

1. CALL TO ORDER

2. MINUTES

A. February 8, 2021 PAB Meeting Minutes

3. OLD BUSINESS

4. NEW BUSINESS

A. Rezoning Requests

- (1) Request from **Interface Properties, LLC** to rezone a 6.6± acres tract located on the southwest side of the intersection of Dawsonville Highway and Beechwood Boulevard (a/k/a **989 Dawsonville Highway, NW**) from Residential-I (R-I), Residential-II (R-II) and General Business (G-B) to General Business (G-B).

Ward Number: One

Tax Parcel Number(s): 01-115-002-002E

Request: Retail, drive-through restaurant and auto service

5. MISCELLANEOUS

6. ADJOURNMENT

Date Submitted: 2/17/2022
Presenter: N/A
Item of Business: February 8, 2021 PAB Meeting Minutes
Meeting Date: 3/8/2022

Purpose of Request:

The purpose of this request is to allow the Planning and Appeals Board to approve the minutes from the referenced meeting.

History/Background:

Facts & Issues for Consideration:

The draft minutes were reviewed by the Office & Records Coordinator and the Community Development Deputy Director.

Department Recommendation:

Approval of the minutes as presented.

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
 Draft Minutes	Minutes

GAINESVILLE PLANNING AND APPEALS BOARD
DRAFT MINUTES OF MEETING
FEBRUARY 8, 2022

CALL TO ORDER Chairman Carter at 5:30 p.m.

Members Present: Chairman Doug Carter, Vice-Chair Jane Fleming and Board Members Rich White, Eddie Martin and Kelvin Simmons

Members Absent: Carmen Delgado and Ryan Thompson

Staff Present: Community & Economic Director Rusty Ligon, Community & Economic Deputy Director Matt Tate and Recording Secretary Gwen Fleming

Others Present: Council Members Barbara Brooks and George Wangemann

MINUTES OF DECEMBER 14, 2021

There was a motion to approve the minutes as presented.

Motion made by Board Member Fleming
Motion seconded by Board Member White
Vote – 5 favor, 2 absent (Delgado, Thompson)

OLD BUSINESS

NEW BUSINESS

A. Variance Request

- 1) Request from **Daniel J. Peck** to vary the illumination requirements for a monument sign and wall sign on a 0.62± acre tract located on the east side of South Enota Drive, north of Downey Boulevard (a/k/a **440 South Enota Drive, NE**), having a zoning of Office and Institutional (O-I).

Ward Number: Three

Tax Parcel Number(s): 01-064-002-036

Request: Monument sign and wall sign

Staff Presentation: Deputy Director Matt Tate gave the following staff presentation:

The applicant is proposing to vary the sign illumination requirements within the Office and Institutional (O-I) zoning district to allow a monument sign and a wall sign with internal illumination. The O-I zoning district only allows for indirect lighting such as ground lighting. As well, indirect lighting is typically used in neighborhood shopping districts to help reduce the intensity of commercial uses. The property is 0.62 acres and contains a 6,500 square foot building that is being renovated for office space. The adjacent properties are zoned Office and Institutional (O-I) and Residential-I (R-I) and include medical/dental offices and single-family homes. The proposed monument sign is 67.9 square feet in size and the wall sign is 5.28 square feet in size which are within the size limitation requirements. The applicant did not provide a hardship statement with the application.

The Planning Division staff is recommending **conditional approval** of this variance request based on there being other internally illuminated signs within the immediate area and there being no direct impact on the adjacent residential properties.

Applicant Presentation: **Bill Brogdon**, 440 South Enota Drive stated he is representing Daniel Peck and asked approval from the board. They both agree with the recommendations and conditions from the staff.

FAVOR: None

OPPOSE: None

PLANNING AND APPEALS BOARD COMMENTS: None

There was a motion to conditionally approve the request to vary the illumination requirements for a monument sign and wall sign having a zoning of Office and Institutional (O-I) with the following conditions:

Conditions

1. The base of the proposed monument sign shall match exterior materials of the building.
2. An electronic message board / changeable copy sign shall not be permitted for the subject property.

Motion made by Board Member Martin
Motion seconded by Board Member White
Vote – 5 favor, 2 absent (Delgado, Thompson)

B. Appeal of an Administrative Decision

- 1) Request from **Phillip R. Brown** for an appeal of an administrative decision to disallow use for lodging services on a 3.5± acres tract located at the terminus of Mountain View Circle, west of Honeysuckle Road (a/k/a **725 Mountain View Circle, NW**), having a zoning of Residential-I (R-I).

Ward Number: One
Tax Parcel Number(s): 01-111-001-011
Request: Reverse administrative decision

NOTE: Chairman Carter stated the request for the Appeal of an Administrative Decision was withdrawn and no action was required for this item.

C. Special Use Request

- 1) Request from **McKinley Homes US, LLC** for a special use on a 7.74± acres tract located on the west side of Florence Drive, across from its intersection with Bentley Park Circle (a/k/a **2920 Florence Drive, SW**), having a zoning of Office and Institutional (O-I).

Ward Number: Four
Tax Parcel Number(s): 08-015-005-029
Request: Residential townhomes

Staff Presentation: Deputy Director Matt Tate gave the following staff presentation:

The applicant is proposing a special use for the development of 70 fee-simple townhomes on 7.74 acres. The property contains a church building, parking lot and two driveways that will be demolished, heavily wooded and contains a Georgia Power easement.

Some of the surrounding uses include the 42-unit Bentley Park condominiums, 52-unit Richmond Gardens condominiums, 47-unit Richmond townhomes, 26-unit Fox Hollow condominiums, cellular tower, Free Chapel Worship Center campus and the Hall County Administrative and Sheriff's office.

The proposed residential density for the property is 9.04 dwelling units per acre. The townhomes are two-story in design ranging from 1,603 to 1,863 square feet in size, with two car garages. Exterior materials include a mixture of brick, cementitious siding, shakes and board & batten.

Two driveways are proposed from Florence Drive and 18 guest parking spaces will be provided in the community. Amenities are to include a small pocket park, children's play area, dog walk and community mailbox. Stormwater detention will be located to the rear of the development.

The Future Development Map for the City of Gainesville places the subject property within the Public / *Institutional* / *Transportation* / *Utility* land use category and the Character Area map places the subject property is located within the *Suburban Residential* Character Area which includes a mixture of housing types ranging from low to high density.

The Planning Division staff is recommending **conditional approval** of the special use request based on the Comprehensive Plan and the adjacent attached residential uses.

Applicant Presentation: Bill Schimdt, 9915 Buice Road, Alpharetta with McKinley Homes explained there will be 70 fee-simple units with prices from high 200's to low 300's which fits with the surrounding neighborhood. There will be a buffer in the back between the utility easement and in the front with a 20-foot landscape buffer.

FAVOR: None

OPPOSE: Andrea Crozier, 641 Ridgewood Avenue, asked if the project was in the city limits or in the county and Chairman Carter answered it would be in the city limits.

Betty Lou Pfister, 3012 Bentley Park Circle, stated she doesn't like idea of the project at that location. Florence Drive is a dead-end street which goes to the church property with a gate and is a small road with older folks in the area. She stated the gate is open on Sundays but closed otherwise. Ms. Pfister stated the density proposed is too much for the area and while developing it there would be large trucks and stated the street isn't very wide. She expressed concern with entering into Browns Bridge Road with making left turns and with the amount of additional vehicles along with additional children. The communities are quite, not against growth but such a tight area that it's not a wise decision.

