	~ 1	269	29	~ 50	-	-	92	323	-	-
Stage 1	~ 22	47	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 221	98	-	157	35	-	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-			-	-
Mov Cap-1 Maneuver	-	1	~ 131	-	~ 1	269	138	138	-	-	262	262	-	-
Mov Cap-2 Maneuver	-	1	-	-	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 22	43	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 206	98	-	-	32	-	-	-	-	-	-	-	-	-
Approach	EB		WB		NB				SB					
HCM Control Delay, s					3.1				0.2					
HCM LOS	-		-											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR					
Capacity (veh/h)	138	-	-	-	-	269	262	-	-					
HCM Lane V/C Ratio	0.643	-	-	-	-	0.046	0.095	-	-					
HCM Control Delay (s)	69.5	-	-	-	-	19	20.2	-	-					
HCM Lane LOS	F	-	-	-	-	C	C	-	-					
HCM 95th %tile Q(veh)	3.5	-	-	-	-	0.1	0.3	-	-					
Notes														
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon						

Lanes, Volumes, Timings
5: Internal Access/Internal Driveway & Smallwood Rd

Build PM
01/20/2020

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Future Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't					0.865						0.999	
Flt Protected		0.950									0.980	
Satd. Flow (prot)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Flt Permitted		0.950									0.980	
Satd. Flow (perm)	0	1805	0	0	1565	0	0	1810	0	0	1501	0
Link Speed (mph)		25			25			30			30	
Link Distance (ft)		1001			1156			4656			254	
Travel Time (s)		27.3			31.5			105.8			5.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	41%	0%
Adj. Flow (vph)	3	0	0	0	0	45	0	799	0	121	174	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	45	0	0	799	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 63.3%	ICU Level of Service B											
Analysis Period (min) 15												

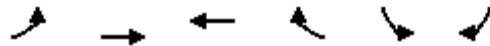
Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Future Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	5	0	5	0	0	41	0
Mvmt Flow	3	0	0	0	0	45	0	799	0	121	174	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1240	1217	176	1217	1218	799	177	0	0	799	0	0
Stage 1	418	418	-	799	799	-	-	-	-	-	-	-
Stage 2	822	799	-	418	419	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	153	182	872	159	182	381	1411	-	-	833	-	-
Stage 1	616	594	-	382	401	-	-	-	-	-	-	-
Stage 2	371	401	-	616	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	153	872	139	153	381	1411	-	-	833	-	-
Mov Cap-2 Maneuver	118	153	-	139	153	-	-	-	-	-	-	-
Stage 1	616	498	-	382	401	-	-	-	-	-	-	-
Stage 2	327	401	-	517	498	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	36.4		15.7		0		4.1					
HCM LOS	E		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1411	-	-	118	381	833	-	-				
HCM Lane V/C Ratio	-	-	-	0.03	0.119	0.145	-	-				
HCM Control Delay (s)	0	-	-	36.4	15.7	10.1	0	-				
HCM Lane LOS	A	-	-	E	C	B	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.5	-	-				

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	394	157	573	159	16
Future Volume (vph)	4	394	157	573	159	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.866				0.988	
Flt Protected				0.989		
Satd. Flow (prot)	1610	0	0	1818	1522	0
Flt Permitted				0.989		
Satd. Flow (perm)	1610	0	0	1818	1522	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	2%	1%	4%	25%	6%
Adj. Flow (vph)	4	428	171	623	173	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	432	0	0	794	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 82.8%				ICU Level of Service E		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	394	157	573	159	16
Future Vol, veh/h	4	394	157	573	159	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	2	1	4	25	6
Mvmt Flow	4	428	171	623	173	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1147	182	190	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.65	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	198	861	1390	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	861	1390	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.1	1.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1390	-	825	-	-	
HCM Lane V/C Ratio	0.123	-	0.524	-	-	
HCM Control Delay (s)	8	0	14.1	-	-	
HCM Lane LOS	A	A	B	-	-	
HCM 95th %tile Q(veh)	0.4	-	3.1	-	-	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	281	0	411	91
Future Volume (vph)	0	220	281	0	411	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.961
Satd. Flow (prot)	1611	0	1776	0	0	1682
Flt Permitted						0.961
Satd. Flow (perm)	1611	0	1776	0	0	1682
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	7%	0%	2%	38%
Adj. Flow (vph)	0	239	305	0	447	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	305	0	0	546
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 66.0%				ICU Level of Service C		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	220	281	0	411	91
Future Vol, veh/h	0	220	281	0	411	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	7	0	2	38
Mvmt Flow	0	239	305	0	447	99
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1298	305	0	0	305	0
Stage 1	305	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	735	-	-	1256	-
Stage 1	752	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	112	735	-	-	1256	-
Mov Cap-2 Maneuver	112	-	-	-	-	-
Stage 1	468	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	12.2	0		7.7		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	735	1256	-	
HCM Lane V/C Ratio	-	-	0.325	0.356	-	
HCM Control Delay (s)	-	-	12.2	9.4	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1.4	1.6	-	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	33	80	366	201	70	10
Future Volume (vph)	33	80	366	201	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.952		0.983	
Flt Protected		0.986			0.958	
Satd. Flow (prot)	0	1841	1753	0	1266	0
Flt Permitted		0.986			0.958	
Satd. Flow (perm)	0	1841	1753	0	1266	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	9%	43%	30%
Adj. Flow (vph)	36	87	398	218	76	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	616	0	87	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.4%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	80	366	201	70	10
Future Vol, veh/h	33	80	366	201	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	0	0	9	43	30
Mvmt Flow	36	87	398	218	76	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	616	0	-	0	666	507
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.16	-	-	-	6.83	6.5
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	2.254	-	-	-	3.887	3.57
Pot Cap-1 Maneuver	945	-	-	-	367	514
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	945	-	-	-	352	514
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	779	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.6	0		17.9		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	945	-	-	-	366	
HCM Lane V/C Ratio	0.038	-	-	-	0.238	
HCM Control Delay (s)	9	0	-	-	17.9	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	30	173	1218	196	715	984
Future Volume (vph)	30	173	1218	196	715	984
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1543	1242	1827	1599	1752	1712
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1543	1242	1827	1599	1752	1712
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	30%	4%	1%	3%	11%
Adj. Flow (vph)	32	184	1296	209	761	1047
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	184	1296	209	761	1047
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	117.1%			ICU Level of Service H		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	76.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	173	1218	196	715	984
Future Vol, veh/h	30	173	1218	196	715	984
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	17	30	4	1	3	11
Mvmt Flow	32	184	1296	209	761	1047
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3865	1296	0	0	1505	0
Stage 1	1296	-	-	-	-	-
Stage 2	2569	-	-	-	-	-
Critical Hdwy	6.57	6.5	-	-	4.13	-
Critical Hdwy Stg 1	5.57	-	-	-	-	-
Critical Hdwy Stg 2	5.57	-	-	-	-	-
Follow-up Hdwy	3.653	3.57	-	-	2.227	-
Pot Cap-1 Maneuver	~ 3	~ 173	-	-	~ 442	-
Stage 1	239	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	0	~ 173	-	-	~ 442	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	52	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s		0	149.8			
HCM LOS	-					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	173	~ 442	-
HCM Lane V/C Ratio	-	-	-	1.064	1.721	-
HCM Control Delay (s)	-	-	-	141	355.9	-
HCM Lane LOS	-	-	-	F	F	-
HCM 95th %tile Q(veh)	-	-	-	9	46	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	10	148	46	100	396
Future Volume (vph)	3	10	148	46	100	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1357	1242	1638	1583	1770	1792
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1357	1242	1638	1583	1770	1792
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles (%)	33%	30%	16%	2%	2%	6%
Adj. Flow (vph)	4	12	183	57	123	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	12	183	57	123	489
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 30.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	10	148	46	100	396
Future Vol, veh/h	3	10	148	46	100	396
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	33	30	16	2	2	6
Mvmt Flow	4	12	183	57	123	489
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	918	183	0	0	240	0
Stage 1	183	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Critical Hdwy	6.73	6.5	-	-	4.12	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	-	-	2.218	-
Pot Cap-1 Maneuver	266	792	-	-	1327	-
Stage 1	779	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	792	-	-	1327	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12	0	1.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	241	792	1327	-
HCM Lane V/C Ratio	-	-	0.015	0.016	0.093	-
HCM Control Delay (s)	-	-	20.2	9.6	8	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	0.3	-

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Future Volume (vph)	185	1779	408	3	205	2776	29	124	39	94	15	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		0		312		300	180		100	135	
Storage Lanes	1		1		1		1	1		1	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850				0.850			0.850		
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1671	3406	1495	0	1736	3406	1380	1378	1810	1233	1805	1667
Flt Permitted	0.041				0.049			0.722			0.730	
Satd. Flow (perm)	72	3406	1495	0	90	3406	1380	1047	1810	1233	1387	1667
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			330				76			99		
Link Speed (mph)		45				45			45			45
Link Distance (ft)		1708				910			1012			1352
Travel Time (s)		25.9				13.8			15.3			20.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	6%	8%	0%	4%	6%	17%	31%	5%	31%	0%	14%
Adj. Flow (vph)	195	1873	429	3	216	2922	31	131	41	99	16	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	195	1873	429	0	219	2922	31	131	41	99	16	53
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1	1	2	1	1	2	1	1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left	Thru
Leading Detector (ft)	20	100	20	20	20	100	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	20	6	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94				94			94			94
Detector 2 Size(ft)		6				6			6			6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	pm+pt	NA	Perm	pm+pt	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	1	6		5	5	2			4			8
Permitted Phases	6		6	2	2		2	4		4	8	
Detector Phase	1	6	6	5	5	2	2	4	4	4	8	8
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4	12.4	12.4	12.4

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	116
Future Volume (vph)	116
Ideal Flow (vphpl)	1900
Storage Length (ft)	100
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1455
Flt Permitted	
Satd. Flow (perm)	1455
Right Turn on Red	Yes
Satd. Flow (RTOR)	103
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	11%
Adj. Flow (vph)	122
Shared Lane Traffic (%)	
Lane Group Flow (vph)	122
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	8
Detector Phase	8
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	12.4

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Total Split (s)	16.0	104.0	104.0	16.0	16.0	104.0	104.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	10.7%	69.3%	69.3%	10.7%	10.7%	69.3%	69.3%	20.0%	20.0%	20.0%	20.0%	20.0%
Maximum Green (s)	10.0	97.8	97.8	10.1	10.1	97.8	97.8	22.6	22.6	22.6	22.6	22.6
Yellow Time (s)	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4	4.4	4.4	4.4
All-Red Time (s)	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4	7.4	7.4	7.4
Lead/Lag	Lead	Lag	Lag	Lead	Lead	Lag	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes					
Vehicle Extension (s)	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	108.9	97.8	97.8		109.1	97.8	97.8	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.73	0.65	0.65		0.73	0.65	0.65	0.14	0.14	0.14	0.14	0.14
v/c Ratio	1.16	0.84	0.39		1.18	1.32	0.03	0.87	0.16	0.38	0.08	0.22
Control Delay	157.9	24.9	3.7		159.3	171.6	0.1	107.3	57.2	14.2	56.1	58.7
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	157.9	24.9	3.7		159.3	171.6	0.1	107.3	57.2	14.2	56.1	58.7
LOS	F	C	A		F	F	A	F	E	B	E	E
Approach Delay		31.6				169.1			65.7			32.8
Approach LOS		C				F			E			C
Queue Length 50th (ft)	~187	702	34		~206	~1934	0	126	35	0	14	46
Queue Length 95th (ft)	#355	818	82		#381	#2041	0	#248	74	55	37	91
Internal Link Dist (ft)		1628				830			932			1272
Turn Bay Length (ft)	280				312		300	180		100	135	
Base Capacity (vph)	168	2220	1089		186	2220	926	157	272	269	208	251
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.84	0.39		1.18	1.32	0.03	0.83	0.15	0.37	0.08	0.21

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 104.3

Intersection LOS: F

Intersection Capacity Utilization 123.5%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129

		
Ø1	Ø2 (R)	Ø4
16 s	104 s	30 s
		
Ø5	Ø6 (R)	Ø8
16 s	104 s	30 s

Lane Group	SBR
Total Split (s)	30.0
Total Split (%)	20.0%
Maximum Green (s)	22.6
Yellow Time (s)	4.4
All-Red Time (s)	3.0
Lost Time Adjust (s)	0.0
Total Lost Time (s)	7.4
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	5.0
Recall Mode	None
Act Effct Green (s)	21.7
Actuated g/C Ratio	0.14
v/c Ratio	0.41
Control Delay	18.5
Queue Delay	0.0
Total Delay	18.5
LOS	B
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	16
Queue Length 95th (ft)	79
Internal Link Dist (ft)	
Turn Bay Length (ft)	100
Base Capacity (vph)	306
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.40
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Future Volume (vph)	128	0	109	5	2	24	197	3087	7	7	13	1061
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		110		150	
Storage Lanes	0		1	0		1	1		1		1	
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Frt			0.850			0.850			0.850			
Flt Protected		0.950			0.964		0.950				0.950	
Satd. Flow (prot)	0	1556	939	0	1832	1429	1480	3406	1252	0	1570	3282
Flt Permitted		0.950			0.964		0.950				0.950	
Satd. Flow (perm)	0	1556	939	0	1832	1429	1480	3406	1252	0	1570	3282
Link Speed (mph)		25			30			55				55
Link Distance (ft)		254			653			2889				1747
Travel Time (s)		6.9			14.8			35.8				21.7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	16%	0%	72%	0%	0%	13%	22%	6%	29%	0%	23%	10%
Adj. Flow (vph)	147	0	125	6	2	28	226	3548	8	8	15	1220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	147	125	0	8	28	226	3548	8	0	23	1220
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	9	15	
Sign Control		Stop			Stop			Free				Free
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	112.4%											
Analysis Period (min)	15											
ICU Level of Service H												

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	575
Future Volume (vph)	575
Ideal Flow (vphpl)	1900
Storage Length (ft)	150
Storage Lanes	1
Taper Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.87
Heavy Vehicles (%)	2%
Adj. Flow (vph)	661
Shared Lane Traffic (%)	
Lane Group Flow (vph)	661
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Sign Control	
Intersection Summary	

Intersection													
Int Delay, s/veh	8.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Future Vol, veh/h	128	0	109	5	2	24	197	3087	7	7	13	1061	575
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	None
Storage Length	-	-	0	-	-	0	150	-	110	-	150	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	16	0	72	0	0	13	22	6	29	0	23	10	2
Mvmt Flow	147	0	125	6	2	28	226	3548	8	8	15	1220	661

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	3493	5274	610	4656	5927	1774	1881	0
Stage 1	1266	1266	-	4000	4000	-	-	-
Stage 2	2227	4008	-	656	1927	-	-	-
Critical Hdwy	7.82	6.5	8.34	7.5	6.5	7.16	4.54	-
Critical Hdwy Stg 1	6.82	5.5	-	6.5	5.5	-	-	-
Critical Hdwy Stg 2	6.82	5.5	-	6.5	5.5	-	-	-
Follow-up Hdwy	3.66	4	4.02	3.5	4	3.43	2.42	-
Pot Cap-1 Maneuver	~ 2	0	301	0	0	64	245	-
Stage 1	159	242	-	~ 3	9	-	-	-
Stage 2	~ 37	9	-	426	115	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	0	301	-	0	64	245	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-
Stage 1	~ 12	0	-	0	~ 1	-	-	-
Stage 2	-	1	-	-	0	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			4.9	16.6
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	245	-	-	-	301	-	64	~ 10	-	-
HCM Lane V/C Ratio	0.924	-	-	-	0.416	-	0.431	2.299	-	-
HCM Control Delay (s)	82.7	-	-	-	25.2	-	98.5	1377.1	-	-
HCM Lane LOS	F	-	-	-	D	-	F	F	-	-
HCM 95th %tile Q(veh)	8.1	-	-	-	2	-	1.7	3.9	-	-