Douglas Young, 2890 Florence Drive in the Richmond Townhomes community stated he attended the monthly meeting of the HOA board and they strongly oppose the proposal. He stated they are not opposed to new townhomes but 70 townhomes is a shockingly large

number. He agreed with all said by Ms. Pfister along with there being no sidewalks. There are 169 residences presently and traffic is too heavy for the small road. Sunday traffic is heavy or any time there is a service at the church. He said a large number of people walk along with elderly residents and children. He stated they are very concerned with an already overcrowded street to add 70 townhomes it will create a traffic hazard but with a smaller development they would not be so opposed. The other concern was with both exits being onto Florence Drive making traffic worse. He asked the board to consider opposing the project or at least 70 townhomes.

Nora Nelson, 2888 Florence Drive stated she agrees with Betty and Douglas, traffic on Sundays is overwhelming with police directing traffic at Browns Bridge Road and Florence Drive. She stated with a large amount of elderly and young people, there is no place to walk or play, no sidewalks and no street lights. Ms. Nelson said the way the road is configured it doesn't lend itself to having an additional 70 townhomes and would like the property to be developed. She suggested infrastructure should be first, safety of the children and current residents and is opposed unless some of the issues be rectified.

Robert Martin, 2963 Bentley Park, stated he is not totally against the development. He said the townhomes look nice which could increase property values but is concerned with the amount of townhomes. He stated if approved would like to see the number reduced or a solution to the issues. He agrees there are elderly people that walk down street, no traffic issues except on Sunday with hundreds of vehicles using the road and hopes some improvement and adjustments with making it a dead-end street again. He agrees the property is an eye sore and sees the value in developing it but Florence Drive is a very small street with no dividing line on it.

PLANNING AND APPEALS BOARD COMMENTS: Chairman Carter asked Mr. Tate the number of units that could be developed and he answered 12 units per acre. Chairman Carter stated the request is under what could be allowed.

There was a motion to recommend conditional approval the special use for residential townhomes having a zoning of Office and Institutional (O-I) with the following conditions:

Conditions

1. The proposal shall be generally consistent with the concept plan and architectural elevations provided with this application per the review and approval of the Community and Economic Development Director.
2. The proposed townhome development shall adhere to the development standards stated within Section 9-10-2-5 of the Unified Land Development Code entitled "Single-Family Attached Dwelling (Fee-Simple Townhouse)."
3. Each townhome unit shall provide a two car garage.
4. The rear and sides of each townhome building shall be constructed with a minimum 3-foot high watermark of brick or stone material. In addition, all roof structures shall be constructed with architectural shingles.
5. All proposed privacy fencing shall be decorative in nature and shall consist of wrought iron, aluminum or vinyl material.
6. A minimum 20-foot wide planted landscape buffer shall be required along Florence Drive. The landscape buffer shall include a minimum 3-foot high landscaped berm.

In addition, a minimum 10-foot wide landscape buffer shall be required along the northerly property line to help screen the rear and side of the proposed townhomes, pocket park and dog walk.

- 7. All stormwater detention ponds shall be properly fenced and screened with a mixture of evergreen trees. The location, spacing, size and type of trees planted shall be subject to the approval of the Community and Economic Development Department Director.**
- 8. The developer/property owner shall construct 5-foot (5') wide sidewalks on both sides of the proposed interior private streets.**
- 9. 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.**

Motion made by Board Member Martin

Motion seconded by Board Member White

Vote – 5 favor, 2 absent (Delgado, Thompson)

D. Code Amendment Request

- 1) Request from the **City of Gainesville** to amend the Unified Land Development Code for the City of Gainesville, Georgia to amend Table 9-5-1 of Article 9-5 entitled “Permitted and Special Uses for Residential Zoning Districts”; to amend Table 9-6-1 of Article 9-6 entitled “Permitted and Special Uses for Nonresidential Zoning Districts”; to amend Section 9-10-2-5 entitled “Single-Family Attached Dwelling (Fee-Simple Townhouse)”; to amend Section 9-10-3-5 entitled “Private Swimming Pools”; to amend subsection (b) of Section 9-18-6-6 entitled “Changeable Copy”; to amend subsection (c) of Section 9-21-1-12 entitled “Powers and Duties”; to amend subsection (d) of Section 9-22-2-18 entitled “Action by Governing Body”.

Staff Presentation: Deputy Director Matt Tate stated staff has identified 7 sections of the Code to amend and then explained each one. Table 9-5-1 (Permitted and Special Uses for Residential Zoning Districts) and Table 9-6-1 (Permitted and Special Uses for Nonresidential Zoning Districts) were being amended to introduce a new use “short-term rental” which is defined as the occupancy of all or a portion of a residential structure rented to the public for a fee for the purpose of overnight lodging for a period of not more than 15 days and includes Airbnb, VRBO and the like. Mr. Tate stated currently short-term rentals are considered a “Lodging Service” use which are not allowed within Residential districts but are allowed in Commercial districts. The proposed change will allow short-term rentals within the zoning district of Residential and Office (R-O) but will not allow short-term rentals within all other Residential zoning districts in order to protect the established neighborhoods. Also, Table 9-6-1 is being amended to allow a drive-thru restaurant in the Neighborhood Business district. Section 9-10-2-5 is being amended to address parking and driveway requirements for fee-simple townhome developments. Section 9-10-3-5 (Private Swimming Pools) is being amended to address fencing height requirements. Section 9-18-6-6 (Changeable Copy) is being amended to allow a digital price changer sign on a fuel canopy in lieu of having a monument sign. Section 9-21-1-12 (c) (Powers and Duties) is being removed to no longer require the Planning and Appeals Board to make recommendations on code amendment requests. Section 9-22-2-18 (Action by Governing Body) is being amended to allow the

governing body to table items “at a future meeting” instead of requiring it at the next regular scheduled meeting which for more flexibility.

Chairman Carter stated the Planning and Appeals Board is a recommending board for code amendments and this item will be moving forward to City Council for a final decision on March 1, 2022. In regards to short term rentals, Chairman Carter said City of Gainesville Code Enforcement plays a role with this type issue when there are current or future violations.

Public Comments:

Daniel Peck, 1354 Sterling Bridge Court, stated he owns a home on lake and is building another one in Chattahoochee Country Club which could be a possible option for short-term rentals. He also has property in Tampa and Gulf of Mexico stating one side of the community had less canals so limited rentals to six months and the other with more canals was 12 months to help with the amount of boat traffic. Mr. Peck stated it might be a possible option to consider if coves or lake homes are affected.

Robert Owen, 820 Holly Drive, stated he is for doing away with short-term rentals in the city. He said after speaking with ten families on Holly Drive all are opposed to short-term rentals in the residential areas of the city. He then asked people to stand that were opposed to short-term rentals in residential areas and approximately 25 people stood. Mr. Owen said people that live in R-I, R-II or R-I-A do not want short-term rentals. Then he said the belief of people that have short-term rentals that they can do as they want with their property is not true just as they can't put up a nine-foot fence, drill for oil or run a commercial business. Why do people think they can open their house and let anybody come into a neighborhood not knowing who the people are, staying for three days, throwing parties, making all kinds of noise. He stated he is adamantly opposed to it along with the majority of people in Gainesville.

Joy Pinder, 301 Ridgewood Avenue, stated she has an “STR” and has worked for Airbnb for five years. She said something to consider with STR's in residential areas is if there is an HOA it can govern if allowed or not. She stated STR's that do home exchanges which is going to a different city and they stay in your place. She said with STR's and Airbnb, they are monitored by their platforms. Her property has ring cameras and if there is any suspicious activity the reservation is cancelled, Airbnb has a team to come in to take these people away. She stated in the last five years, most people come to Gainesville for family reunions, weddings, funerals, to visit family and not to have a good time and party. She stated she does not live on the lake and could see possibly being a marketing strategy for people who are interested in parties. Mrs. Pinder stated her husband took a pay-cut at his job, stayed at grandma's house to Airbnb their house which helped pay the mortgage for two years. She said there are good things with STR's but lots of news about the bad but in the last five years have had success and met great people. Also she stated it brings a lot of good tourism to Gainesville, spending money in the shops downtown and is good to put Gainesville on the map with it.

CJ Greene, 839 Cherokee Road, stated they own multiple Airbnb's in the city and county and along the Georgia coast, manages 10 and has a lot of experience with the platform and properties. She stated they are long-term rental owners within city, changing most of the investments over to short-term rentals because of wear and tear and the way you keep your property with long-term is very different than short-term property. She said the property must be well maintained and landscaped well kept, fresh paint, well decorated and be competitive to be rented. She said the way they keep their short-term rentals is vastly different than long-term. Mrs. Greene stated there is very strict occupancy on their property, not maximizing

bedrooms keeping it very conservative because of wear and tear. She said they have a family lake home that they Airbnb which pays for family bills and pays the hotel tax in the county including renters visit Riverside and family, spends money at local businesses. Mrs. Greene believes there are two sides to the issue and hopes it becomes a larger discussion.

Jeff Hylton, 3395 Harbour Point Parkway, stated he owns two of the largest short-term rentals in the county, one being a 14 bedroom lake house near Marina Bay. He stated in 2018 the county had no regulations but now he serves on the board of the Convention of Visitor's Bureau and is the short-term rental representative for the county. Mr. Hilton stated short-term rentals are here to stay and many prefer them over a hotel experience. He stated the answer is not to shut down short-term rentals but to have the proper regulations in place to shut down the "bad apples" and in favor of shutting them down along with pro STR's. He said he has owned a short-term rental called Chateau on Lanier at Sidney on Lanier for two and a half years putting thousands of dollars into the property and possibly the largest short-term rental in the city along with the largest short-term rental in the county. He worked with county commissioners in 2018 to find regulations that were fair to everyone with ways to regulate it and get the tax dollars. He said one of his properties paid eighty percent of the hotel tax for three or four years until the regulations were adopted but now there are hundreds of short-term rentals in the county that pay five percent to the county and provides a lot of revenue. He said the short-term rentals provides business to the restaurants on the lake and town. He is willing to offer his services to find a fair regulation for everybody, get rid of the "bad apples" but Airbnb, VRBO and short-term rentals are here to stay. Having a fair regulation for both sides is very important. He stated he has never had a complaint that he is aware of and not everyone wants to stay in a hotel on vacation. He believes short-term rentals are good for the community and neighborhood. He said the home he rents out is vastly improved from three years ago. He stated the county has already created the regulations and structure for it and Stacey Dixon with the Convention of Visitor's Bureau is fair for all involved and will help any way.

Steven Thomas, 625 Bradford Street, asked Mr. Tate if there would be any change to Airbnb's being in R-I zoning in Ridgewood historic district and was told it would not change. He then gave an example in New Orleans with properties being bought up and a year later wondering what happened to their neighbors. He said it took years and law suits but New Orleans changed the laws and regulations causing the properties to be put back on the market for sale to private owners. His concern was with neighborhoods being taken up with short-term rentals and not having a neighborhood any longer.

Bill Morrison, 801 Honeysuckle Road, thanked board members and staff stating it is a challenging job. He stated there were a couple of meetings at his house the past week that were very complicated. He heard from the conversations the goal was to make money in R-I, their neighborhoods, it was all about money. He said they want a quiet, tranquil place to live and that is the reason they purchased the property in that location. Dr. Morrison said allowing STR's and promoting them will have a domino effect with eventually there will not be R-I's any more. He also told about a time in their neighborhood with four people being intimidated and scared by an owner in their neighborhood that rented to people with cigarette boats. He stated the noise was so loud he thought it was rangers with helicopters or fire emergency services. He went outside and across the cove were cigarette boats going very fast, dangerous, loud and had no respect for the neighborhood. He then said some neighbors asked them to be respectful but were chewed out and were intimidated and told not to complain any more or they'd be sorry, subpoenaed and sued which some residents put bars on their windows. He stated he didn't know if Mr. Hylton lived in the neighborhood but if he did then he might have a different prospective. Dr. Morrison said there are five properties in

his neighborhood that are renting out with one having a cease and desist. He stated it is illegal and it's tough for code enforcement because they aren't aware and is up to the neighbors to say something. He thinks the staff has come up with a good beginning for short-term rentals but would like to strengthen it by suggesting to make it 365 days instead of 15 days which will eliminate all the problems in R-I. He said short-terms should not be in R-I and also there should be no advertising for anything less 365 days or subleasing. He stated if it is made long-term then it would eliminate the subleasing. He would like for the PAB members to make that recommendation then go to city council and hopes the board thinks the same way too.

Kommerina Daling, 724 Honeysuckle Road, stated the property owners in residential neighborhoods want to keep it residential. Her concern was if the neighboring houses were short-term and wanted to sale it for another family to enjoy then it will not sell very well. Ms. Daling stated there are statistics that show 15 percent of homes are flipped to short-term rentals then the home values of others dropped by 20 percent. She said if there are two homes that are short-term rentals out of four then the property value could drop by 50 percent and no one wants to live next to party home or purchase a home next to a party home.

PLANNING AND APPEALS BOARD COMMENTS: Chairman Carter stated he has been generous with the time with good points made on both sides of the issue and closed the public portion. Chairman Carter asked Mr. Tate for clarification as to if a motion could be made to pass all or parts of the proposed amendments. Mr. Tate confirmed that all or parts of the proposed amendments could be considered or amended further.

There was a motion to recommend approval of the code amendment request as presented.

Motion made by Board Member Martin
Motion seconded by Board Member Simmons
Vote – 5 favor, 2 absent (Delgado, Thompson)

ADJOURNMENT

There was a motion to adjourn the meeting at 6:32 p.m.

Motion made by Board Member Simmons
Motion seconded by Board Member White
Vote – 5 favor, 2 absent (Delgado, Thompson)

Respectfully submitted,

Doug Carter, Chairman

Gwen Fleming, Recording Secretary

Date Submitted: 2/17/2022

Presenter: Matt Tate

Item of Business: Request from **Interface Properties, LLC** to rezone a 6.6± acres tract located on the southwest side of the intersection of Dawsonville Highway and Beechwood Boulevard (a/k/a **989 Dawsonville Highway, NW**) from Residential-I (R-I), Residential-II (R-II) and General Business (G-B) to General Business (G-B).
 Ward Number: One
 Tax Parcel Number(s): 01-115-002-002E
 Request: Retail, drive-through restaurant and auto service

Meeting Date: 3/8/2022

Purpose of Request:

The applicant is proposing to rezone the subject property for a 3,750 square foot fast food drive-thru restaurant and a 2,085 square foot auto (lube) service use. No use has been identified for the remainder of the property at this time. Access is proposed from Dawsonville Highway and Beechwood Boulevard. The property is located within the Gateway Corridor Overlay Zone and is the site of the Trinity Baptist Church that will be demolished as part of the redevelopment. Adjacent uses include Olive Garden restaurant, McEver Corners Shopping Center, Guilford Immediate Care, residential quadplex, residential duplex and single-family homes.