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

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0	
Future Volume (vph)	2	2	0	0	2	49	0	107	0	35	694	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.869												
Flt Protected	0.976										0.998		
Satd. Flow (prot)	0	1854	0	0	1651	0	0	995	0	0	1746	0	
Flt Permitted	0.976										0.998		
Satd. Flow (perm)	0	1854	0	0	1651	0	0	995	0	0	1746	0	
Link Speed (mph)	25				25				30				
Link Distance (ft)	1001				1156				4656				
Travel Time (s)	27.3				31.5				105.8				
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	91%	0%	20%	8%	0%	
Adj. Flow (vph)	2	2	0	0	2	59	0	129	0	42	836	0	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	4	0	0	61	0	0	129	0	0	878	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)	0				0				0				
Link Offset(ft)	0				0				0				
Crosswalk Width(ft)	16				16				16				
Two way Left Turn Lane													
Headway 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	
Turning Speed (mph)	15	9		15	9		15	9		15	9		
Sign Control	Stop			Stop				Free				Free	
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 55.1%													
ICU Level of Service B													
Analysis Period (min) 15													

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Future Vol, veh/h	2	2	0	0	2	49	0	107	0	35	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	0	0	0	91	0	20	8	0
Mvmt Flow	2	2	0	0	2	59	0	129	0	42	836	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1080	1049	836	1050	1049	129	836	0	0	129	0	0
Stage 1	920	920	-	129	129	-	-	-	-	-	-	-
Stage 2	160	129	-	921	920	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.3	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.38	-	-
Pot Cap-1 Maneuver	197	229	370	207	229	926	807	-	-	1353	-	-
Stage 1	327	352	-	880	793	-	-	-	-	-	-	-
Stage 2	847	793	-	327	352	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	175	216	370	196	216	926	807	-	-	1353	-	-
Mov Cap-2 Maneuver	175	216	-	196	216	-	-	-	-	-	-	-
Stage 1	327	332	-	880	793	-	-	-	-	-	-	-
Stage 2	791	793	-	306	332	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	24.1		9.7		0		0.4	
HCM LOS	C		A					

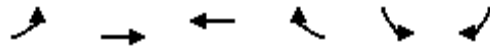
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	807	-	-	193	820	1353	-	-
HCM Lane V/C Ratio	-	-	-	0.025	0.075	0.031	-	-
HCM Control Delay (s)	0	-	-	24.1	9.7	7.7	0	-
HCM Lane LOS	A	-	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0.1	-	-

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	146	13	148	590	5
Future Volume (vph)	16	146	13	148	590	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.999	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1703	1583	0	1341	1787	0
Flt Permitted	0.950			0.996		
Satd. Flow (perm)	1703	1583	0	1341	1787	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	2%	31%	42%	6%	33%
Adj. Flow (vph)	17	159	14	161	641	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	159	0	175	646	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 47.1%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	146	13	148	590	5
Future Vol, veh/h	16	146	13	148	590	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	2	31	42	6	33
Mvmt Flow	17	159	14	161	641	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	833	644	646	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.46	6.22	4.41	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.318	2.479	-	-	-
Pot Cap-1 Maneuver	333	473	815	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	327	473	815	-	-	-
Mov Cap-2 Maneuver	327	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	16.4	0.8		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	815	-	327	473	-	-
HCM Lane V/C Ratio	0.017	-	0.053	0.336	-	-
HCM Control Delay (s)	9.5	0	16.6	16.4	-	-
HCM Lane LOS	A	A	C	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	1.5	-	-

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	29	97	0	211	294
Future Volume (vph)	0	29	97	0	211	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1900	1205	1203	0	1752	1712
Flt Permitted					0.950	
Satd. Flow (perm)	1900	1205	1203	0	1752	1712
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	34%	58%	0%	3%	11%
Adj. Flow (vph)	0	32	105	0	229	320
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	32	105	0	229	320
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 21.7%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	29	97	0	211	294
Future Vol, veh/h	0	29	97	0	211	294
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	34	58	0	3	11
Mvmt Flow	0	32	105	0	229	320
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	883	105	0	0	105	0
Stage 1	105	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Critical Hdwy	6.4	6.54	-	-	4.13	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.606	-	-	2.227	-
Pot Cap-1 Maneuver	319	869	-	-	1480	-
Stage 1	924	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	270	869	-	-	1480	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.3	0	3.3			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	869	1480	-
HCM Lane V/C Ratio	-	-	-	0.036	0.155	-
HCM Control Delay (s)	-	-	0	9.3	7.9	-
HCM Lane LOS	-	-	A	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0.1	0.5	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	↕
Traffic Volume (vph)	9	370	57	77	212	33
Future Volume (vph)	9	370	57	77	212	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			0	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1878	1900	997	1597	1524
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1878	1900	997	1597	1524
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	44%	0%	0%	62%	13%	6%
Adj. Flow (vph)	10	402	62	84	230	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	412	62	84	230	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 45.0%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	370	57	77	212	33
Future Vol, veh/h	9	370	57	77	212	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	44	0	0	62	13	6
Mvmt Flow	10	402	62	84	230	36
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	146	0	-	0	484	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	4.54	-	-	-	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	2.596	-	-	-	3.617	3.354
Pot Cap-1 Maneuver	1215	-	-	-	522	992
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	639	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1215	-	-	-	516	992
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	639	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		16.3		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1215	-	-	-	516	992
HCM Lane V/C Ratio	0.008	-	-	-	0.447	0.036
HCM Control Delay (s)	8	0	-	-	17.5	8.8
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	2.3	0.1

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	184	687	998	45	180	1517
Future Volume (vph)	184	687	998	45	180	1517
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1787	1568	1792	1455	1517	1827
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1787	1568	1792	1455	1517	1827
Link Speed (mph)	35		55			55
Link Distance (ft)	6348		3110			1181
Travel Time (s)	123.7		38.6			14.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	11%	19%	4%
Adj. Flow (vph)	204	763	1109	50	200	1686
Shared Lane Traffic (%)						
Lane Group Flow (vph)	204	763	1109	50	200	1686
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	101.7%			ICU Level of Service G		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	879.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	184	687	998	45	180	1517
Future Vol, veh/h	184	687	998	45	180	1517
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	1	3	6	11	19	4
Mvmt Flow	204	763	1109	50	200	1686
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	3195	1109	0	0	1159	0
Stage 1	1109	-	-	-	-	-
Stage 2	2086	-	-	-	-	-
Critical Hdwy	6.41	6.23	-	-	4.29	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.327	-	-	2.371	-
Pot Cap-1 Maneuver	~ 11	~ 254	-	-	546	-
Stage 1	317	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 7	~ 254	-	-	546	-
Mov Cap-2 Maneuver	~ 7	-	-	-	-	-
Stage 1	~ 201	-	-	-	-	-
Stage 2	~ 104	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	\$ 3642.5	0	1.6			
HCM LOS	F					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	7	254	546	-
HCM Lane V/C Ratio	-	-	29.206	3.005	0.366	-
HCM Control Delay (s)	-	-	\$ 13724	\$ 942.3	15.4	-
HCM Lane LOS	-	-	F	F	C	-
HCM 95th %tile Q(veh)	-	-	27.5	67.9	1.7	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	94	288	192	202	159
Future Volume (vph)	63	94	288	192	202	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	65		0	0	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1599	1863	1583	1787	1681
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1599	1863	1583	1787	1681
Link Speed (mph)	45		45			45
Link Distance (ft)	5762		1559			1338
Travel Time (s)	87.3		23.6			20.3
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	2%	1%	2%	2%	1%	13%
Adj. Flow (vph)	81	121	369	246	259	204
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	121	369	246	259	204
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 39.8%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	94	288	192	202	159
Future Vol, veh/h	63	94	288	192	202	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	0	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	1	2	2	1	13
Mvmt Flow	81	121	369	246	259	204
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1091	369	0	0	615	0
Stage 1	369	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Critical Hdwy	6.42	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	238	679	-	-	970	-
Stage 1	699	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	174	679	-	-	970	-
Mov Cap-2 Maneuver	174	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	23.8	0	5.6			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	174	679	970	-
HCM Lane V/C Ratio	-	-	0.464	0.177	0.267	-
HCM Control Delay (s)	-	-	42.4	11.4	10.1	-
HCM Lane LOS	-	-	E	B	B	-
HCM 95th %tile Q(veh)	-	-	2.2	0.6	1.1	-

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Future Volume (vph)	3	148	2864	148	3	74	2382	10	275	52	185	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		280		0		312		300	180		100	
Storage Lanes		1		1		1		1	1		1	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3471	1455	0	1538	3471	1346	1752	1792	1553	0
Flt Permitted		0.038				0.040			0.723			
Satd. Flow (perm)	0	71	3471	1455	0	65	3471	1346	1334	1792	1553	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				70				70			90	
Link Speed (mph)			45				45			45		
Link Distance (ft)			1708				910			1012		
Travel Time (s)			25.9				13.8			15.3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	4%	11%	0%	18%	4%	20%	3%	6%	4%	0%
Adj. Flow (vph)	3	157	3047	157	3	79	2534	11	293	55	197	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	3047	157	0	82	2534	11	293	55	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			12				12			12		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	9	15		9	9	15		9	15		9	9
Number of Detectors	1	1	2	1	1	1	2	1	1	2	1	1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right	Left
Leading Detector (ft)	20	20	100	20	20	20	100	20	20	100	20	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	20	6	20	20	6	20	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94				94			94		
Detector 2 Size(ft)			6				6			6		
Detector 2 Type			CI+Ex				CI+Ex			CI+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	custom	pm+pt	NA	Perm	custom	pm+pt	NA	Perm	Perm	NA	Perm	Perm
Protected Phases		1	6			5	2			4		
Permitted Phases	1	6		6	5	2		2	4		4	8
Detector Phase	1	1	6	6	5	5	2	2	4	4	4	8
Switch Phase												
Minimum Initial (s)	5.0	5.0	12.0	12.0	5.0	5.0	12.0	12.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	11.0	40.2	40.2	10.9	10.9	43.2	43.2	12.4	12.4	12.4	12.4

			
Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	30	49	185
Future Volume (vph)	30	49	185
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	135		100
Storage Lanes	1		1
Taper Length (ft)	25		
Lane Util. Factor	1.00	1.00	1.00
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	1693	1792	1599
Flt Permitted	0.721		
Satd. Flow (perm)	1285	1792	1599
Right Turn on Red			Yes
Satd. Flow (RTOR)			93
Link Speed (mph)		45	
Link Distance (ft)		1352	
Travel Time (s)		20.5	
Peak Hour Factor	0.94	0.94	0.94
Heavy Vehicles (%)	7%	6%	1%
Adj. Flow (vph)	32	52	197
Shared Lane Traffic (%)			
Lane Group Flow (vph)	34	52	197
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		12	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		9
Number of Detectors	1	2	1
Detector Template	Left	Thru	Right
Leading Detector (ft)	20	100	20
Trailing Detector (ft)	0	0	0
Detector 1 Position(ft)	0	0	0
Detector 1 Size(ft)	20	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0
Detector 2 Position(ft)		94	
Detector 2 Size(ft)		6	
Detector 2 Type		CI+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Perm	NA	Perm
Protected Phases		8	
Permitted Phases	8		8
Detector Phase	8	8	8
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	12.4	12.4	12.4

												
Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Total Split (s)	21.0	21.0	110.0	110.0	15.0	15.0	104.0	104.0	35.0	35.0	35.0	35.0
Total Split (%)	13.1%	13.1%	68.8%	68.8%	9.4%	9.4%	65.0%	65.0%	21.9%	21.9%	21.9%	21.9%
Maximum Green (s)	15.0	15.0	103.8	103.8	9.1	9.1	97.8	97.8	27.6	27.6	27.6	27.6
Yellow Time (s)	3.0	3.0	4.5	4.5	3.1	3.1	4.5	4.5	4.4	4.4	4.4	4.4
All-Red Time (s)	3.0	3.0	1.7	1.7	2.8	2.8	1.7	1.7	3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.2	6.2		5.9	6.2	6.2	7.4	7.4	7.4	
Lead/Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	5.0	5.0	5.0	5.0
Recall Mode	None	None	C-Min	C-Min	None	None	C-Min	C-Min	None	None	None	None
Act Effct Green (s)		118.3	104.7	104.7		107.9	99.3	99.3	27.6	27.6	27.6	
Actuated g/C Ratio		0.74	0.65	0.65		0.67	0.62	0.62	0.17	0.17	0.17	
v/c Ratio		0.82	1.34	0.16		0.69	1.18	0.01	1.27	0.18	0.58	
Control Delay		73.0	183.8	6.3		61.1	114.0	0.0	203.2	58.3	39.8	
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		73.0	183.8	6.3		61.1	114.0	0.0	203.2	58.3	39.8	
LOS		E	F	A		E	F	A	F	E	D	
Approach Delay			170.2				111.9			129.5		
Approach LOS			F				F			F		
Queue Length 50th (ft)		114	~2191	32		40	~1680	0	~386	50	103	
Queue Length 95th (ft)		#224	#2286	63		#117	#1794	0	#583	95	194	
Internal Link Dist (ft)			1628				830			932		
Turn Bay Length (ft)		280				312		300	180		100	
Base Capacity (vph)		212	2270	976		128	2154	862	230	309	342	
Starvation Cap Reductn		0	0	0		0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0		0	0	0	0	0	0	
Storage Cap Reductn		0	0	0		0	0	0	0	0	0	
Reduced v/c Ratio		0.75	1.34	0.16		0.64	1.18	0.01	1.27	0.18	0.58	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 76 (48%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.34

Intersection Signal Delay: 139.3

Intersection LOS: F

Intersection Capacity Utilization 123.4%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Dr & US 129

		
Ø1	Ø2 (R)	Ø4
21 s	104 s	35 s
		
Ø5	Ø6 (R)	Ø8
15 s	110 s	35 s



Lane Group	SBL	SBT	SBR
Total Split (s)	35.0	35.0	35.0
Total Split (%)	21.9%	21.9%	21.9%
Maximum Green (s)	27.6	27.6	27.6
Yellow Time (s)	4.4	4.4	4.4
All-Red Time (s)	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	7.4	7.4	7.4
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	5.0	5.0	5.0
Recall Mode	None	None	None
Act Effct Green (s)	27.6	27.6	27.6
Actuated g/C Ratio	0.17	0.17	0.17
v/c Ratio	0.15	0.17	0.56
Control Delay	58.5	58.1	38.1
Queue Delay	0.0	0.0	0.0
Total Delay	58.5	58.1	38.1
LOS	E	E	D
Approach Delay		44.3	
Approach LOS		D	
Queue Length 50th (ft)	31	47	100
Queue Length 95th (ft)	66	90	189
Internal Link Dist (ft)		1272	
Turn Bay Length (ft)	135		100
Base Capacity (vph)	221	309	352
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.15	0.17	0.56
Intersection Summary			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Future Volume (vph)	581	0	194	7	2	12	2	84	1819	8	2	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0		150		110		150
Storage Lanes	0		1	0		1		1		1		1
Taper Length (ft)	25			25				25				25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frt			0.850			0.850				0.850		
Flt Protected		0.950			0.963			0.950				0.950
Satd. Flow (prot)	0	1770	1404	0	1830	1615	0	1159	3406	1615	0	1805
Flt Permitted		0.950			0.963			0.950				0.950
Satd. Flow (perm)	0	1770	1404	0	1830	1615	0	1159	3406	1615	0	1805
Link Speed (mph)		25			30				55			
Link Distance (ft)		254			653				2889			
Travel Time (s)		6.9			14.8				35.8			
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.92	0.97	0.97	0.97	0.92	0.97
Heavy Vehicles (%)	2%	0%	15%	0%	0%	0%	0%	57%	6%	0%	0%	0%
Adj. Flow (vph)	599	0	200	7	2	12	2	87	1875	8	2	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	599	200	0	9	12	0	89	1875	8	0	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	R NA	Left
Median Width(ft)		0			0				12			
Link Offset(ft)		0			0				0			
Crosswalk Width(ft)		16			16				16			
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	9	15		9	9	15
Sign Control		Stop			Stop				Free			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 117.0%												
ICU Level of Service H												
Analysis Period (min) 15												

	↓	↙
Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	2558	219
Future Volume (vph)	2558	219
Ideal Flow (vphpl)	1900	1900
Storage Length (ft)		150
Storage Lanes		1
Taper Length (ft)		
Lane Util. Factor	0.95	1.00
Frt		0.850
Flt Protected		
Satd. Flow (prot)	3471	1524
Flt Permitted		
Satd. Flow (perm)	3471	1524
Link Speed (mph)	55	
Link Distance (ft)	1747	
Travel Time (s)	21.7	
Peak Hour Factor	0.97	0.97
Heavy Vehicles (%)	4%	6%
Adj. Flow (vph)	2637	226
Shared Lane Traffic (%)		
Lane Group Flow (vph)	2637	226
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	12	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.00	1.00
Turning Speed (mph)		9
Sign Control	Free	
Intersection Summary		