History/Background:

Facts & Issues for Consideration:

Department Recommendation:

Planning staff recommended approval with eight conditions. See the Staff Recommendation report for details.

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
☐ Staff Recommendation Report	Report
☐ Location Maps	Backup Material
☐ Narrative	Backup Material
☐ Survey	Backup Material
☐ Site Plan	Backup Material
☐ Architectural Rendering 1	Backup Material
☐ Architectural Rendering 2	Backup Material
☐ Traffic Impact Study	Backup Material

**GAINESVILLE PLANNING and APPEALS BOARD
STAFF RECOMMENDATION**

Applicant Interface Properties, LLC
Property Owner Chattahoochee Baptist Association
Location 989 Dawsonville Highway, NW
Request Rezone from R-I, R-II and G-B to G-B
Total Acres 6.6± acres
Ward One
Proposed Use Retail, drive-through restaurant and
auto service
Planning Division Staff Recommendation **Approval, with conditions**
Date March 8, 2022

▪ **Applicant's Proposal and Background Information**

The property is currently zoned Residential-I (R-I), Residential-II (R-II) and General Business (G-B). The intent is to consolidate the property under one zoning of General Business (G-B). The proposal is for a 3,751± square foot fast food drive-thru restaurant and a 2,086± square foot auto (lube) service use. While no use has been identified for the remainder of the property known as Phase II, the applicant states the following uses will be prohibited:

- Adult novelty stores /adult entertainment centers
- Group homes /crisis centers
- Pawn shops /dollar-type stores
- Massage parlors
- Hookah lounge /tobacco or vaping stores
- Tattoo parlors
- Psychics /fortune tellers /clairvoyants and the like
- Gas station /convenience stores
- Tire stores /auto parts stores /auto body shops
- Automobile sales establishments /marine sales or repair stores
- Automated or non-automated car washes
- Truck stops
- Coin-laundry facilities

As part of the redevelopment, the existing 14,000± square foot church building and parking lot will be demolished. The northwest portion of the property is below the street grade of Dawsonville Highway which will require a retaining wall to raise it to street grade. Access is proposed from Dawsonville Highway as well as near an existing driveway cut on Beechwood Boulevard. The proposed buildings are to include EIFS, cementitious siding and stone which are materials that adhere to the Gateway Corridor Overlay Zone architectural standards. City water and sewer services will be utilized which are presently available to the site.

▪ **Adjacent Land Use and Zoning**

Location	Use	Zoning
North	Olive Garden Restaurant, Residential Quadplex, Residential Duplex, Single-Family Homes, Lake Forest Apartments	General Business (G-B) Residential-II (R-II) Residential-I (R-I)
South	McEver Corners Shopping Center	General Business (G-B)
East	Guilford Immediate Care, Retail and Restaurant Uses	General Business (G-B)
West	Beechwood Estates Neighborhood	Residential-I (R-I)

▪ **Other Departmental Comments**

The proposal will require coordination with the Georgia Department of Transportation (GDOT).

▪ **Traffic Impact Study Summary**

A Traffic Impact Study (TIS) was completed for the proposed development on January 27, 2022 and revised on February 23, 2022, by CHA Consulting, Inc. COVID-19 adjustment factors and a 1% annual growth rate were applied to the counts collected for the studied intersections. The results of the Intersection Capacity Analysis for the proposed development are as follows:

- SR 53/Dawsonville Highway and Academy Sports (signalized)
 - o Level of Service C (Acceptable)
- SR 53/Dawsonville Highway and Beechwood Boulevard (unsignalized)
 - o Level of Service D or better (Acceptable)
- SR 53/Dawsonville Highway and SR 53/McEver Road (signalized)
 - o Level of Service D (Acceptable)
- SR 53/Dawsonville Highway at the New Driveway (unsignalized)
 - o Level of Service A (Acceptable)

The project trips are expected to be distributed as follows:

- 35% to/from the south on SR 53
- 40% to/from the north on SR 53
- 1% to/from the west on Beechwood Boulevard
- 24% to/from the west on McEver Rd

Based on the Institute of Transportation Engineers (ITE), Trip Generation 10th Edition, the estimated trips for the development are provided below. Note. The calculations do not include Phase 2 of the development of which no specified use is proposed at this time.

Land Use	Size (SF)	AM Peak Hour		PM Peak Hour		Weekday Trips	
		Enter	Exit	Enter	Exit	Enter	Exit
Fast Food Restaurant	3,751	61	66	82	78	864	865
Auto Servicing	2,086	5	2	2	3	31	31
Totals	5,837	66	68	84	81	895	896

According to the TIS, the new trips generated by the new development will not deteriorate the intersections operation. The peak hours 95th queue at all intersections could be accommodated within the available storage. Therefore, no geometric improvements are recommended at the studied intersections.

▪ **Zoning History**

The following zoning actions have taken place in the immediate area during the last ten years:

2021 – A request by Parth S. Patel for a special use on a 1.41± acres tract zoned General Business (G-B) located at 1310 Dawsonville Highway for retail sales of alternative nicotine products was approved with conditions.

2020 – A request by OHC Lanier North, LLC to amend a 26.16± acres tract zoned Planned Unit Development (P-U-D) located at 0 & 2209 Karen Lane; 2106, 2234 and 2242 Sportsman Club Road; and 2049 Strickland Drive for an active adult community and four residential lots was approved with conditions.

2018 – A request by LLJ Development, LLC to rezone a 6.854± acres tract located at 0 and 1010 Dawsonville Highway from Office and Institutional (O-I) to General Business (G-B) zoning for a fitness center, retail center and restaurant was approved with conditions.

2018 – A request by REB Land Development, LLC to rezone a 2.744± acres tract located at 621 Lakeshore Drive NW from Residential-I (R-I) to General Business (G-B) zoning for a multi-tenant retail, office and restaurant was withdrawn at the City Council meeting.

2018 – A request by John Harris to rezone a 5.73± acres tract located at 1331 Lanier Valley Drive from Residential-II (R-II) and General Business (G-B) to General Business (G-B) zoning for a non-profit residential facility was approved with conditions.

2018 – A request by Lake 53, LLC to rezone a 6.227± acres tract located at 1995 Dawsonville Highway from General Business (G-B) to Planned Unit Development (P-U-D) zoning for 79 residential condominiums and office space was conditionally approved.

2017 – A request by Lidl US Operations to rezone a 6.854± acres tract (subject property) located at 0 and 1010 Dawsonville Highway from Office and Institutional (O-I) and General Business (G-B) to General Business (G-B) zoning for a grocery store was withdrawn at City Council.

2017 – A request by Oak Hall Companies, LLC to rezone a 157.98± acres tract located at 0, 1264 and 1817 Ahaluna Drive; 1876 Dawsonville Highway; 2208 Karen Lane; 0 and 2029 Strickland Drive; 0 and 1489 West Lake Drive from Residential-I-A (R-I-A), Residential-I (R-I), Planned Unit Development (P-U-D) and Regional Business (R-B) to Planned Unit Development (P-U-D) and General Business (G-B) zoning for a mixed-use, age restricted community was approved with conditions.

2017 – A request by Oak Hall Companies, LLC to annex a 50.81± acres tract with a zoning of Planned Unit Development (P-U-D) and General Business (G-B) located at 0 and 1758 Ahaluna Drive; 1508, 1550, 1740, 1746, 1758, 1760, 1934 and 1982 Dawsonville Highway; 300 and 301 Skyview Drive; 0, 2008 and 2016 Strickland Drive was conditionally approved for a mixed-use, age restricted community.

2017 – A request by Oak Hall Companies, LLC to annex a 26.16 ± acres tract with a zoning of Planned Unit Development (P-U-D) located at 0 and 2209 Karen Lane; 2106, 2234 and 2242 Sportsman Club Road; 2049 Strickland Drive was conditionally approved for an age restricted, active adult community.

2015 – A request by West Ahaluna, LLC to annex an 8.74± acres tract with a zoning of Residential-I-A (R-I-A) located at 0 and 1264 Ahaluna Drive was conditionally approved for no proposed use.

2014 – A request by West Ahaluna, LLC to annex a 70.23± acres tract with a zoning of Planned Unit Development (P-U-D) located at 0 and 1817 Ahaluna Drive; 1982 Dawsonville Highway; 2208 Karen Lane; 2008, 2016 and 2029 Strickland Drive was approved with conditions. In addition, the same applicant requested to rezone a 31.93± acres tract located at 0 Ahaluna Drive NW and 1489 West Lake Drive NW from Residential-I (R-I) to Planned Unit Development (P-U-D) was also approved with conditions for a 199-lot single-family subdivision.

2013 – A request by America's Home Place, Inc. to rezone a 25.11± acres tract located at 0 and 1198 Dawsonville Highway; 1232 Ahaluna Drive and 1162 Lakeshore Circle from Residential-I (R-I), Residential-II (R-II) and Office and Institutional (O-I) to General Business (G-B) zoning for a commercial shopping center was approved with conditions.

2010 – A request by Bill Dupree to annex a 7.11± acres tract with General Business (G-B) zoning and rezone a 2.44± acres tract from Residential-II (R-II) to General Business (G-B) located at 0, 1293, 1297 and 1139 Dawsonville Highway was approved with conditions for the Olive Garden, Buffalo Wild Wings, Cheddar's and Holiday Inn Express development.

▪ **Staff Analysis**

(1) Is the proposed use suitable in view of the zoning and development of adjacent and nearby property?

The subject property has served as a church since 1970. The adjacent properties consist of retail, restaurant and service uses fronting Dawsonville Highway. Residential uses are located to the north and west fronting Beechwood Boulevard. These properties are zoned Residential-I (R-I), Residential-II (R-II) and General Business (G-B). It appears the proposed use is consistent with existing and new commercial development located along Dawsonville Highway.

(2) Will the proposed use adversely affect the existing use or usability of adjacent or nearby property?

The Dawsonville Highway corridor will continue to experience increased traffic volumes which are currently strained during the holiday period and certain peak times. The proposed development will add additional turning movements to and from Dawsonville Highway. If approved, appropriate buffers are necessary to help reduce visual impacts the Beechwood Estates neighborhood.

(3) Is the proposed use compatible with the purpose and intent of the Comprehensive Plan?

The proposed use appears to be consistent with the purpose and intent of the Comprehensive Plan.

The property is located within the *Retail/Commercial* land use category which includes commercial service activities such as grocery stores, banks, restaurants, theatres, hotels, and automotive related businesses. Commercial uses may be located as a single use in one building or grouped together in a shopping center.

The subject property is also located within the *Suburban Commercial* Character Area. This area will continue to grow as a regional retail center for the City and Hall County, but should diversify over time to include multi-family housing and a higher-density mix of retail, office, services and high-quality employment. In addition, expanding premium retail could offer a variety of shopping options that are currently not available elsewhere in the City. The area has become one of the most prominent commercial corridors and gateways into the City, and a thriving economic anchor for the northwest side. When development occurs, adequate buffers should be maintained around development to protect watersheds and sensitive environments. Land uses allowed within the *Suburban Commercial* area include commercial, public / institutional, multi-family residential and mixed use.

(4) Are there substantial reasons why the property cannot or should not be used as currently zoned?

The subject property is zoned R-I, R-II and G-B and is 6.6± acres in size. Approximately 5.1± acres of the property is zoned R-I which is limited to single-family uses or semi-public uses such as a church. A 1.0± acres portion of the property is zoned R-II which allows for single-family, two-family or up to 12 multi-family apartments. The remaining 0.5± acre of the property is zoned G-B which allows for commercial uses with no current zoning restrictions. The applicant desires that the entire property have a zoning of G-B for commercial uses.

(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 subject property and surrounding development currently utilize City water and sewer services and there is sufficient capacity to serve the development.

Existing public safety services respond to the adjacent and nearby properties. Gainesville Fire Station #1 is located approximately 2.4 miles from the property. Future fire station #6 is planned at the entrance to the future master planned, age restricted development located one mile north of the subject property off of Dawsonville Highway.

No impacts to the school system are expected as the development is for non-residential purposes.

According to the applicants Traffic Impact Study, the proposed development is anticipated to generate 1,791± new trips per weekday (50% entering, 50% exiting), 134± A.M. peak hour trips (49% entering, 51% exiting) and 165± P.M. peak hour trips (49% entering, 51% exiting).

Georgia Department of Transportation (GDOT) has a corridor widening project being conducted on SR 53/Dawsonville Highway from Ahaluna Drive to Shallowford Road. The main purpose of the project is to improve congestion for northbound and southbound through movements on Dawsonville Highway connecting existing right-turn auxiliary lanes between Ahaluna Drive and Shallowford Road. This will create three through lanes in each direction. The project will also modify the existing median on SR 53 at Beechwood Boulevard into an R-CUT median to prohibit eastbound left turns from Beechwood Boulevard onto SR 53. The proposed project will also install a dual R-CUT median at the existing median opening on SR 53 between the McEver

Corners Shopping Center and the Jackson EMC access driveway. The project is proposed to be constructed in 2023.

In addition, staff recommends the developer pursue inter-parcel access which would provide connection to the adjacent McEver Corners shopping center.

(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 anticipated use for the subject property is for non-residential purposes which is consistent with the Comprehensive Plan and the proposed development.

The property is located within one of Gainesville's most active regional commercial corridors. Tremendous growth has occurred over the past 20 years, some of which include the Northlake Square shopping center, Village Shoppes of Gainesville, Home Depot, Best Buy, McEver Corners shopping center, Texas Roadhouse, Olive Garden, Cheddar's, Buffalo Wild Wings, Culver's restaurant, numerous retail strip centers, child day care facility and a 94-room Holiday Inn Express hotel. As well, it is anticipated that the 860-unit age-restricted development known as "Lake Society" off of Ahaluna Drive and Dawsonville Highway will begin development within the next year.

(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?

Due to the subject property's consistency with the Comprehensive Plan and its proximity to existing commercial uses, the proposal with the recommended zoning conditions appears to promote a reasonable balance between the interests of the City, the property owner, and neighboring residents and property owners.

▪ **Staff Recommendation**

The Planning Division staff is recommending **conditional approval** of this rezoning request with **G-B zoning**, based on the Comprehensive Plan and the adjacent residential and non-residential land uses.

Conditions

1. The proposed buildings shall be generally consistent with the standards depicted on the concept plan and architectural elevation provided with this rezoning application and shall adhere to the Gateway Corridor Overlay Zone standards.
2. Prohibited uses for the subject property shall include group homes, crisis centers, adult novelty stores, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, tobacco or vaping stores, tire stores, auto parts stores, gas station/convenience store, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like.