Intersection															
Int Delay, s/veh	1.2														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Future Vol, veh/h	581	0	194	7	2	12	2	84	1819	8	2	22	2558	219	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Yield	-	-	None	-	-	-	-	None	None
Storage Length	-	-	0	-	-	0	-	150	-	110	-	150	-	150	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	-	0	-	-
Peak Hour Factor	97	97	97	97	97	97	92	97	97	97	92	97	97	97	97
Heavy Vehicles, %	2	0	15	0	0	0	0	57	6	0	0	0	4	6	6
Mvmt Flow	599	0	200	7	2	12	2	87	1875	8	2	23	2637	226	

Major/Minor	Minor2		Minor1		Major1				Major2					
Conflicting Flow All	3804	4748	1319	3422	4966	938	2637	2863	0	0	1875	1883	0	0
Stage 1	2687	2687	-	2053	2053	-	-	-	-	-	-	-	-	-
Stage 2	1117	2061	-	1369	2913	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.5	7.2	7.5	6.5	6.9	6.4	5.24	-	-	6.4	4.1	-	-
Critical Hdwy Stg 1	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4	3.45	3.5	4	3.3	2.5	2.77	-	-	2.5	2.2	-	-
Pot Cap-1 Maneuver	~ 1	1	~ 131	~ 3	~ 1	269	29	~ 50	-	-	92	323	-	-
Stage 1	~ 22	47	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 221	98	-	157	35	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	1	~ 131	-	~ 1	269	138	138	-	-	262	262	-	-
Mov Cap-2 Maneuver	-	1	-	-	~ 1	-	-	-	-	-	-	-	-	-
Stage 1	~ 22	43	-	58	99	-	-	-	-	-	-	-	-	-
Stage 2	~ 206	98	-	-	32	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB				SB					
HCM Control Delay, s					3.1				0.2					
HCM LOS	-		-											

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	138	-	-	-	131	-	269	262	-	-
HCM Lane V/C Ratio	0.643	-	-	-	1.527	-	0.046	0.095	-	-
HCM Control Delay (s)	69.5	-	-	-	\$ 332.4	-	19	20.2	-	-
HCM Lane LOS	F	-	-	-	F	-	C	C	-	-
HCM 95th %tile Q(veh)	3.5	-	-	-	14	-	0.1	0.3	-	-

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

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3	
Future Volume (vph)	3	0	0	0	0	39	0	687	0	104	150	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fr't						0.865					0.999		
Flt Protected	0.950												0.980
Satd. Flow (prot)	0	1805	0	0	1565	0	0	1810	0	0	1501	0	
Flt Permitted	0.950												0.980
Satd. Flow (perm)	0	1805	0	0	1565	0	0	1810	0	0	1501	0	
Link Speed (mph)	25						25				30		
Link Distance (ft)	1001						1156				4656	254	
Travel Time (s)	27.3						31.5				105.8	5.8	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	41%	0%	
Adj. Flow (vph)	3	0	0	0	0	45	0	799	0	121	174	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	3	0	0	45	0	0	799	0	0	298	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)	0						0				0		
Link Offset(ft)	0						0				0		
Crosswalk Width(ft)	16						16				16		
Two way Left Turn Lane													
Headway 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	
Turning Speed (mph)	15	9		15	9		15	9		15	9		
Sign Control	Stop		Stop				Free			Free			
Intersection Summary													
Area Type:	Other												
Control Type: Unsignalized													
Intersection Capacity Utilization 63.3%													
ICU Level of Service B													
Analysis Period (min) 15													

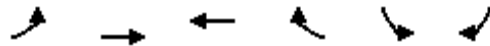
Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Future Vol, veh/h	3	0	0	0	0	39	0	687	0	104	150	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	5	0	5	0	0	41	0
Mvmt Flow	3	0	0	0	0	45	0	799	0	121	174	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1240	1217	176	1217	1218	799	177	0	0	799	0	0
Stage 1	418	418	-	799	799	-	-	-	-	-	-	-
Stage 2	822	799	-	418	419	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.25	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.345	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	153	182	872	159	182	381	1411	-	-	833	-	-
Stage 1	616	594	-	382	401	-	-	-	-	-	-	-
Stage 2	371	401	-	616	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	118	153	872	139	153	381	1411	-	-	833	-	-
Mov Cap-2 Maneuver	118	153	-	139	153	-	-	-	-	-	-	-
Stage 1	616	498	-	382	401	-	-	-	-	-	-	-
Stage 2	327	401	-	517	498	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	36.4		15.7		0		4.1					
HCM LOS	E		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1411	-	-	118	381	833	-	-				
HCM Lane V/C Ratio	-	-	-	0.03	0.119	0.145	-	-				
HCM Control Delay (s)	0	-	-	36.4	15.7	10.1	0	-				
HCM Lane LOS	A	-	-	E	C	B	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.5	-	-				

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	394	157	573	159	16
Future Volume (vph)	4	394	157	573	159	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100	0			0
Storage Lanes	1	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.988	
Flt Protected	0.950			0.989		
Satd. Flow (prot)	1444	1583	0	1818	1522	0
Flt Permitted	0.950			0.989		
Satd. Flow (perm)	1444	1583	0	1818	1522	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	5762			953	4656	
Travel Time (s)	131.0			21.7	105.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	25%	2%	1%	4%	25%	6%
Adj. Flow (vph)	4	428	171	623	173	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	428	0	794	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 61.5%				ICU Level of Service B		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	394	157	573	159	16
Future Vol, veh/h	4	394	157	573	159	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	25	2	1	4	25	6
Mvmt Flow	4	428	171	623	173	17
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1147	182	190	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Critical Hdwy	6.65	6.22	4.11	-	-	-
Critical Hdwy Stg 1	5.65	-	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-	-
Follow-up Hdwy	3.725	3.318	2.209	-	-	-
Pot Cap-1 Maneuver	198	861	1390	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	161	861	1390	-	-	-
Mov Cap-2 Maneuver	161	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.3	1.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1390	-	161	861	-	-
HCM Lane V/C Ratio	0.123	-	0.027	0.497	-	-
HCM Control Delay (s)	8	0	28	13.2	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	2.8	-	-

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	220	281	0	411	91
Future Volume (vph)	0	220	281	0	411	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	100		0	0	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	1900	1583	1776	0	1770	1377
Flt Permitted					0.950	
Satd. Flow (perm)	1900	1583	1776	0	1770	1377
Link Speed (mph)	30		30			30
Link Distance (ft)	1655		3412			953
Travel Time (s)	37.6		77.5			21.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	7%	0%	2%	38%
Adj. Flow (vph)	0	239	305	0	447	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	239	305	0	447	99
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 44.2%	ICU Level of Service A					
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	6.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	220	281	0	411	91
Future Vol, veh/h	0	220	281	0	411	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	7	0	2	38
Mvmt Flow	0	239	305	0	447	99
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1298	305	0	0	305	0
Stage 1	305	-	-	-	-	-
Stage 2	993	-	-	-	-	-
Critical Hdwy	6.4	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	180	735	-	-	1256	-
Stage 1	752	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	116	735	-	-	1256	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	484	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	12.2	0	7.7			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	735	1256	-
HCM Lane V/C Ratio	-	-	-	0.325	0.356	-
HCM Control Delay (s)	-	-	0	12.2	9.4	-
HCM Lane LOS	-	-	A	B	A	-
HCM 95th %tile Q(veh)	-	-	-	1.4	1.6	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	33	80	366	201	70	10
Future Volume (vph)	33	80	366	201	70	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100			0	0	0
Storage Lanes	0			1	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.986			0.950	
Satd. Flow (prot)	0	1841	1900	1482	1262	1242
Flt Permitted		0.986			0.950	
Satd. Flow (perm)	0	1841	1900	1482	1262	1242
Link Speed (mph)		30	30		30	
Link Distance (ft)		6348	1982		3412	
Travel Time (s)		144.3	45.0		77.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	0%	0%	9%	43%	30%
Adj. Flow (vph)	36	87	398	218	76	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	398	218	76	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 39.2%				ICU Level of Service A		
Analysis Period (min) 15						

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	80	366	201	70	10
Future Vol, veh/h	33	80	366	201	70	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	0	0	9	43	30
Mvmt Flow	36	87	398	218	76	11
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	616	0	-	0	557	398
Stage 1	-	-	-	-	398	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	4.16	-	-	-	6.83	6.5
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	2.254	-	-	-	3.887	3.57
Pot Cap-1 Maneuver	945	-	-	-	428	595
Stage 1	-	-	-	-	598	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	945	-	-	-	411	595
Mov Cap-2 Maneuver	-	-	-	-	411	-
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	779	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.6	0		15.1		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	945	-	-	-	411	595
HCM Lane V/C Ratio	0.038	-	-	-	0.185	0.018
HCM Control Delay (s)	9	0	-	-	15.7	11.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.1

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/6/2020

Presenter: Abb Hayes

Item of Business: **Public Hearing Item: July 21, 2020 Council Meeting**
Request from **Kevin Pethel** to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a **2092 Crow Road and 2005 White Sulphur Road**) from Residential-I (R-I) to Light Industrial (L-I). **Ward Number: Two.** Tax Parcel Number(s): 09-124-000-038 (Part). **Request: Plumbing and electrical contractor office/warehouse.**

Meeting Date: 7/16/2020

Purpose of Request:

To provide an overview of the following rezoning request as presented at the June 9, 2020 Planning and Appeals Board Meeting:

The applicant is proposing to rezone the subject property from Residential-I (R-I) to Light Industrial (L-I) for a plumbing and electrical contractors office/warehouse. According to the applicant there will be 7 full time employees and a part time office assistant working normally Monday through Friday between 7:30 AM and 6:30 PM. The property contains an existing 5,000 square foot metal building currently owned by the adjacent Faith Baptist Church which will be converted to the proposed use with associated parking. Access will remain from Crow Road and necessary parking will be provided. The applicant intends to fence and gate the property and two roll up doors will be added to the building for warehousing of materials.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Staff and PAB recommended approval with six conditions. See PAB Recommendation Report for details and excerpts from the meeting minutes.

SAMPLE MOTIONS

Approval of Ordinance 2020-

I move to approve the ordinance to rezone the subject property from Residential-I (R-I) to General Business (G-B) with six conditions as presented.

Denial of the Request:

I move to deny the request.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description		Type
	Legal Ad	Legal Ad
	PAB Recommendation Report	Report
	Proposed Rezoning Ordinance	Ordinance
	Location Maps	Backup Material
	Narrative	Backup Material
	Plat	Backup Material
	Site Plan	Backup Material
	Photos	Backup Material

LEGAL AD
Gainesville City Council

Publish Saturday, July 4, 2020
THE TIMES

**NOTICE OF PUBLIC HEARING ON PROPOSED
AMENDMENTS TO THE GAINESVILLE ZONING MAP**

Notice is hereby given that the **Gainesville City Council** will conduct a public hearing on **Tuesday, July 21, 2020 at 5:30 p.m.** in the **Gainesville Justice Center** (Municipal Courtroom at the Public Safety Complex), 701 Queen City Parkway in midtown Gainesville on the following requests:

- 1) Request from the **City of Gainesville** to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125
Request: Business Park
- 2) Request from the **City of Gainesville** to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-023-000-167 (Part)
Request: Business Park
- 3) Request from **Kevin Pethel** to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a **2092 Crow Road and 2005 White Sulphur Road**) from Residential-I (R-I) to Light Industrial (L-I).
Ward Number: Two
Tax Parcel Number(s): 09-124-000-038 (Part)
Request: Plumbing and electrical contractor office/warehouse
- 4) Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037
Request: 20 multi-family apartments

Additional information is available from the Community and Economic Development Department, Planning Division, by calling 770-531-6570.

NOTE: In accordance with Georgia law, anyone who wishes to express opposition to the proposed zoning action, and has made, within two years immediately preceding the filing of the proposed zoning action, campaign contributions aggregating \$250 or more to a local government official who will consider the application, shall file a disclosure of contribution(s) with the Planning Division at least five (5) days prior to the first reading of the proposed zoning action by the City Council. (OCGA § 36-67A-3 3 {c})

**GAINESVILLE PLANNING and APPEALS BOARD
RECOMMENDATION**

Applicant Kevin Pethel
Property Owner Faith Baptist Church
Location 2092 Crow Road &
2005 White Sulphur Road
Request Rezone from R-I to L-I
Total Acres 1.3± acres
Ward Two
Proposed Use Plumbing and electrical contractor
office/warehouse
Planning Division Staff Recommendation **Approval with G-B zoning, with conditions**
Planning & Appeals Board Recommendation **Approval with G-B zoning, with conditions**
Date June 9, 2020

▪ **Applicant's Proposal and Background Information**

The applicant is proposing to rezone the subject property from Residential-I (R-I) to Light Industrial (L-I) for a plumbing and electrical contractor office/warehouse. According to the applicant there will be 7 full time employees and a part time office assistant working normally Monday through Friday between 7:30 AM and 6:30 PM. The property contains an existing 5,000 square foot metal building currently owned by the adjacent Faith Baptist Church which will be converted to the proposed use with associated parking. Access will remain from Crow Road which is maintained by Hall County and onsite parking will be provided. The applicant intends to fence and gate the property and two roll up doors will be added to the building for warehousing of materials.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Church, Single-family homes	Residential-I (R-I) City Agricultural Residential-III (AR-III) County
South	New Horizons Lanier Park long term care facility	General Business (G-B) City
East	Vacant home	Residential-II (R-II) City
West	Single-family homes	Agricultural Residential-III (AR-III) County

The property is located within the Limestone Parkway Overlay Zone.

▪ **Other Departmental Comments**

The Hall County Environmental Health Department commented that the property should be served by public sewer through the City of Gainesville. The existing septic tank is to be pumped, crushed, and filled by DPH certified installer/pumper.

There were no departmental comments for this request.

▪ **Zoning History**

The following zoning actions have taken place in the immediate area during the last ten years:

2019 – A request by Matthew Magnus and Ryan Chambers to rezone the subject 1.3± acres tract located at 2092 Crow Road and 2005 White Sulphur Road from Residential-I (R-I) to Light Industrial (L-I) was conditionally approved for an HVAC contractor office/warehouse by the Planning and Appeals Board. However, the request was withdrawn at the City Council meeting.

2018 – A request by Limestone Greenway, LLC to annex a 75.12± acres tract with a zoning of Planned Unit Development (P-U-D) located at 0 and 2065 Limestone Parkway was conditionally approved for a mixed-use development.

2014 – A request by Waffle House Inc. to amend a condition of zoning on a 3.21± acres tract located at 2551 Limestone Parkway zoned General Business, with conditions (G-B-c) was approved for a Waffle House restaurant.

2013 – A request by the City of Gainesville to annex 115 unincorporated island parcels and right-of-way totaling 197.07± acres in size was approved with conditions.

Analysis

(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?

The subject property is currently being used for non-residential purposes and is located along Crow Road which is considered a residential street. The surrounding area includes a mixture of residential, office, medical services, public uses and limited retail uses. The surrounding properties are zoned Agricultural Residential-III (AR-III), Residential-I (R-I), General Business (G-B) and Light Industrial (L-I). The proposal could be considered suitable given the property has been used for non-residential purposes for many years. The property contains an older warehouse building owned and used for non-residential purposes by the adjacent Faith Baptist Church.

(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?

The adjacent and nearby residential uses should be minimally impacted given the hours of operation and nature of the proposed business. The interior and exterior of the existing warehouse building will be improved and all plumbing/electrical work will be housed inside the building. According to the applicant there will be no noise, vibrations or odors from the proposed use. There will be approximately 7 full time employees and a part time office assistant working normally Monday through Friday between 7:30 AM and 6:30 PM. The existing driveway and parking will be improved with additional evergreen vegetation to enhance the dense buffer that currently exists. Parking and any future expansion will be required to meet stormwater detention and water quality standards.

(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?

It is staff's opinion that the proposal is consistent with the Comprehensive Plan. The Future Development Map for the City of Gainesville places the subject property within the *Mixed Use General* land use category. This category includes areas containing or planned for a mixture of land uses including office, neighborhood retail, and residential.

According to the Character Area map for the City of Gainesville, the subject property is located within the *Limestone Medical Corridor* Character Area. The Limestone Parkway corridor area is an employment corridor that is envisioned as one of the priority growth areas and is not anticipated to expand Gainesville's traditional neighborhood fabric. Land uses allowed within this area include public / institutional, low-density residential, medium-density residential, multi-family residential, mixed-use, commercial, and parks / recreation / conservation.

(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?

The proposed use requires the property to be rezoned for non-residential purposes. The property could continue to be used by the adjacent church under its current zoning of Residential-I (R-I) as churches are permitted by right within all zoning districts. Given the property's proximity to the neighboring church and Beverly Road, it appears reasonable that the property could be rezoned. However, staff would recommend a zoning of General Business (G-B) rather than Light Industrial (L-I) based on the adjacent zonings. The use is similar to contractor's establishment which allows for the storage of materials and overnight parking of work vehicles.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

The proposed use will have minimal impacts to public facilities. Water and sewer capacity is adequate to serve the proposed use. The Gainesville Fire and Police Departments currently respond to the property and nearest City of Gainesville Fire Station #2 is approximately 9 miles from the subject property. Hall County Fire Station #7 is approximately 3 miles from the property off of East Crescent Drive. There will be no impacts to the City school system.

According to the "Trip Generation Manual" as published by the Institute of Transportation Engineers, the proposed use at build out could generate approximately 26± new trips per weekday. The trip generation is based on a total of 8 employees for the use.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

The surrounding area has experienced a mixture of residential and non-residential growth due to nearby Exit 24 /I-985, Jesse Jewell Parkway, Limestone Parkway and White Sulphur Road. Nearby Northeast Georgia Medical Center has also impacted the area greatly by attracting numerous new residential, office and commercial uses. It is staff's opinion that given the property has been used for warehousing purposes, the proposal appears suitable and is consistent with existing and expected uses of the Comprehensive Plan.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Based on the subject property's proximity to other nearby non-residential properties, the proposal with the zoning conditions recommended by staff appears to promote a reasonable balance between the promotion of the public health, safety, morality, or general welfare, and the right to unrestricted use of property.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this rezoning request with **General Business (G-B) zoning**, based on the Comprehensive Plan and the surrounding mixture of uses.

Conditions

1. The subject property shall be limited to the proposed plumbing and electrical contractor office/warehouse use and the permitted uses within the Neighborhood Business (N-B) zoning district excluding a convenience store, dollar-type store, coin laundry facility, convenience store, tobacco or vaping store, massage parlor or tattoo parlor.
2. The exterior walls of the existing metal building or any future building shall be painted similarly to the existing color or an earth tone color. In addition, a minimum 3-foot high brick or stone water table shall be required on the exterior walls facing north, east and south.
3. The existing trees located within the subject property shall remain except for what is only necessary to be removed for the development. If deemed necessary, the required tree/landscape plan shall provide for additional evergreen trees and deciduous trees to be planted to help screen the building, parking area and detention pond from Beverly Road, Crow Road and the adjacent properties. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of Community and Economic Development Department.
4. There shall be no freestanding signs permitted fronting Crow Road.
5. All access point design for the subject property shall require review and approval by the Hall County Public Works Department and the Gainesville Public Works Department Director. All required access/traffic/sidewalk improvements associated with the proposed development shall be constructed at the full expense of the property owner/developer.
6. An updated as-built survey/plat of the subject property, indicating existing conditions and all improvements shall be recorded prior to obtaining a Certificate of Occupancy for the future use.

Excerpts from the June 9, 2020 PAB Meeting Minutes

Applicant Presentation: Kevin Pethel, 4031 Wiley Road, stated he agrees with the conditions of planning staff and will make the building presentable with the improvements.

FAVOR: None

OPPOSE: None

Planning and Appeals Board Comments: None

There was a motion to recommend conditional approval of the request to rezone subject property from Residential-I (R-I) to General Business (G-B) as presented with the following conditions:

Conditions

1. The subject property shall be limited to the proposed plumbing and electrical contractor office/warehouse use and the permitted uses within the Neighborhood Business (N-B) zoning district excluding a convenience store, dollar-type store, coin laundry facility, convenience store, tobacco or vaping store, massage parlor or tattoo parlor.
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6. An updated as-built survey/plat of the subject property, indicating existing conditions and all improvements shall be recorded prior to obtaining a Certificate of Occupancy for the future use.

Motion made by Board Member Martin

Motion seconded by Board Member Fleming

Vote – 6 favor, 1 absent (Thompson)

Passed: _____

AN ORDINANCE

No. 2020-

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF GAINESVILLE, GEORGIA, BY CHANGING THE ZONING ON A 1.30± ACRES TRACT LOCATED SOUTHWEST OF THE INTERSECTION OF CROW ROAD AND WHITE SULPHUR ROAD, HAVING ROAD FRONTAGE ON THE NORTH SIDE OF BEVERLY ROAD (A/K/A 2092 CROW ROAD AND 2005 WHITE SULPHUR ROAD) FROM RESIDENTIAL-I (R-I) TO GENERAL BUSINESS, WITH CONDITIONS (G-B-c); REPEALING CONFLICTING ORDINANCES; TO PROVIDE FOR SEVERABILITY; TO PROVIDE FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

BE IT HEREBY ORDAINED BY THE GOVERNING BODY OF THE CITY OF GAINESVILLE, GEORGIA, AS FOLLOWS:

SECTION I.

That from and after the passage of this Ordinance the following described lands shall be zoned and so designated on the Zoning Map of the City of Gainesville as **General Business, with conditions (G-B-c)**:

Conditions

- 1. The subject property shall be limited to the proposed plumbing and electrical contractor office/warehouse use and the permitted uses within the Neighborhood Business (N-B) zoning district excluding a convenience store, dollar-type store, coin laundry facility, convenience store, tobacco or vaping store, massage parlor or tattoo parlor.**
- 2. The exterior walls of the existing metal building or any future building shall be painted similarly to the existing color or an earth tone color. In addition, a minimum 3-foot high brick or stone water table shall be required on the exterior walls facing north, east and south.**
- 3. The existing trees located within the subject property shall remain except for what is only necessary to be removed for the development. If deemed necessary, the required tree/landscape plan shall provide for additional evergreen trees and deciduous trees to be planted to help screen the building, parking area and detention pond from Beverly Road, Crow Road and the adjacent properties. The number, location, spacing, size and type of trees planted shall be subject to the approval of the Director of Community and Economic Development Department.**
- 4. There shall be no freestanding signs permitted fronting Crow Road.**

ORDINANCE NO. 2020-

5. All access point design for the subject property shall require review and approval by the Hall County Public Works Department and the Gainesville Public Works Department Director. All required access/traffic/sidewalk improvements associated with the proposed development shall be constructed at the full expense of the property owner/developer.
6. An updated as-built survey/plat of the subject property, indicating existing conditions and all improvements shall be recorded prior to obtaining a Certificate of Occupancy for the future use.

Legal Description

All that tract or parcel of land lying and being in Land Lot 26 and 27 of the 9th District of the City of Gainesville, Hall County, Georgia, 1.30± acres, and being more particularly described as follows:

TO FIND THE TRUE POINT OF BEGINNING, proceed North 72°45'00" West a distance of 191.76 feet from the centerline intersection of White Sulphur Road and Crow Road to a 1/2" iron pin set and the *TRUE POINT OF BEGINNING*.

From thence, North 72°45'00" West a distance of 85.00 feet; thence proceed North 69°29'00" West a distance of 85.00 feet; thence proceed South 6°39'00" West a distance of 449.00 feet; thence North 59°32'00" East a distance of 150.00 feet; thence North 02°10'00" West a distance of 346.60 feet being the *TRUE POINT OF BEGINNING*.

SECTION II.

All Ordinances and parts of Ordinances in conflict herewith are hereby repealed.

SECTION III.

If any portion of this Ordinance shall be held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect or impair the remaining portions unless it clearly appears that such other parts are wholly and necessarily dependent upon the part held to be invalid or unconstitutional.

SECTION IV.

This Ordinance is enacted as an amendment to the Code of the City of Gainesville, Georgia, and is to be codified as a part of Section 9-1-1-5.

SECTION V.

The effective date of this Ordinance shall be upon approval by the governing body of the City of Gainesville, Georgia.

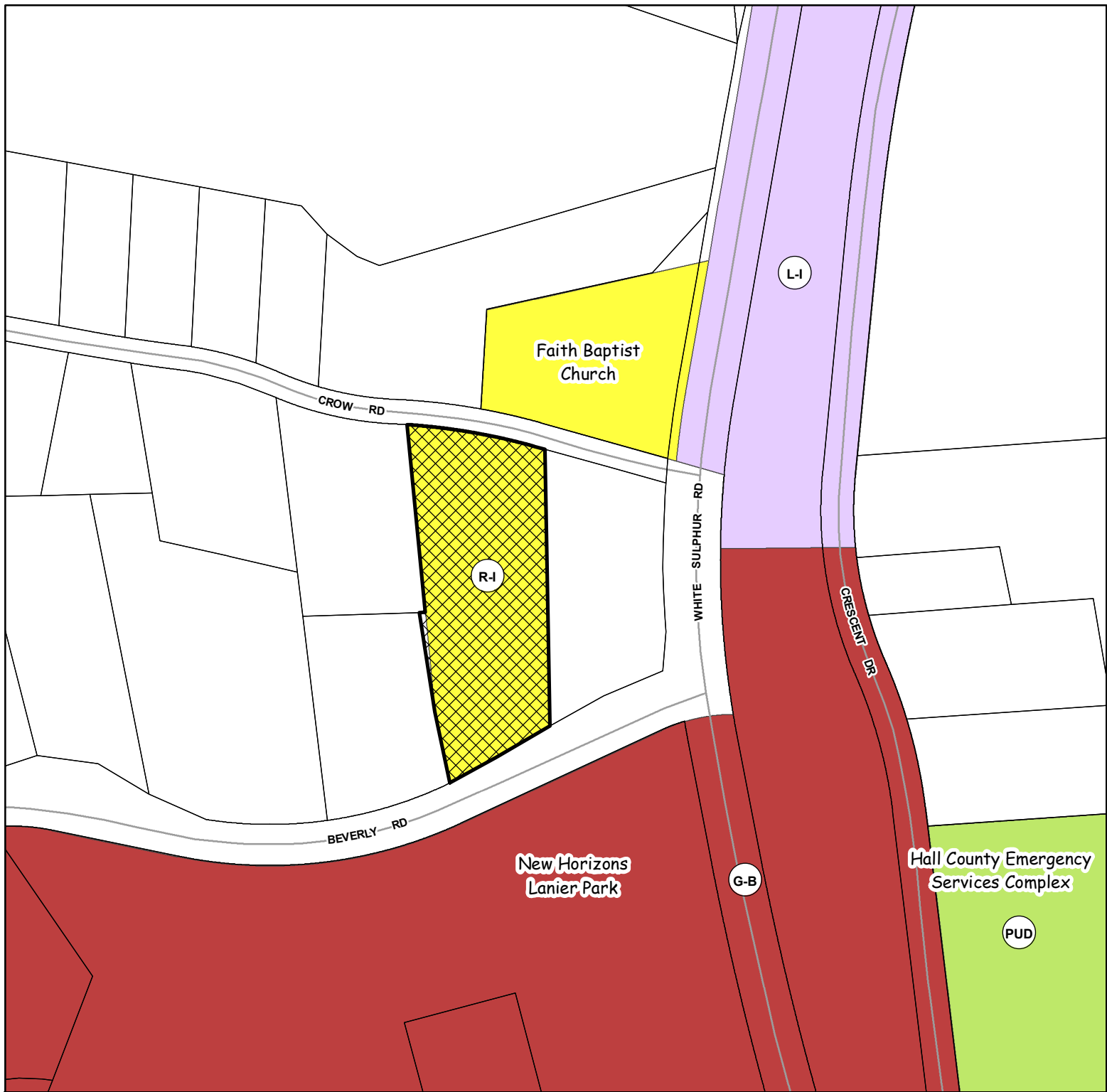
ORDINANCE NO. 2020-

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this ordinance was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk



Applicant:

KEVIN PETHEL

REZONING REQUEST

Request:

Rezone 1.30+/- acres from Residential-I (R-I) to Light Industrial (L-I) for a plumbing and electrical contractor office/warehouse

Subject Property Address:

2092 Crow Road; and
2005 White Sulphur Road

Tax Parcel:

09-124-000-038 (Part)

Meeting Date: 06/09/2020

Map Prepared: 05/13/2020



Subject Property



0 100 200 300 400 Feet

1" = 167'



CITY OF

GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT





Applicant:

KEVIN PETHEL

REZONING REQUEST

Request:

Rezone 1.30+/- acres from Residential-I (R-I) to Light Industrial (L-I) for a plumbing and electrical contractor office/warehouse

Subject Property Address:
2092 Crow Road; and
2005 White Sulphur Road

Tax Parcel:
09-124-000-038 (Part)

Meeting Date: 06/09/2020

Map Prepared: 05/13/2020



Subject Property

Aerial from 2018

0 100 200 300 400 Feet

1" = 167'



CITY OF
GAINESVILLE

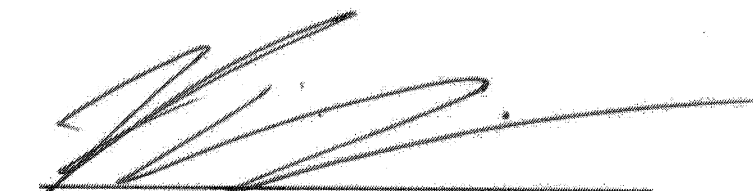
COMMUNITY AND ECONOMIC DEVELOPMENT



Pethel Services LLC
Kevin Pethel
PO Box 907954
Gainesville, GA 30501

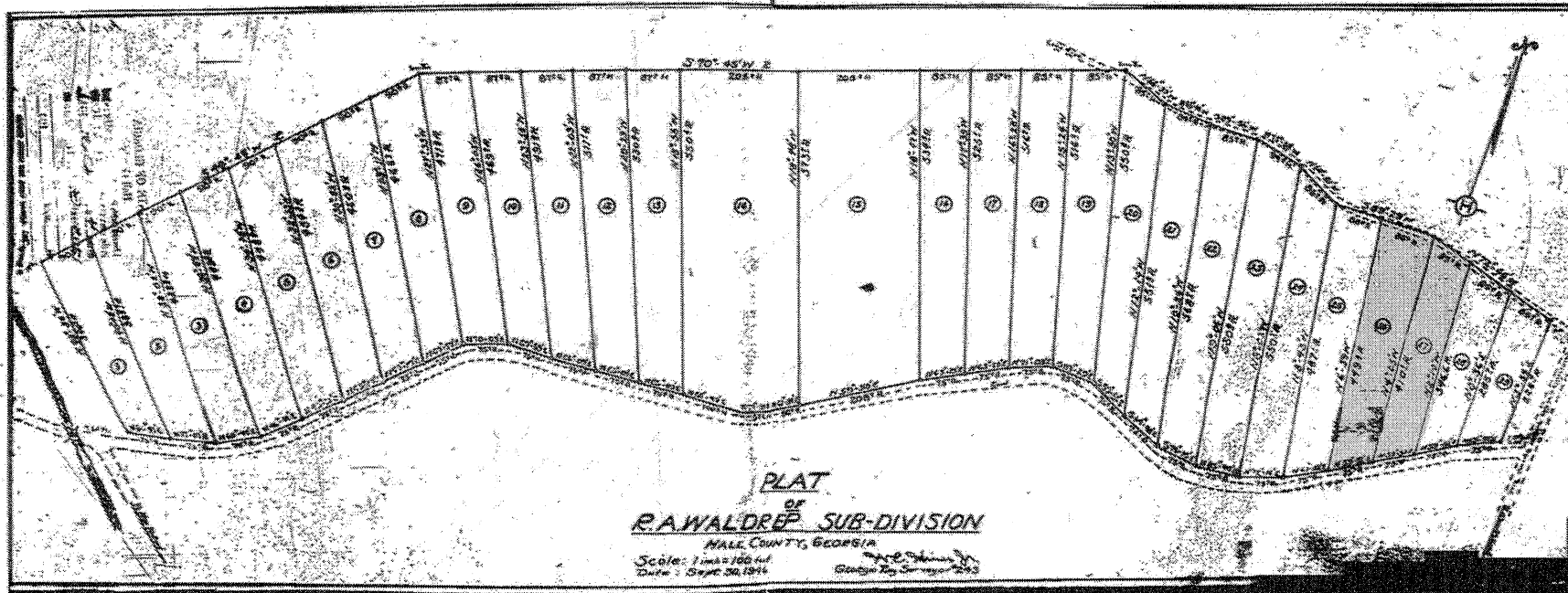
My name is Kevin Pethel and I am the sole proprietor of Pethel Services LLC. I am a licensed electrician and licensed plumber. I started Pethel Services in 2009 and presently employ seven (7) full time employees in my company as well as a part time office assistant. Most of the work that we do is on job sites or service work in homes. The building that I am wanting to purchase will be used to house my office and warehouse for the materials used on the job. We normally work Monday through Friday, but occasionally on Saturdays. I have four (4) company vans, and they will be parked on the premises at night and on weekends. My employees come into the shop in the mornings around 7:30 a.m. and leave by 8:00 a.m. for the work sites to work during the day. Their personal vehicles will be parked at the shop during the work day while they are on the job. The vans will come back to the shop at the end of the work day, which is usually between 5 p.m. to 6:30 p.m., and will be parked until the next work day. Other than employees, the only vehicles coming to the building would be suppliers that deliver materials from electrical and plumbing suppliers.