3. A mixture of evergreen and deciduous buffer trees shall be planted at the top of the grade between Beechwood Boulevard adjacent to the proposed building/parking lot/service areas. In addition, the frontage landscape strip at the street grade of Beechwood Boulevard shall be planted with trees, shrubs and sod similar to the adjacent Olive Garden restaurant property. The location, size and type of landscaping /trees shall be subject to the approval of the Community and Economic Development Department Director.
4. An electronic message board / changeable copy sign shall not be permitted.
5. Free-standing signage shall not be allowed along Beechwood Boulevard.
6. The subject property shall be limited to one driveway on Beechwood Boulevard and one driveway on Dawsonville Highway as generally depicted on the concept plan. In addition, an inter-parcel access drive shall be permitted to connect with the adjacent McEver Corners shopping center located south of the subject property.
7. Prior to a permit being issued, the developer/property owner shall exhaust all reasonable measures to provide for inter-parcel vehicular access with the adjacent McEver Corners shopping center property located south of the subject property as determined by the Gainesville Public Works Director. Documentation shall be provided to the City of Gainesville in this regard.
8. All access point design for the subject property shall be submitted for review by the Georgia Department of Transportation in conjunction with the Gainesville Public Works Director. 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.



GAINESVILLE

Olive
Garden

R-II

Guilford
Immediate
Care

G-B

R-II

BEECHWOOD BOULEVARD

R-I

LANIER SPRINGS DRIVE

Michael's

G-B

DAWSONVILLE HIGHWAY

L-I

Jackson EMC

Applicant: **INTERFACE PROPERTIES, LLC**

REZONING REQUEST

Subject Property Address:
989 Dawsonville Highway, NW

Tax Parcel:
01-115-002-002E

Request:

Rezone a 6.6+/- acres tract from Residential-I (R-I), Residential-II (R-II) and General Business (G-B) to General Business (G-B) for retail, drive-thru restaurant and auto service



Subject Property



Meeting Date: **03/08/2022**

Map Prepared: **02/15/2022**

0 90 180 Feet
Page 19 of 127

SCALE: 1" = 167'



GAINESVILLE



Applicant: **INTERFACE PROPERTIES, LLC**

REZONING REQUEST

Subject Property Address:
989 Dawsonville Highway, NW

Tax Parcel:
01-115-002-002E

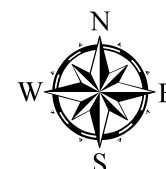
Request:

Rezone a 6.6+/- acres tract from Residential-I (R-I), Residential-II (R-II) and General Business (G-B) to General Business (G-B) for retail, drive-thru restaurant and auto service



Subject Property

Aerial from 2021



Meeting Date: **03/08/2022**

Map Prepared: **02/15/2022**

0 90 180 Feet
Page 20 of 127

SCALE: 1" = 167'

NARRATIVE REPORT

For City of Gainesville Application for Rezoning Action

By Interface Properties LLC dated January 26, 2022

This Narrative Report is submitted by Applicant Interface Properties LLC (hereafter "Applicant") on behalf of property owner, Chatahoochee Baptist Association Inc., for the property located at 989 Dawsonville Highway, Gainesville, Georgia 30501, tax parcel 01115 002002E.

Applicant seeks to rezone the property to G-B (general business). The property is approximately 6.6 acres in total and has 3 separate zoning classifications currently. A portion of the property is already zoned G-B, a different portion of the property is zoned R-II, and the remaining portion of the property is zoned R-1.

Dawsonville Highway is a commercial corridor with G-B zoning classifications to the north of the subject property, south of the subject property, and east of the subject property. The site plan is attached with the Application and shows two commercial buildings fronting Dawsonville Highway. Renderings submitted with the Application show the look and style of the proposed commercial buildings.

The property can be exited on the east end through a future joint driveway between the two commercial buildings located near the northern access drive for the Church.

The rear of the property, identified as Phase II – Future Development on the conceptual site plan, shall be limited to the following approved G-B uses: day care center, kennel, lodging services, office, retreat center, self-service storage facility, or veterinarian/animal hospital.

Prohibited uses for Phase II – Future Development include: adult novelty stores, group homes, crisis centers, adult entertainment centers, pawn shops, dollar-type stores, massage parlors, hookah lounge, tobacco or vaping stores, gas station/convenience stores, tire stores, auto parts stores, auto body shops, automobile sales establishments, marine sales or repair stores, automated or non-automated car washes, truck stops, coin-laundry facilities, tattoo parlors, psychics, fortune tellers, clairvoyants and the like."

Applicant respectfully requests approval and submits the exhibits in support of its requests.

If the planning staff, the Planning and Appeals Board, or City Council Members need additional information, please do not hesitate to contact Ken Goodman with Interface Properties LLC or Applicant's counsel, Steven P. Gilliam, whose contact information is contained on the law firm's letterhead on which this narrative is written.

FILE NAME: 21-081.DWG

CITY OF GAINESVILLE PARCEL NO.
01115 002002E

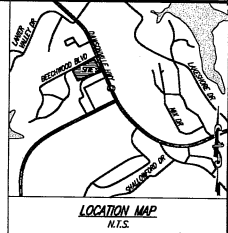
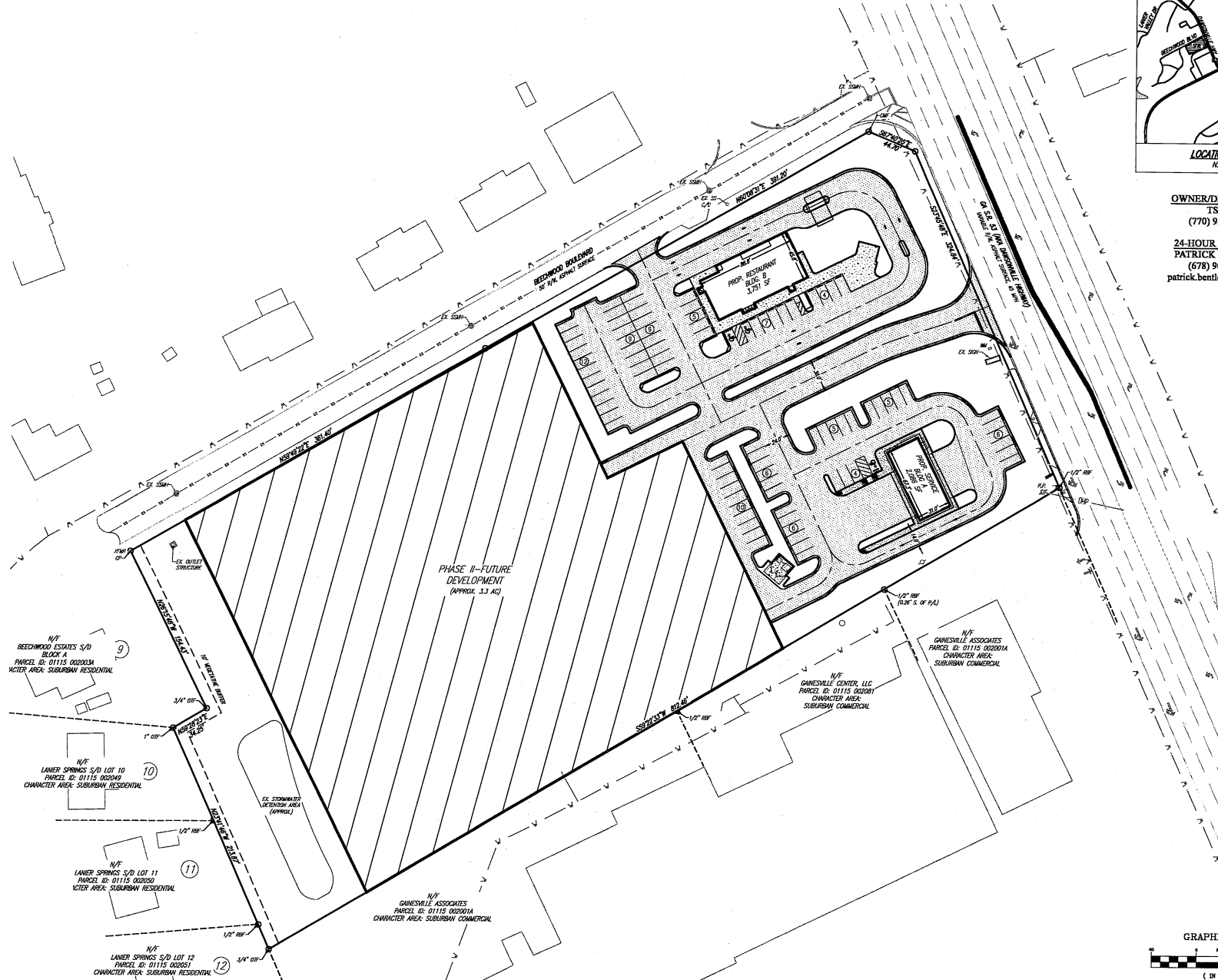
CHARACTER AREA
SUBURBAN COMMERCIAL