I do plan to put a fence around the parking area of the building and plan to put a gate at the entrance to the parking lot. There are trees surrounding the building at this time and I do not plan to cut any trees or remove this barrier between the building and other adjoining properties. There is presently a dusk to dawn light on the power pole next to the building and I plan to leave the light there at this time. I do not plan to put a sign on the building or on the road, because my company is not open to the public and I do not need to display a sign for my business. I do plan to modify the building by putting in two (2) roll up garage doors on the side of the building to have access to the warehouse for materials used on our jobs.



Kevin D. Pethel
Pethel Services LLC

February 21, 2020



Recorded Oct 29 1914 R. A. Waldrep





CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/6/2020

Presenter: Abb Hayes

Item of Business: **Public Hearing Item: July 21, 2020 Council Meeting**
Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B). **Ward Number: Four.** Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037. **Request: 20 multi-family apartments.**

Meeting Date: 7/16/2020

Purpose of Request:

To provide an overview of the following special use request as presented at the June 9, 2020 Planning and Appeals Board Meeting:

The applicant is requesting special use approval to develop 20 townhome style apartments within two, 2-story buildings. The property consists of seven lots to be combined which contain two older rental homes that will be demolished. The apartment units will be approximately 1,137 square feet in size, with two bedrooms and two baths. Surface level parking will be provided and two driveways are proposed along Washington Street. Surrounding uses include single family rental homes, office, retail commercial strip center and a bank.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Staff and PAB recommended approval with five conditions. See PAB Recommendation Report for details and excerpts from the meeting minutes.

SAMPLE MOTIONS

Approval of Resolution ZR-2020-

I move to approve the resolution to allow 20 multi-family apartments within Neighborhood Business (N-B) zoning district with five conditions as presented.

Denial of the Request:

I move to deny the request.

Department Director:

Rusty Ligon

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description		Type
	Legal Ad	Legal Ad
	PAB Recommendation Report	Report
	Proposed Resolution	Resolution
	Front Elevation	Attachments/Exhibits
	Floor Plan	Attachments/Exhibits
	Location Maps	Backup Material
	Narrative	Backup Material
	Survey	Backup Material
	Site Plan	Backup Material

LEGAL AD
Gainesville City Council

Publish Saturday, July 4, 2020
THE TIMES

**NOTICE OF PUBLIC HEARING ON PROPOSED
AMENDMENTS TO THE GAINESVILLE ZONING MAP**

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- 1) Request from the **City of Gainesville** to annex a 4.4± acres tract located at the west side of Athens Highway and Smallwood Road to include property located on the north, south and west side of Smallwood Road (a/k/a **0 and 2221 Smallwood Road; 2306 and 2312 Athens Highway**) and to establish zoning as Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-032-000-002 (Part); 15-032-000-113; 15-032-000-125
Request: Business Park
- 2) Request from the **City of Gainesville** to rezone a 1,320± acres tract located between Athens Highway and Candler Highway, having road frontage on Monroe Drive, Allen Creek Road, Fulenwider Road and May Drive (a/k/a **1701 Fulenwider Road, SW**) from Residential-I-A (R-I-A) and Heavy Industrial (H-I) to Planned Unit Development (P-U-D).
Ward Number: Three
Tax Parcel Number(s): 15-023-000-167 (Part)
Request: Business Park
- 3) Request from **Kevin Pethel** to rezone a 1.30± acres tract located southwest of the intersection of Crow Road and White Sulphur Road, having road frontage on the north side of Beverly Road (a/k/a **2092 Crow Road and 2005 White Sulphur Road**) from Residential-I (R-I) to Light Industrial (L-I).
Ward Number: Two
Tax Parcel Number(s): 09-124-000-038 (Part)
Request: Plumbing and electrical contractor office/warehouse
- 4) Request from **Juan Luna** for a special use on a 1.66± acres tract located on the southwest side of the intersection of Washington Street and West Avenue, east of John Morrow Jr. Parkway (a/k/a **0, 903, 915, 919, 921, 925 and 927 Washington Street, SW**), having a zoning of Neighborhood Business (N-B).
Ward Number: Four
Tax Parcel Number(s): 01-046-001-024A, 025, 026, 027, 028, 029 and 037
Request: 20 multi-family apartments

Additional information is available from the Community and Economic Development Department, Planning Division, by calling 770-531-6570.

NOTE: In accordance with Georgia law, anyone who wishes to express opposition to the proposed zoning action, and has made, within two years immediately preceding the filing of the proposed zoning action, campaign contributions aggregating \$250 or more to a local government official who will consider the application, shall file a disclosure of contribution(s) with the Planning Division at least five (5) days prior to the first reading of the proposed zoning action by the City Council. (OCGA § 36-67A-3.3 {c})

**GAINESVILLE PLANNING and APPEALS BOARD
RECOMMENDATION**

Applicant and Property Owner..... Juan Luna
Location..... 0, 903, 915, 919, 921, 925 and 927
Washington Street, SW
Request..... Special use within N-B zoning
Total Acres 1.66± acres
Ward..... Four
Proposed Use..... 20 multi-family apartments
Planning Division Staff Recommendation **Approval, with conditions**
Planning & Appeals Board Recommendation..... **Approval, with conditions**
Date..... June 9, 2020

▪ **Applicant's Proposal and Background Information**

The applicant is requesting special use approval to develop 20 townhome style apartments within Neighborhood Business (N-B) zoning. The property is comprised of an assemblage of seven lots that will be combined and the two existing rental homes will be demolished. A total of two, 2-story buildings are proposed consisting of 16 units and 4 units. Each apartment unit will be approximately 1,137 square feet in size, consisting of two bedrooms and two baths. Surface level parking will be provided and two driveways are proposed from Washington Street. The exterior of the proposed structures will include a mixture of brick, stone and cementitious siding. Other details include 6:12 pitched roofs with architectural shingles and the open stairwells will provide decorative gated entrances. Stormwater detention will be provided behind the larger apartment building adjacent to the existing stream buffer.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Rental homes; Retail strip center, Bank	Neighborhood Business (N-B)
South	Rental home, Washington Street Commons Shopping Center	Residential-II (R-II) Reginal Business (R-B)
East	Rental homes, Small retail shop	Neighborhood Business (N-B)
West	Office building	Neighborhood Business (N-B)

▪ **Other Departmental Comments**

There were no departmental comments for this request.

▪ **Zoning History**

The following zoning actions have taken place in the immediate area during the last ten years:

2018 – A request by KRM 2016, LLC for a special use within Neighborhood Business (N-B) zoning on a 0.82± acre tract located at 520 Washington Street, NW was conditionally approved for five duplex apartments.

▪ **Staff Analysis**

(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?

The proposed residential use appears to be supported by the mixture of surrounding uses and zonings. The surrounding uses include residential, office, retail and a bank with zonings of Residential-II (R-II), Neighborhood Business (N-B) and Regional Business (R-B).

(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?

The proposed use should have minimal affects to the surrounding and nearby properties as the property has historically been used for residential purposes containing as many as seven rental homes. Parking, stormwater detention and landscaping will be provided that will improve the function and aesthetics of the property. Traffic generated from the property will increase due to the additional units but the five existing driveways on Washington Street will be reduced to two driveways that meet code to better handle access.

(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?

The Gainesville 2030 Future Development Map places the subject property within the *Mixed-Use General* land use category. This category includes areas containing or planned for a mixture of land uses including office, neighborhood retail, and residential which are consistent with the proposal.

According to the Character Area map for the City of Gainesville, the subject property is located within the *Longwood Cove* Character Area. Future development or redevelopment of Longwood Cove must consider the presence of the lake and extend its character further inland. Other aging strip commercial centers like Washington Square and Gainesville West could be redeveloped as mixed-use with mixed-income residential to expand the city's quality affordable housing inventory. However, taming John Morrow Parkway traffic and increasing walkability are essential for any successful residential development. Redeveloping underutilized land and buildings may enable commercial / residential growth. Land uses allowed in Longwood Cove are medium-density residential, multi-family residential, mixed-use, commercial, public / institutional, and parks / recreation / conservation.

(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?

The property is zoned Neighborhood Business (N-B) which is intended for neighborhood scale commercial and office uses, but allows residential where appropriate as a special use. The property has historically functioned as residential and could support additional housing, light office or light commercial given the surrounding properties. The additional housing proposed could provide for quality housing close to downtown that is within density range at 12 dwelling units per acre.

(5) Will the proposed use cause an excessive or burdensome use of public facilities or services, including but not limited to streets, schools, water or sewer utilities, and police or fire protection?

City water, sewer and public safety services are currently provided to the property. Gainesville Fire Station #1 is located off of Queen City Parkway and is approximately 1.1± miles from the subject property.

The proposal will slightly increase ingress and egress traffic movements along Washington Street which provides direct connection to downtown Gainesville from the Lakeshore Mall area. This segment of Washington Street consists of two travel lanes with a center turn lane and sidewalks on both sides of the street. According to the Institute of Transportation Engineers (ITE) Trip Generation Handbook (9th Edition), the duplex apartments on average could generate 133± new trips per day, 11± A.M. and 14± P.M. peak hour trips.

The proposed use should have minimal impacts on the Gainesville City School System given there are 20 residential units proposed. Nearby larger residential developments such as the Towne Creek Apartments have children that attend City schools.

(6) Is the proposed use supported by new or changing conditions not anticipated by the Comprehensive Plan or reflected in the existing zoning on the property or surrounding properties?

The Comprehensive Plan identifies the need for quality housing within the downtown area. The subject property is conducive for residential purposes as it is situated within an area that is walkable to office, retail, restaurant and public uses. Development along the Washington Street corridor has consisted of small specialty shops, professional offices, as well as multi-family residential and limited single-family residential.

(7) Does the proposed use reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property?

Based on the Comprehensive Plan and the adjacent mixture of uses, the proposed special use request with the recommended conditions appears to reflect a reasonable balance between the promotion of the public health, safety, morality, or general welfare and the right to unrestricted use of property.

▪ **Additional Special Use Criteria**

(1) The type of street providing access to the subject property is adequate to serve the proposed Special Use.

The existing street appears adequate to serve the proposed development. Washington Street serves as a connector road between the downtown central business district and the Lakeshore Mall/Dawsonville Highway regional shopping district. A traffic signal is located adjacent to the property at the intersection of Washington Street and West Avenue. Improved access will be provided for the development and the number of curb cuts will be reduced from five existing driveways to two proposed driveways.

(2) Access into and out of the property adequately provides for traffic and pedestrian safety, the anticipated volume of traffic flow, and access by emergency vehicles.

The applicant's concept plan appears to provide for sufficient access for pedestrian safety, parking and access for emergency vehicles. Sidewalks are currently present and will be provided as part of the development.

(3) Public facilities such as schools, water or sewer utilities, and police or fire protection are adequate to serve the Special Use.

The existing public facilities are adequate to serve the proposed use given its small scale.

- (4) **Refuse, service, parking and loading areas on the property are located and screened to protect other properties in the area from such adverse effects as noise, light, glare or odor.**

The proposed residential use is less intense than some of the neighboring uses. The development will be required to provide for the needed parking and landscape to reduce any impacts on adjacent properties. An enclosed dumpster will be provided for solid waste.

- (5) **The hours and manner of operation of the Special Use have no adverse effects on other properties in the area.**

The proposal is for residential apartments which by nature are considered less intense than some office/commercial uses. The apartment units will be occupied throughout all hours of the day similar to the existing residential uses and should have little to no adverse effects on nearby properties.

- (6) **The height, size and location of the buildings or other structures proposed on the property are compatible with the height, size or location of buildings or other structures on neighboring properties.**

The apartment units are two stories and the size and location of the proposed structures appear consistent with other structures located along Washington Street which include a variety of residential, office, semi-public and commercial uses.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this Special Use request based on the Comprehensive Plan and the adjacent mixture of uses.

Conditions

1. **All of the existing structures shall be demolished and removed from the subject property.**
2. **The proposed townhome style apartments shall be generally consistent with the standards depicted on the architectural elevations and pictures provided with this special use application to include a mixture of exterior brick, stone cementitious siding materials, decorative gated entrances and minimum 6:12 pitched roof.**
3. **The owner/developer shall screen the proposed stormwater detention pond, dumpster pad and the rear and sides of the 4-unit apartment building with a mixture of evergreen trees. The location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**
4. **All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner. As determined by the Public Works Director, the existing curb and sidewalk shall be repaired or replaced along Washington Street and West Avenue in front of the development.**
5. **An updated as-built boundary survey/plat of the subject property, indicating the existing stormwater easement and all improvements required for the proposed use, shall be recorded prior to obtaining a Certificate of Occupancy.**

Excerpts from the June 9, 2020 PAB Meeting Minutes

Applicant Presentation: Jack Bailey, 2419 Island Drive, stated he is representing the owner Juan Luna as his architect and also at the meeting is Attorney Jim Walters representing the owner. He stated both of these gentlemen are available for any questions. Mr. Bailey stated the facts and project has been carefully presented. Also stated the owner wants to do something other than just another apartment project but with the look of townhomes. He said it would be done with varying the materials, large areas for landscaping and thinks it will be a project everyone can be proud of. Mr. Bailey stated he will answer any questions and the owner is agreeable to the conditions presented.

FAVOR: None

OPPOSE: None

Planning and Appeals Board Comments: None

There was a motion to recommend conditional approval of the special use request to allow 20 multi-family apartments within Neighborhood Business (N-B) zoning as presented with the following conditions:

Conditions

1. All of the existing structures shall be demolished and removed from the subject property.
2. The proposed townhome style apartments shall be generally consistent with the standards depicted on the architectural elevations and pictures provided with this special use application to include a mixture of exterior brick, stone cementitious siding materials, decorative gated entrances and minimum 6:12 pitched roof.
3. The owner/developer shall screen the proposed stormwater detention pond, dumpster pad and the rear and sides of the 4-unit apartment building with a mixture of evergreen trees. The location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.
4. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access / traffic / sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner. As determined by the Public Works Director, the existing curb and sidewalk shall be repaired or replaced along Washington Street and West Avenue in front of the development.
5. An updated as-built boundary survey/plat of the subject property, indicating the existing stormwater easement and all improvements required for the proposed use, shall be recorded prior to obtaining a Certificate of Occupancy.

Motion made by Board Member Martin

Motion seconded by Board Member Delgado

Vote – 6 favor, 1 absent (Thompson)

RESOLUTION ZR-2020-____

**APPROVAL OF A REQUEST FOR A SPECIAL USE
SUBJECT TO APPROVAL BY THE CITY COUNCIL**

WHEREAS, under **Chapter 9-6-2 N-B Neighborhood Business District** of the Unified Land Development Code of the City of Gainesville, Georgia; **Section 9-6-2-2 Permitted and Special Uses** allows for *multi-family apartments* subject to City Council approval after review and recommendation by the Gainesville Planning and Appeals Board; and

WHEREAS, an application has been received from **Juan Luna** to allow *20 multi-family apartments* within a Neighborhood Business (N-B) zoning district identified as follows:

**01-046-001-024A, 025, 026, 027, 028, 029 and 037
0, 903, 915, 919, 921, 925 and 927 Washington Street, SW
Ward Four**

WHEREAS, the application has been evaluated under any criteria specified in the aforesaid section; and

WHEREAS, the **Gainesville Planning and Appeals Board**, during its public hearing held on **June 9, 2020**, reviewed the application and recommended **conditional approval** of said request with the following conditions:

Conditions

- 1. All of the existing structures shall be demolished and removed from the subject property.**
- 2. The proposed townhome style apartments shall be generally consistent with the standards depicted on the architectural elevations and pictures provided with this special use application to include a mixture of exterior brick, stone cementitious siding materials, decorative gated entrances and minimum 6:12 pitched roof.**
- 3. The owner/developer shall screen the proposed stormwater detention pond, dumpster pad and the rear and sides of the 4-unit apartment building with a mixture of evergreen trees. The location, spacing, size and type of trees planted shall be subject to the approval of the Director of the Community and Economic Development Department.**
- 4. All access point design for the subject property shall be submitted for review by the Gainesville Public Works Director. The approval of said design shall be required prior to issuance of a building permit. All required access/traffic/sidewalk improvements associated with the proposed development shall be at the full expense of the developer/property owner. As determined by the Public Works Director, the existing curb and sidewalk shall be repaired or replaced along Washington Street and West Avenue in front of the development.**
- 5. An updated as-built boundary survey/plat of the subject property, indicating the existing stormwater easement and all improvements required for the proposed use, shall be recorded prior to obtaining a Certificate of Occupancy.**

RESOLUTION ZR-2020-____

NOW, THEREFORE, BE IT RESOLVED THAT the governing body for the City of Gainesville hereby approves the applicant's request for a special use permit as stated above and subject to all the terms of the Unified Land Development Code.

Adopted this _____ day of _____, 2020.

C. Danny Dunagan, Jr., Mayor

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

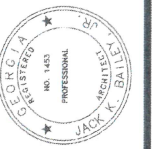
ATTEST:

Denise O. Jordan, City Clerk



FRONT ELEVATION

1/8" = 1'-0"



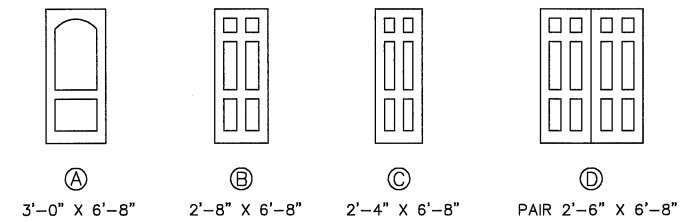
Architects
Gainesville
Georgia 30601
770 534 0612

Bailey Associates

WASHINGTON MANOR
GAINESVILLE, GEORGIA

Project No 19040
Drawn By JKB
Checked By
Date APR. 24, 2020
Revisions
MAY 4, 2020

A2
OF 2



DOORS

FINISHES

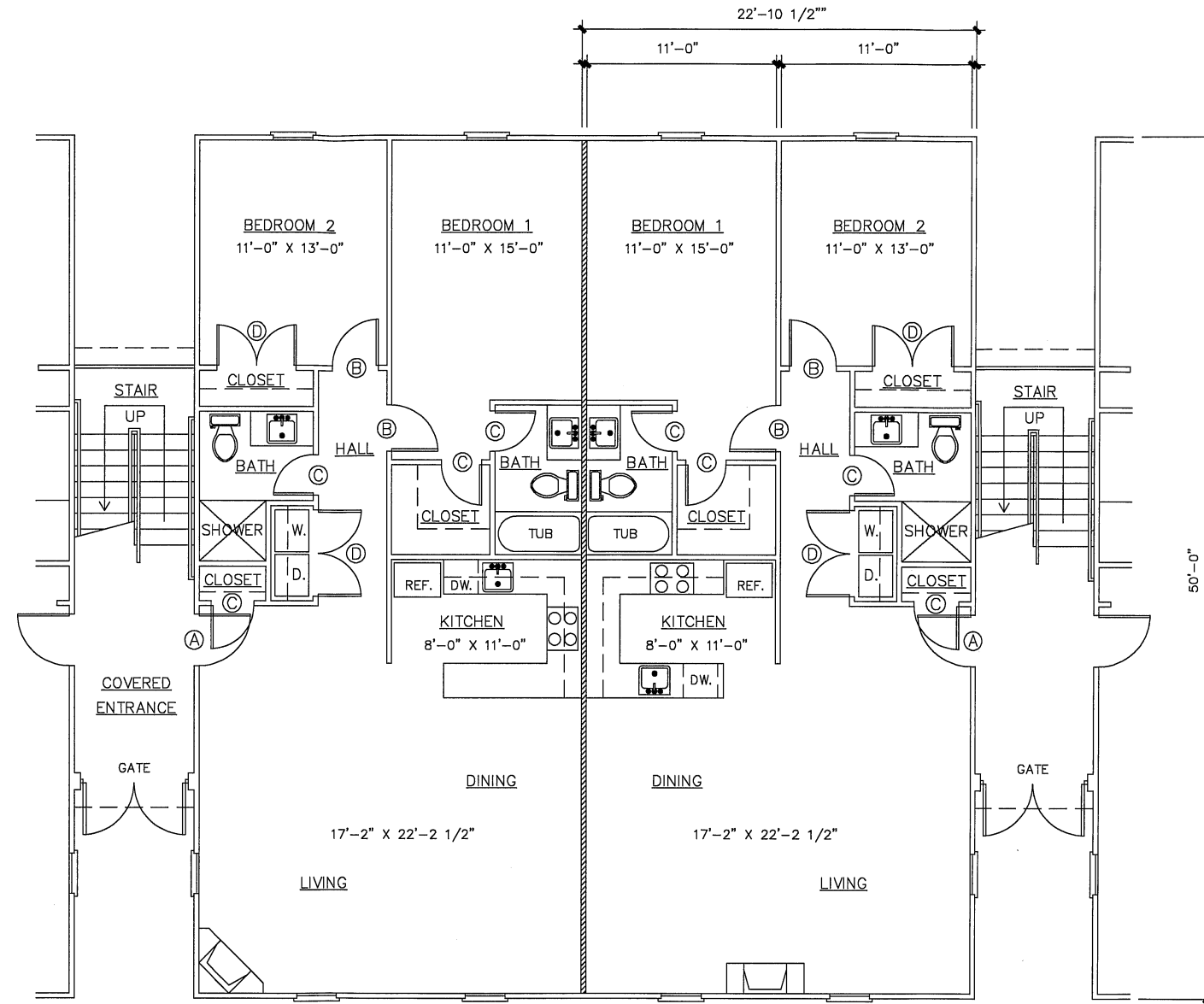
FLOORS

WALLS GYPSUM BOARD, PAINTED

CEILINGS GYPSUM BOARD, PAINTED

CABINETS

ALL CABINETS TO BE WOOD, STAINED
WITH LAMINATED GRANITE TOPS



UNIT A

UNIT B

FLOOR PLAN

1/4" = 1'-0"



Architects
Gainesville
Georgia 30601
770 534 0612

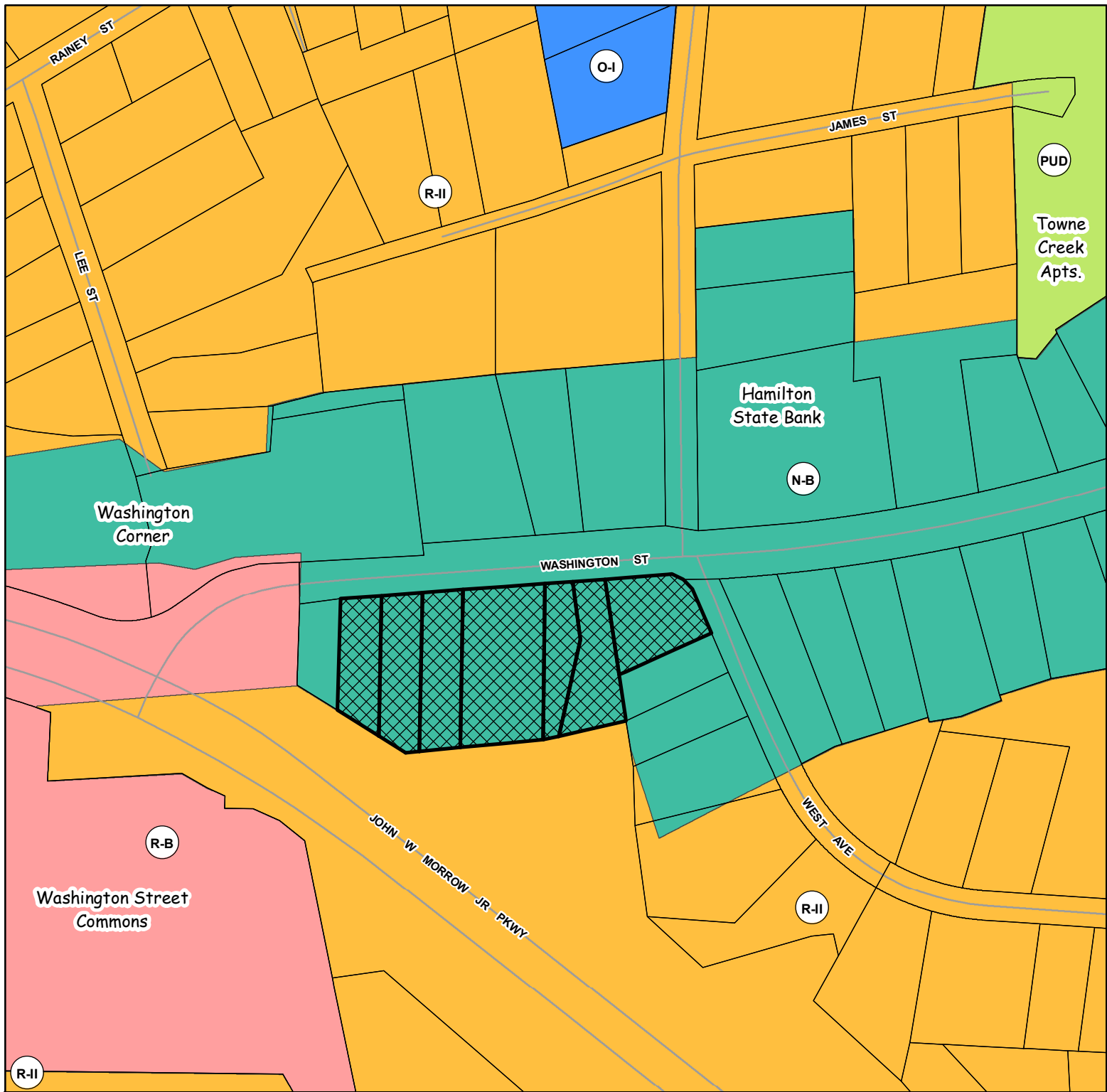
Bailey Associates

WASHINGTON MANOR
GAINESVILLE, GEORGIA

Project No 19040
Drawn By JKB
Checked By
Date JAN. 14, 2020
Revisions
MAY 4, 2020

A1

OF 2



Applicant:

JUAN LUNA

SPECIAL USE REQUEST

Request:

Special use for 20 multi-family apartments on a 1.66+/- acres tract within Neighborhood Business (N-B) zoning district

Subject Property Address:

0, 903, 915, 919, 925 and
927 Washington Street, SW

Tax Parcel:

01-046-001-024A, 025, 026,
027, 028, 029 and 037

Meeting Date: 06/09/2020

Map Prepared: 05/13/2020



Subject Property



0 100 200 300 400 Feet

1" = 167'



CITY OF

GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT





Applicant:

JUAN LUNA

SPECIAL USE REQUEST

Request:

Special use for 20 multi-family apartments on a 1.66+/- acres tract within Neighborhood Business (N-B) zoning district

Subject Property Address:

0, 903, 915, 919, 925 and
927 Washington Street, SW

Tax Parcel:

01-046-001-024A, 025, 026,
027, 028, 029 and 037

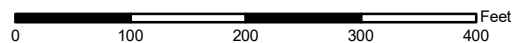
Meeting Date: 06/09/2020

Map Prepared: 05/13/2020



Subject Property

Aerial from 2018



1" = 167'



CITY OF

GAINESVILLE

COMMUNITY AND ECONOMIC DEVELOPMENT



REQUEST FOR SPECIAL USE PERMIT

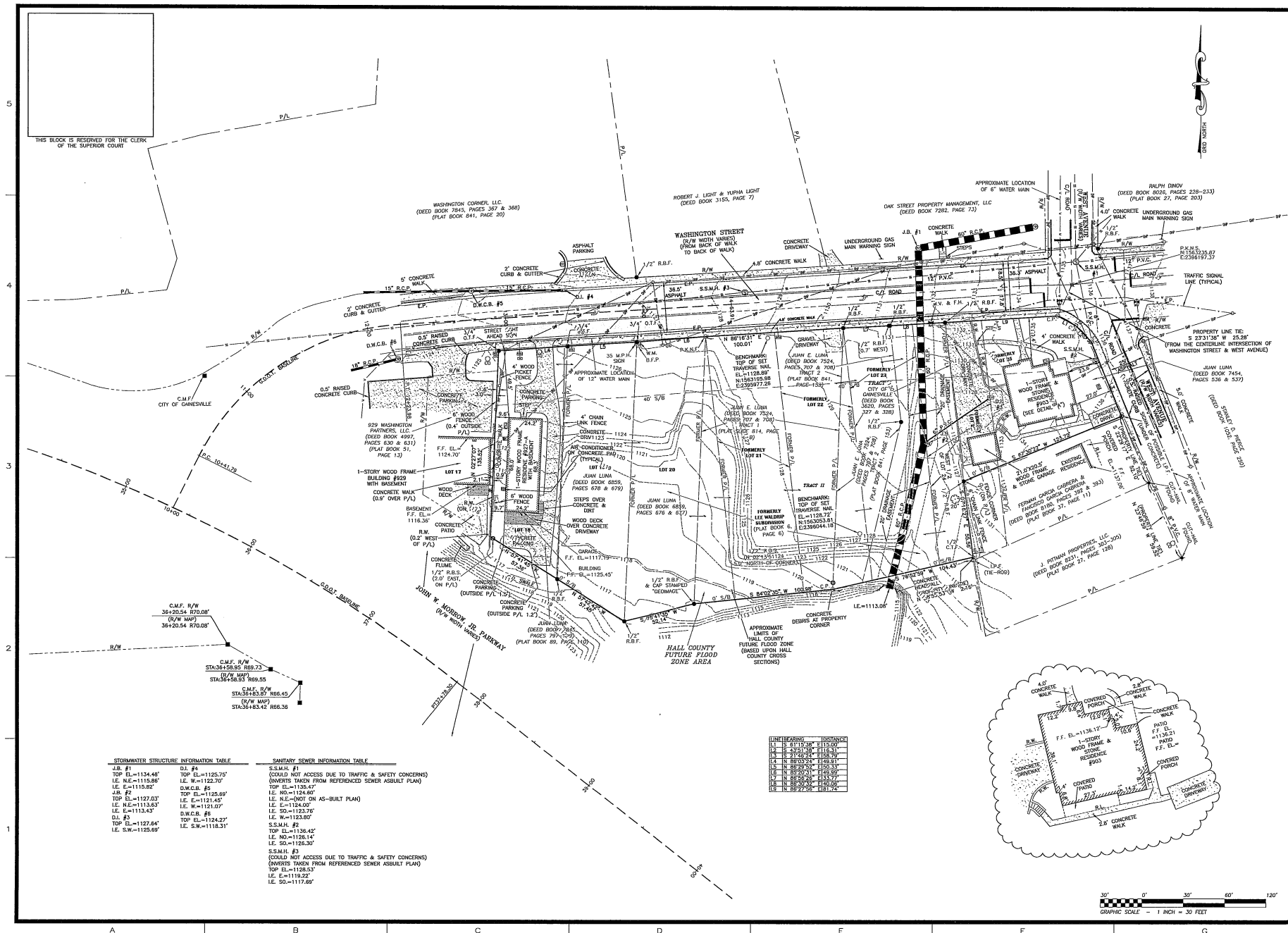
NARRATIVE

WASHINGTON MANOR

WASHINGTON STREET, GAINESVILLE, GEORGIA

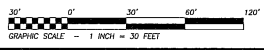
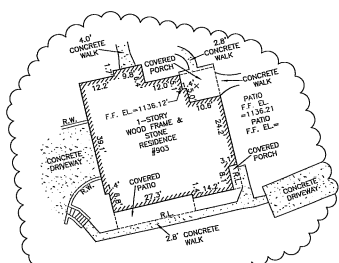
April 24, 2020

This project consists of 20 new apartments on a 1.66 acre site. The property has most recently been occupied by rental homes. This proposal includes an assemblage of 7 parcels. The two existing houses will be demolished and replaced with townhome style apartments. The apartments will be marketed toward young couples and college students. The rent is anticipated to be \$1,400.00 per month. The apartments are on one level in two story buildings. Each apartment is 1,137 square feet. Total area for each floor is 11,370 square feet. Total area for two floors is 22,740 square feet. Apartments will be two bedrooms with two baths. The apartment buildings are designed to provide architectural appeal by breaking up the roof lines and by using a combination of brick, stone and siding exterior materials. Parking will be provided to meet existing codes. Landscape areas will be included in the site plan.