CURRENT ZONING
P-1 P-4 P-5

PROPOSED ZONING
C-3

TOTAL AREA
6.64 ACRES

SITE ADDRESS
895 DAWSONVILLE HIGHWAY
GAINESVILLE, GA 30501



OWNER/DEVELOPER
TSCG
(770) 955-2434

24-HOUR CONTACT
PATRICK BENTLEY
(678) 907-1914
patrick.bentley@tscg.com

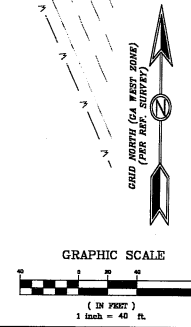
DES DAVIS
ENGINEERING & SURVEYING
133 PROMINENCE COURT
SUITE 210
DAWSONVILLE, GA 30534
PHONE: (770) 265-1234
DAVIDENGINEERS.COM

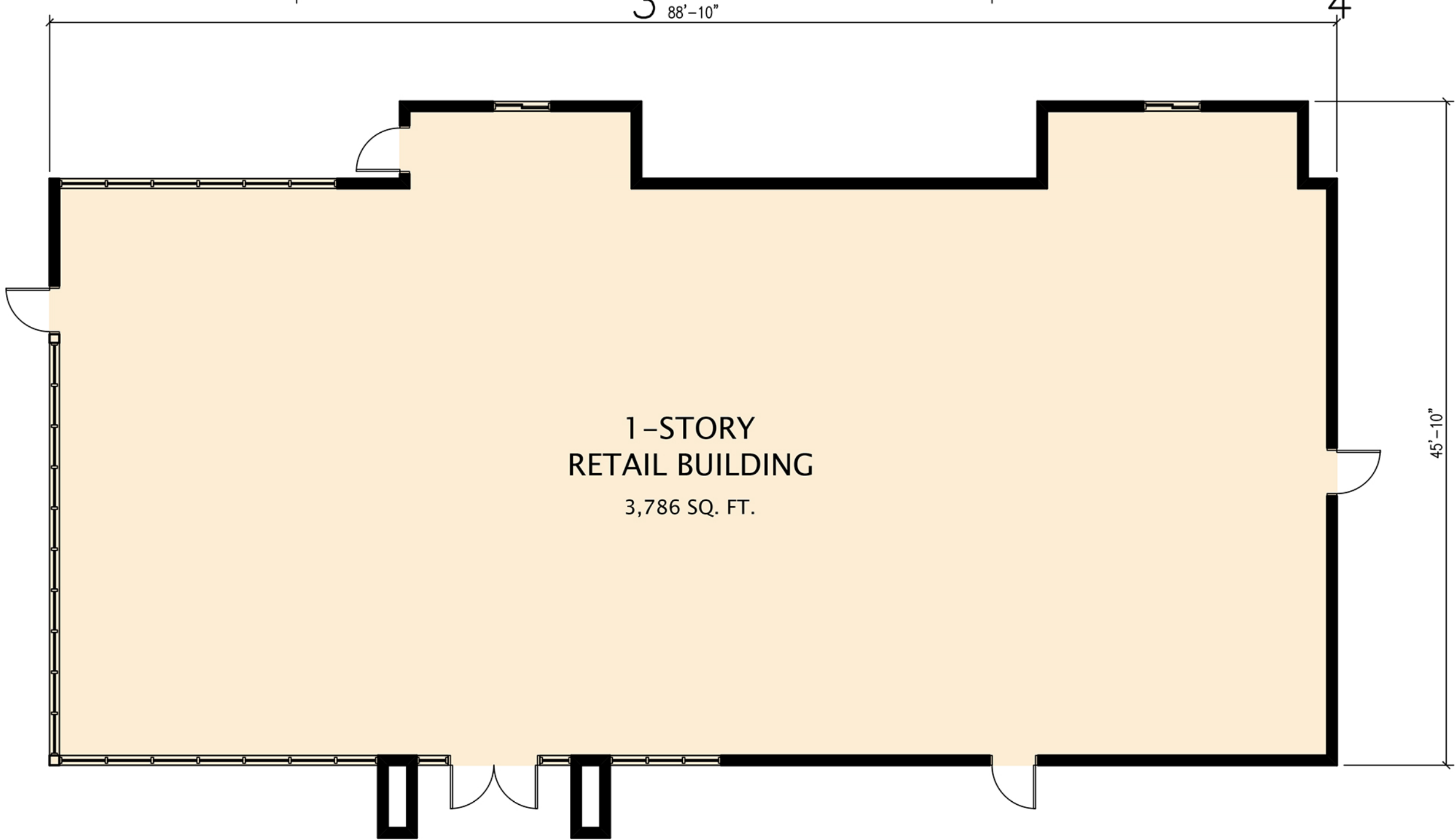
REZONING CONCEPT

TSCG
LAND LOT 172
9TH DISTRICT
CITY OF GAINESVILLE, GA

DRAWN BY: GRI
CHECKED BY: JPD
LAND LOT: 172
DISTRICT: 9TH
SECTION:
CITY: GAINESVILLE
COUNTY: INCL
DATE: 1/24/22

SHEET NO.
1 of 1
PROJECT NO.
2021-521





FLOOR PLAN 1/8"

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



LEFT SIDE ELEVATION 1/8"

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



FRONT ELEVATION 1/8"

0 4' 8' 16'