STORMWATER STRUCTURE INFORMATION TABLE			
J.B. #1	D.I. #4	S.S.M.H. #1	
TOP EL.=1134.48'	TOP EL.=1125.75'	(COULD NOT ACCESS DUE TO TRAFFIC & SAFETY CONCERNS)	
I.E. N.E.=1115.88'	I.E. W.=1122.75'	(OWNERS TAKEN FROM REFERENCED SEWER AS-BUILT PLAN)	
I.E. E.=1115.82'	D.W.C.B. #5	TOP EL.=1125.47'	
J.B. #2	TOP EL.=1125.69'	I.E. N.E.=1124.60'	
TOP EL.=1127.03'	I.E. E.=1121.45'	I.E. N.E.=1124.00'	
I.E. N.E.=1113.43'	I.E. W.=1121.07'	I.E. S.O.=1123.76'	
I.E. E.=1113.43'	D.W.C.B. #6	I.E. W.=1123.80'	
D.I. #1	TOP EL.=1127.64'	S.S.M.H. #2	
TOP EL.=1127.64'	I.E. S.W.=1118.31'	TOP EL.=1136.42'	
I.E. S.W.=1125.09'		I.E. N.O.=1126.14'	
		I.E. S.O.=1126.30'	
		S.S.M.H. #3	
		(COULD NOT ACCESS DUE TO TRAFFIC & SAFETY CONCERNS)	
		(OWNERS TAKEN FROM REFERENCED SEWER AS-BUILT PLAN)	
		TOP EL.=1128.53'	
		I.E. E.=1119.22'	
		I.E. S.O.=1117.89'	

LINE/BEARING	DISTANCE
1. N 81°15'38" E	112.00'
2. N 81°15'38" E	112.00'
3. S 27°40'24" W	126.79'
4. S 27°40'24" W	126.79'
5. S 27°40'24" W	126.79'
6. S 27°40'24" W	126.79'
7. S 27°40'24" W	126.79'
8. S 27°40'24" W	126.79'
9. S 27°40'24" W	126.79'
10. S 27°40'24" W	126.79'



REGISTERED PROFESSIONAL LAND SURVEYORS

PATTON LAND SURVEYING, LLC

P.O. BOX 266
GAINESVILLE, GA 30603
PHONE: (770) 532-6492
FAX: (770) 532-1995
www.pattonsurveying.com

COMPUTATIONS BY: C.M.K.
DRAWN BY: R.N. & J.L.
CHECKED BY: C.M.P.

COMMISSION & TOPOGRAPHIC SURVEY FOR:

JUAN LUNA

- LOCATED IN -

LAND LOT 154
9TH LAND DISTRICT
HALL COUNTY, GEORGIA

REVISIONS

NO.	DATE	DESCRIPTION

SHEET NUMBER:

2 of 2

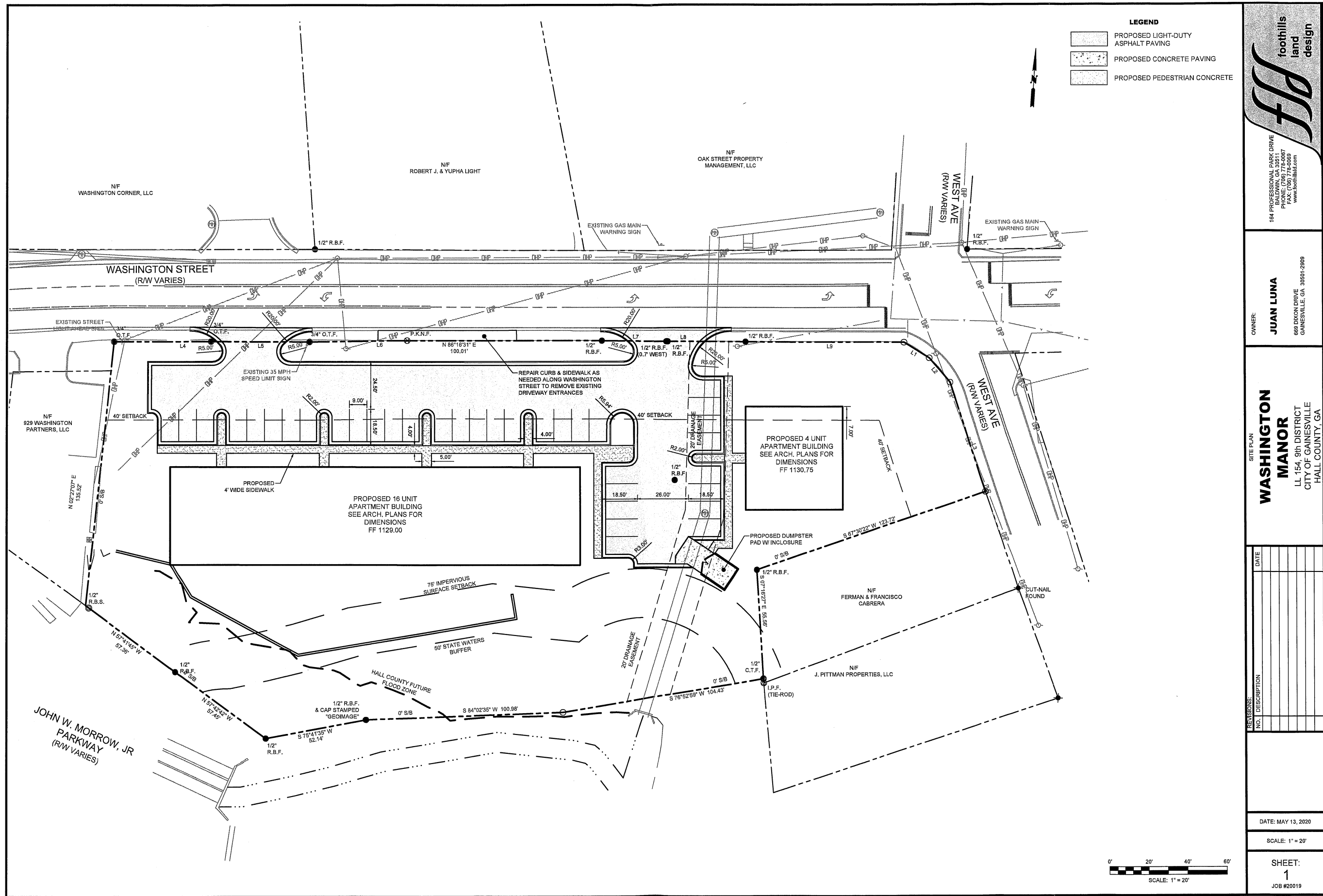
SCALE: 1" = 30'

SURVEY DATE: 04/13/2020

PLAT DATE: 04/13/2020

20-037.dwg

JN. 20-037



foothills
land
design

184 PROFESSIONAL PARK DRIVE
SUITE 100
GAINESVILLE, GA 30601-2009
PHONE: (706) 778-0087
FAX: (706) 778-0089
www.foothillsland.com

OWNER:
JUAN LUNA
689 DIXON DRIVE
GAINESVILLE, GA 30601-2009

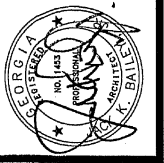
SITE PLAN
**WASHINGTON
MANOR**
LL 154, 8th DISTRICT
CITY OF GAINESVILLE
HALL COUNTY, GA

REVISIONS:	NO.	DESCRIPTION	DATE

DATE: MAY 13, 2020

SCALE: 1" = 20'

SHEET:
1
JOB #20019



Architects
Gainesville, Georgia 30601
770.534.0812

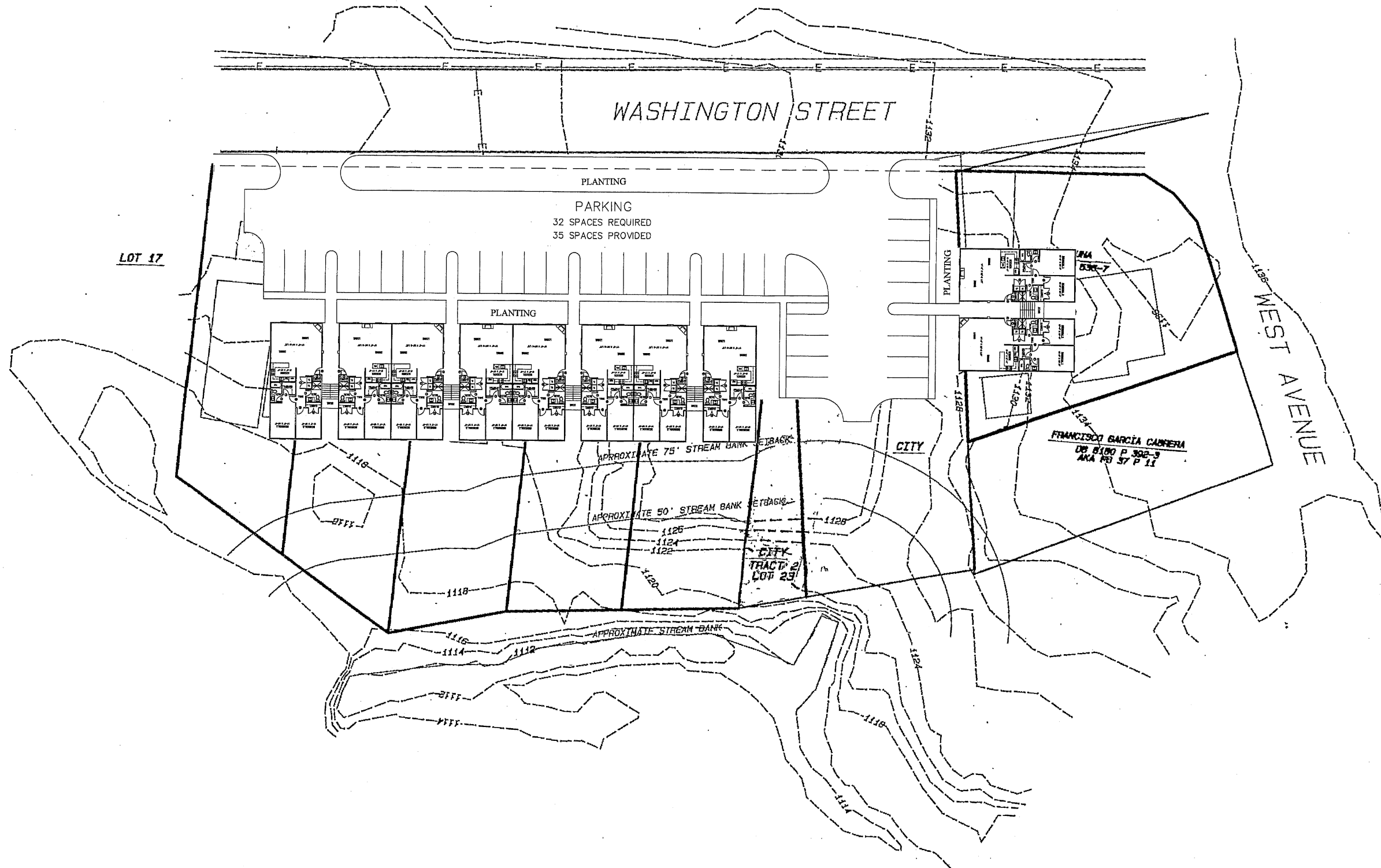
Bailey Associates

WASHINGTON MANOR

GAINESVILLE, GEORGIA

Project No 19040
Drawn By JKB
Checked By
Date JAN. 14, 2020
Revisions

C1
OF 1



CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 6/5/2020
Presenter: Danny Dunagan
Item of Business: Appointment(s): Convention and Visitors Bureau Advisory Board
Meeting Date: 7/16/2020

Purpose of Request:

The purpose of this request is to address a vacant position previously held by Tharpe Ward.

History/Background:

Members of the Authority serve two-year terms. They follow the guidelines set forth in state legislation as well as the City Charter and Code of Ordinances.

Facts & Issues for Consideration:

Vittoria Bell has confirmed a willingness to serve on the board. The verification process has been completed and all appear to be in order.

Department Recommendation:

To consider the nomination as submitted by the Mayor.

Department Director:

Danny Dunagan

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ CVB Members	Backup Material
☐ Tharpe Ward Resignation Letter	Backup Material

GAINESVILLE CONVENTION VISITORS BUREAU AUTHORITY

POST	LAST NAME	FIRST NAME	APPOINTED	REAPPOINTED	EXPIRES
Hotel/Motel Industry Holiday Inn Express (Paragon Hotel Co.)	Marsico	Brad	6/16/2020		6/30/2022
Hotel/Motel Industry (Chairman)	Labriola	Richard	7/1/2014	9/19/2017 6/18/2019	6/30/2021
Restaurant/Food Establishment (Johnny's BBQ)	Ward Resigned/Vacant	Tharpe	5/5/15 UE	9/19/2017 6/18/2019	6/30/2021
Attractions Industry (Brenau History Center)	Kyle	Glen	7/19/2016	6/19/2018 6/16/2020	6/30/2022
Attractions Industry (Ramsey Conference Ctr)	Pruitt	Jeff	6/18/2019		6/30/2021
Virtue of Position	Mattison	Kate	7/1/2014		Indefinite
Virtue of Position	Lackey	Bryan	11/30/2015		Indefinite

TERM: Two-year

CONTACT: Regina Dyer, CVB Manager

NOTES: Est. with HB 1132 executed by the Governor on April 29, 2014
Members eligible to succeed themselves for a maximum of three consecutive terms

UPDATED: Thursday, June 18, 2020

From: [Regina Dyer](#)
To: [Denise Jordan](#); [Alisa Grayson](#)
Subject: FW: CVB Board appointment
Date: Thursday, February 20, 2020 3:45:43 PM

[Letter of resignation from Tharpe, see below](#)

From: tharpe
Sent: Wednesday, February 19, 2020 11:49 AM
To: Regina Dyer
Subject: Re: CVB Board appointment

CAUTION:*This email originated from outside the City of Gainesville networks. Be aware of phishing, and remember: CoG DoIT will never ask for your password or other personal information in email. Use caution with attachments or click links if you are not sure about it.*****

Hey Regina thank for understanding our recent turn in events. This is my letter of resignation from the Gainesville CVB board .I have enjoyed my time spent and hope I can help you in the near future maybe with some volunteer work. You have really done a great job with the board showing so much compassion toward your work and for gainesville.keep it up Thanks Tharpe remember the BBQ district

-----Original Message-----

From: Regina Dyer <rdyer@gainesville.org>
To: 'tharpe'
Sent: Thu, Feb 13, 2020 1:51 pm
Subject: CVB Board appointment

Hi Tharpe, you've been in our thoughts and prayers and hoping that things are okay for you all. I know when we spoke at the board meeting you graciously remained until we could find a replacement. I just got word from Danny that we'll need to just have you email a letter of resignation from the Gainesville CVB Board, although you will be greatly missed, we know that you have lots of other things happening in your life. You are always welcome at any time to take part in whatever we are working on. Thank you again Tharpe, if you have any questions, don't hesitate to ask.
Regina

Regina Dyer
CVB Manager
Gainesville Convention & Visitors Bureau

📞 | 770-531-2664
📞 | 678-780-7865
✉ | rdyer@gainesville.org
@ ExploreGainesvilleGA

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/10/2020
Presenter: Danny Dunagan
Item of Business: Appointment(s): Housing Authority
Meeting Date: 7/16/2020

Purpose of Request:

The purpose of this request is to address an upcoming expiring term.

History/Background:

The Housing Authority follows the guidelines within Georgia Code (Section 8-3-50) as well as the City Charter and the City Code of Ordinances. Appointees serve a five-year term.

Facts & Issues for Consideration:

Faron Thompson is being considered for reappointment. The verification process has been completed and all appears to be in order.

Department Recommendation:

To consider the nomination as submitted by the Mayor.

Department Director:

Danny Dunagan

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
 Housing Authority Members	Backup Material
 Housing Authority Attendance Report	Backup Material

HOUSING AUTHORITY

POST	LAST NAME	FIRST NAME	APPOINTED	REAPPOINTED	EXPIRES
Commissioner	Thompson	Faron	8/16/2011 UE	8/18/2015	8/18/2020
Commissioner	Cochran	Broughton	2/16/2010	5/5/2015 5/19/2020	5/19/2025
Commissioner	Smallwood	Darryl	10/1/1997	8/20/2002 9/2/2008 3/4/2014 2/19/2019	3/4/2024
Resident Commissioner	Brown	Mary	8/16/2011	9/6/2016	9/6/2021
Commissioner	Figueras	Myrtle	1/19/2016 UE	1/22/2019	2/4/2024
Ex-Officio	Couvillon	Sam	1/7/2020		1/18/2021

TERM: Five year terms

CONTACT: Beth Brown, Executive Director
Housing Authority
P.O. Box 653
Gainesville, GA 30503

UPDATED: 5/20/2020 ag

HOUSING AUTHORITY ATTENDANCE REPORT

MEETING			BOARD MEMBER					
	DATE	TYPE	NAME	NAME	NAME	NAME	NAME	NAME
			Cochran	Thompson	Smallwood	Brown	Figueras	Wangeman
	7/18/2018	R	1	1	0	1	1	1
	8/15/2018	R	1	1	1	0	1	1
	9/21/2018	R	1	1	0	1	1	0
	10/17/2018	R	1	0	1	0	1	1
	11/21/2018	R	1	1	1	0	1	1
	12/19/2018	Cancelled						
	1/16/2019	R	1	0	1	1	1	1
	2/20/2019	Cancelled						
	3/20/2019	R	1	1	1	1	1	1
	4/11/2019	R	1	1	1	1	1	1
30	5/15/2019	R	0	1	1	1	1	1
31	6/19/2019	R	1	0	1	1	1	1
32	7/17/2019	Cancelled						
33	8/21/2019	R	1	1	1	1	1	1
34	9/18/2019	R	1	1	0	1	0	0
35	10/28/2019	R	0	1	1	1	1	1
36	11/20/2019	R	1	1	0	1	1	1
37	12/18/2019	R	1	1	1	0	0	1
38	1/15/2020	R	1	0	1	0	1	0
39	2/19/2020	Cancelled						
40	3/18/2020	Virtual	1	1	1	1	1	0
41	4/29/2020	Virtual	1	1	0	0	1	0
42	5/20/2020	Virtual	0	1	1	1	1	
43	6/17/2020	Cancelled						
	TOTAL	19	16	15	14	13	17	13
	ATTENDANCE %		84%	79%	74%	68%	89%	68%

TYPE MEETING: R = Regular Scheduled Meeting
ATTENDANCE: 0 = Absent

C = Called Meeting
 1 = Attended

NOTES:

Submitted By: Shanna Kennedy for Beth Brown
 Recording Secretary

Date: 7/14/2020

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 6/5/2020
Presenter: Danny Dunagan
Item of Business: Appointment(s): Metropolitan Planning Committee - Citizens Advisory Committee
Meeting Date: 7/16/2020

Purpose of Request:

The purpose of this request is to address the vacant position previously held by Mary Jardine.

History/Background:

Members of the committee serve three-year terms. The MPO-CAC follows the guidelines of the City Charter and the Code of Ordinances as well as the bylaws of the committee.

Facts & Issues for Consideration:

Bill Bush confirmed a willingness to serve on the board. The verification process has been completed.

Department Recommendation:

To consider the nomination as submitted by the Mayor.

Department Director:

Danny Dunagan

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ MPO-CAC Members	Backup Material
☐ Mary Jardine Resignation Letter	Backup Material

METROPOLITAN PLANNING ORGANIZATION - CITIZENS ADVISORY COMMITTEE

POST	LAST NAME	FIRST NAME	APPOINTED	REAPPOINTED	EXPIRES
Ward 1	Propes	Connie	7/5/2011	3/19/2013 8/18/2015 6/6/2017 6/16/2020	6/30/2023
Ward 2	Nordholz	Beverly	8/7/2018	6/16/2020	6/30/2023
Ward 3	Smith	Sammy	8/15/17 UE	6/16/2020	6/30/2023
Ward 4	Lipscomb	Berlinda	12/2/2003	4/3/2007 7/5/2011 3/19/2013 7/19/2016 6/18/2019	6/30/2022
Ward 5	Jardine Vacant/Resigned	Mary	7/5/2011	3/19/2013 7/1/2014 6/6/2017	6/30/2020

TERMS: Three year terms as of 6/6/17

Two year terms *Wards 2, 4, and 5 are 3 year terms

Part of Gainesville-Hall MPO (GHMPO). The committee consists of 19 appointees from the member jurisdictions as

NOTES: follows:

- Braselton - 1
- Flowery Branch - 2
- Gainesville - 5
- Hall County - 8

CONTACT: *Primary: Joseph Boyd, GHMPO Transportation Planning Director
Sarah McQuade, Hall County Planning & Development Director
Michael Haire, GHMPO Transportation Planner
Rusty Ligon, Community Development Director

UPDATED: 6/18/20 ag

Alisa Grayson

From: Mary Jardine
Sent: Saturday, February 29, 2020 1:43 PM
To: Alisa Grayson
Subject: resignation letter

CAUTION:*This email originated from outside the City of Gainesville networks. Be aware of phishing, and remember: CoG DoIT will never ask for your password or other personal information in email. Use caution with attachments or click links if you are not sure about it.*****

Alisa,

Thank you for contacting me. I am moving to Athens, so will no longer be able to serve. It has been a good experience and I have learned a lot and met many new friends.

To the City of Gainesville.

As of 1 March 2020, I must resign my position on the GHMPO representing the citizens of Gainesville. My plans are to move to Athens, GA in the next week and will no longer be able to serve on the GHMPO.

I appreciate the honor of serving these past few years.

Sincerely,
Mary D. Jardine

CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/10/2020
Presenter: Danny Dunagan
Item of Business: Appointment(s): Gainesville Redevelopment Authority
Meeting Date: 7/16/2020

Purpose of Request:

The purpose of this request is to address two upcoming expiring terms.

History/Background:

The Redevelopment Authority was created by action taken by the 1978 General Assembly of Georgia. Members serve four-year terms and must come off the Authority for at least one year after serving two full four-year terms per HB 651 effective 5/6/2019. The Authority also complies with the requirements of the City Charter and Code of Ordinances as applicable.

Facts & Issues for Consideration:

Nominations to fill the expiring terms were received from the Redevelopment Authority as required by the bylaws. The verification process was completed and all appear to be in order.

Department Recommendation:

To consider the nominations as submitted by the Mayor.

Department Director:

Danny Dunagan

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Redevelopment Authority Board Members	Backup Material
☐ GRA Nomination Information	Backup Material
☐ GRA Attendance Report 2020	Backup Material

GAINESVILLE REDEVELOPMENT AUTHORITY

POST	LAST NAME	FIRST NAME	APPOINTED	REAPPOINTED	EXPIRES
Post 1 By Council	Diaz	Blair	8/21/2018		7/31/2022
Post 2 By Council	Jacobs, III	John W. "Jay"	8/4/2015	10/15/2019	7/31/2023
Post 3 By Council	Nix Chairman	Matt	12/6/2016		7/31/2020
Post 4 By Council	Fowler	Brett	8/21/2018		7/31/2022
Post 5 By Council	Everett	Jason	10/15/2019 UE		7/31/2020
Post 6 By Council	White	Davis	10/15/2019		7/31/2023
Post 7 By Council	Embry	Cooper	8/21/2018		7/31/2022
Post 8 By Council	Lee	Kelly	8/21/18 UE		7/31/2021
Appointed by Authority	Smith	Tyler	2/22/2018 (At GRA Mtg)		7/31/2021
Ex-Officio	Dunagan	Danny	1/10/2017	1/9/2018 1/8/2019 1/7/2020	1/18/2021

Four year terms following the initial staggered term appointments.

TERM: Must come off the Authority for at least one year after serving two full four-year terms per HB 651 effective 5/6/2019.

NOTES: House Bill 801 was passed and effective 5/11/2009 which reduced the number of board members to nine. Members must be either residents of the City of Gainesville; operate, manage or work for a business within the City of Gainesville; or own real property within the City of Gainesville. City Council appointed the initial eight members with staggered terms and those members were to appoint the ninth member for a four year term. Two nominations are to be submitted by the Authority to fill each vacancy. Appointments made by Council.

*A letter dated 3/5/13 to William Bagwell established the precedent of setting terms to expire on July 31 (7/31).

CONTACT: Joseph A. "Joey" Homans
Fox, Chandler, Homans, Hicks & McKinnon, LLP
P. O. Box 477
Dawsonville, GA 30534

UPDATED: 5/20/20 ag

RESOLUTION OF THE
GAINESVILLE REDEVELOPMENT AUTHORITY
REGARDING NOMINATIONS FOR MEMBERSHIP

WHEREAS, the Gainesville Redevelopment Authority (the "Authority") has been created and is existing pursuant to an Act of the General Assembly (Ga. Laws 1978 p.4440 *et seq.*, as amended by Ga. Laws 1980 p. 2024, *et seq.*, as continued by Ga. Laws 1987 p. 3637 *et seq.* and as further amended by Ga. Laws 1999 p.4697 *et seq.* (the "Act"), and has been activated as required by the terms of the Act, and is now existing and operating as a public corporation and an instrumentality of the State of Georgia, and is now existing and operating as a public body corporate and politic for the purpose of redevelopment, development, and improvement of certain project areas within the City of Gainesville; and

WHEREAS, the term of Matt Nix, who was appointed by Council to fill an unexpired term, has expired, with the result that Mr. Nix is eligible for reappointment by the Council; and

WHEREAS, the term of Jason Everett, who was appointed by Council to fill an unexpired term, has expired, with the result that Mr. Everett is eligible for reappointment by Council;

NOW, THEREFORE, BE IT RESOLVED, by the members of Gainesville Redevelopment Authority that Matt Nix and Jason Everett nominations are hereby made to the City Council of the City of Gainesville to fill the Council-appointed positions.

APPROVED AND ADOPTED this 9TH day of July, 2020.

GAINESVILLE REDEVELOPMENT AUTHORITY

BY: _____



Attest:



Secretary

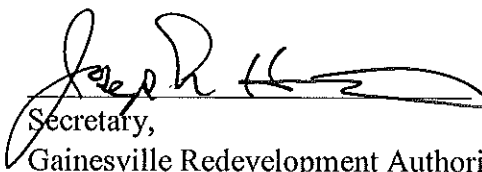
(SEAL)

SECRETARY'S CERTIFICATE

I, Joseph Homans, DO HEREBY CERTIFY that I am the Secretary of the Gainesville Redevelopment Authority (the "Authority"), and that the foregoing pages of the typewritten matter constitute a true and correct copy of a resolution adopted by a majority of the members of the Authority at a meeting which was duly called and assembled on the ____ day of July, 2020, which meeting was open to the public and at which a quorum was present and acting throughout, which resolution has not since been amended or rescinded and is in full force and effect on the date of this Certificate.

Witness my hand this 9th day July, 2020.

(SEAL)


Secretary,
Gainesville Redevelopment Authority

GAINESVILLE REDEVELOPMENT AUTHORITY ATTENDANCE REPORT

MEETING												
	DATE	TYPE	Davis White	Blair Diaz	Danny Dunagan	Cooper Embry	Brett Fowler	Jay Jacobs	Kelly Lee	Matt Nix	Jason Everett	Tyler Smith
1	8/21/2017	C			1					1		
2	5/31/2017	C			1			1		1		
3	2/22/2018	C			1			1		1		1
4	7/17/2018	C			1					1		1
5	12/20/2018	C		1	1	1	1	1	1	1		
6												
7	No meetings held in 2019 as of 10/9/19.											
8												
9	12/18/2019	C	1	1	1	1	1	1	1	1	1	1
10	2/25/2020	C	1	1	1	1	1	1	1	1	1	1
11	7/9/2020	C		1	1		1	1	1	1	1	1
12												
13												
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25												
26												
27												
28												
29												
30												
	TOTAL		2	4	8	3	4	6	4	8	3	5
	ATTENDANCE %		67%	100%	100%	75%	100%	75%	100%	100%	100%	83%

TYPE MEETING: R = Called Meeting
 ATTENDANCE: 0 = Attended

NOTES:

Submitted By: Joey Homans
 Recording Secretary

Date: 7/14/2020
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CITY OF GAINESVILLE

WORKSESSIONREQUEST

Date Submitted: 7/13/2020
Presenter: Denise Jordan
Item of Business: Resolution: City of Ethics Recertification
Meeting Date: 7/16/2020

Purpose of Request:

The purpose of this request is to seek recertification as a City of Ethics by the Georgia Municipal Association.

History/Background:

Gainesville became a "Certified City of Ethics" in 2009. Recertification is required periodically by submitting a resolution affirming commitment to the following ethics principles and pledging to conduct its affairs in a manner that will:

- * Serve others, not ourselves
- * Use resources with efficiency and economy
- * Treat all people fairly
- * Use the power of our position for the well-being of our constituents
- * Create an environment of honesty, openness and integrity

Facts & Issues for Consideration:

The Georgia Municipal Association advised it is time to complete the recertification process. This requires (1) a resolution reaffirming its commitment to ethics principles and (2) a summary of changes to the Ethics Ordinance, if any.

Department Recommendation:

Adopt the resolution as presented.

Department Director:

Bryan Lackey

If funding is involved, are funds approved within the current budget?

N/A

Amount Requested:

Source of Funds:

Finance Comments:

Administrative Comments:

ATTACHMENTS:

Description	Type
☐ Resolution: City of Ethics Recertification	Resolution

RESOLUTION BR-2020 - ____

CITY OF ETHICS RECERTIFICATION

WHEREAS, the Board of Directors of the Georgia Municipal Association established a Certified City of Ethics Program; and

WHEREAS, the City of Gainesville adopted a Code of Ethics via Ordinance 2007-37 on September 4, 2007 and became a Certified City of Ethics in 2009; and

WHEREAS, the City of Gainesville was recertified in 2016 for another four year period; and

WHEREAS, the City of Gainesville desires to be recertified again as a City of Ethics.

NOW THEREFORE BE IT RESOLVED THAT the City of Gainesville, Georgia reaffirms its commitment to the following ethics principles and pledges to conduct its affairs in a manner that will:

- * Serve others, not ourselves
- * Use resources with efficiency and economy
- * Treat all people fairly
- * Use the power of our position for the well-being of our constituents
- * Create an environment of honesty, openness and integrity

BE IT FURTHER RESOLVED THAT the Code of Ethics was last updated in 2017 via Ordinance 2017-04. Said ordinance remains in effect and enforceable as documented in the official Code of Ordinances maintained by the City Clerk.

Adopted this ____ day of _____, 2020.

Mayor C. Danny Dunagan, Jr.

Council Member George Wangemann

Mayor Pro Tem Zack Thompson

Council Member W. Samuel Couvillon

Council Member Barbara Brooks

Council Member Juli Clay

This is to certify that I am City Clerk of the City of Gainesville. As such, I keep its official records, including its minutes. In that capacity, my signature below certifies this resolution was adopted as stated and will be recorded in the official minutes.

ATTEST:

Denise O. Jordan, City Clerk