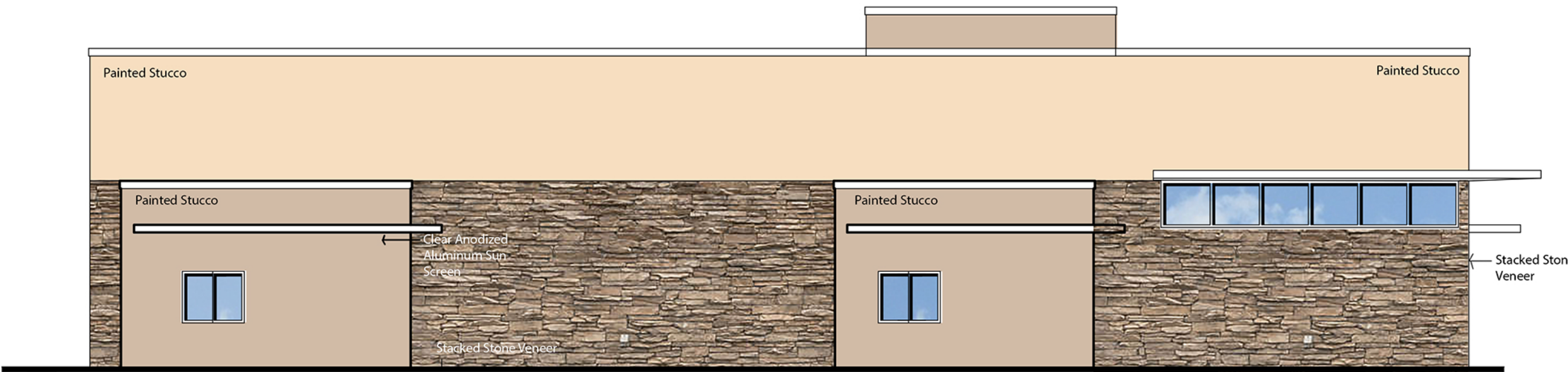
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RIGHT SIDE ELEVATION 1/8"

0 4' 8' 16'

SCALE: 1/8" = 1'-0"



REAR ELEVATION 1/8"

0 4' 8' 16'

SCALE: 1/8" = 1'-0"

PROPOSED RESTAURANT
BUILDING CONCEPT

OWNER
INTERFACE PROPERTIES, LLC.
1001 E. Telecom Drive
Boca Raton FL 33431

TSCG
Land Lot 172
9th district
City of Gainesville, GA

989 Dawsonville Highway
Gainesville, GA 30501

MARK	DATE	DESCRIPTION

PROJECT NO:	KADI-INT.01
CAD DWG FILE:	KADI-INT.01 SDP.DWG
DRAWN BY:	M.KRAVIT
CHK'D BY:	MJK
COPYRIGHT:	

SHEET TITLE
SCHEMATIC DESIGN
PLAN & ELEVATIONS

CONSULTANTS

PROPOSED RETAIL BUILDING CONCEPT

OWNER

INTERFACE PROPERTIES, LLC
1001 E. Telecom Drive
Boca Raton FL 33431

TSCG
Land Lot 172
9th district
City of Gainesville, GA

39 Dawsonville Highway
Gainesville, GA 30501

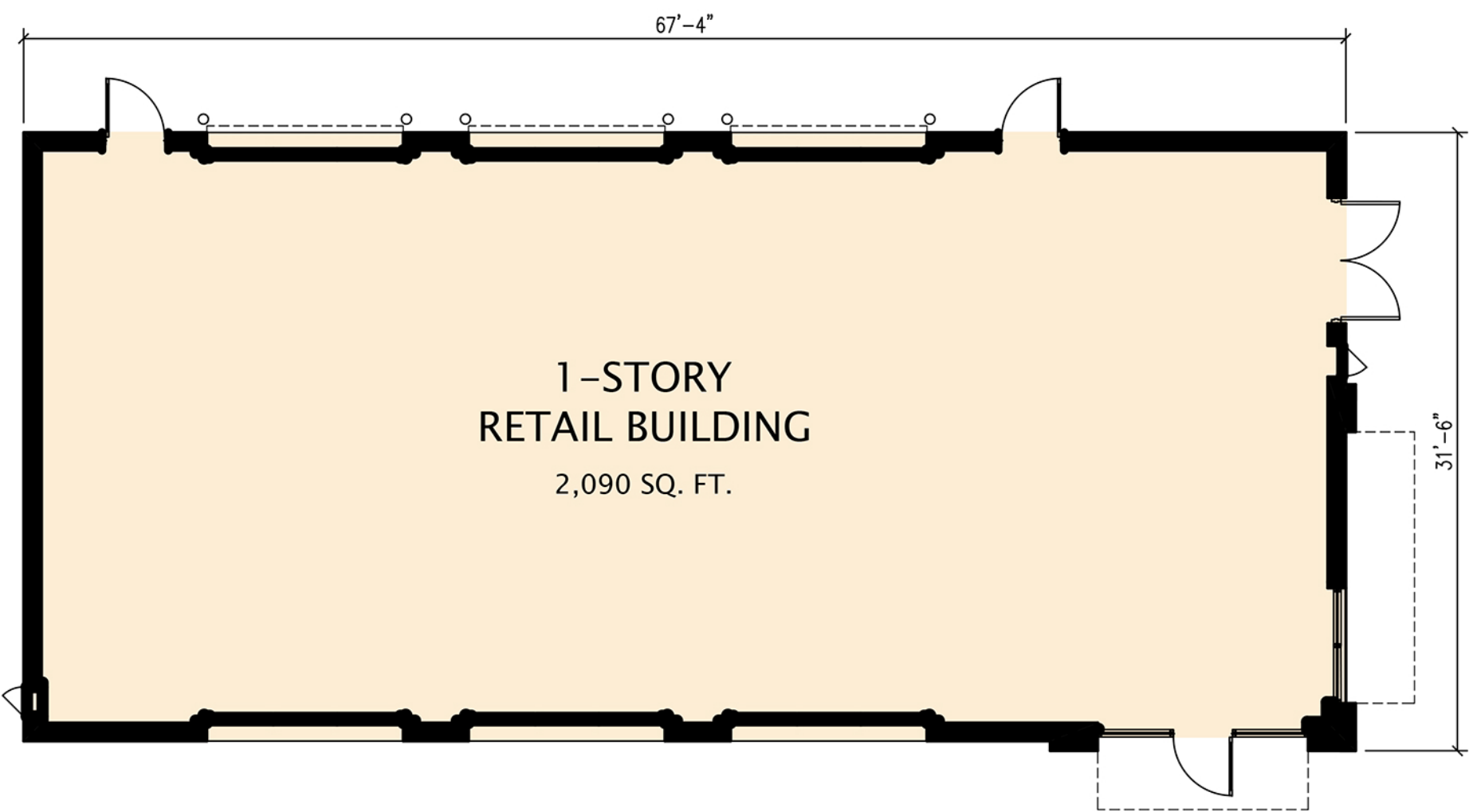
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DRAWN BY:	M.KRAVIT
CHK'D BY:	MAJ
COPYRIGHT:	

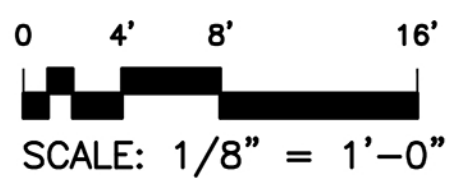
SHEET TITLE

SCHEMATIC DESIGN PLAN & ELEVATIONS

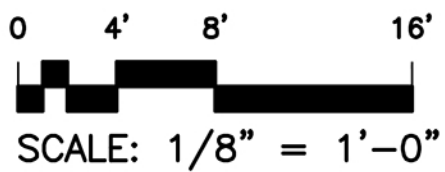
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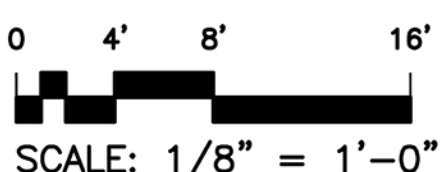
FLOOR PLAN 1 / 8"



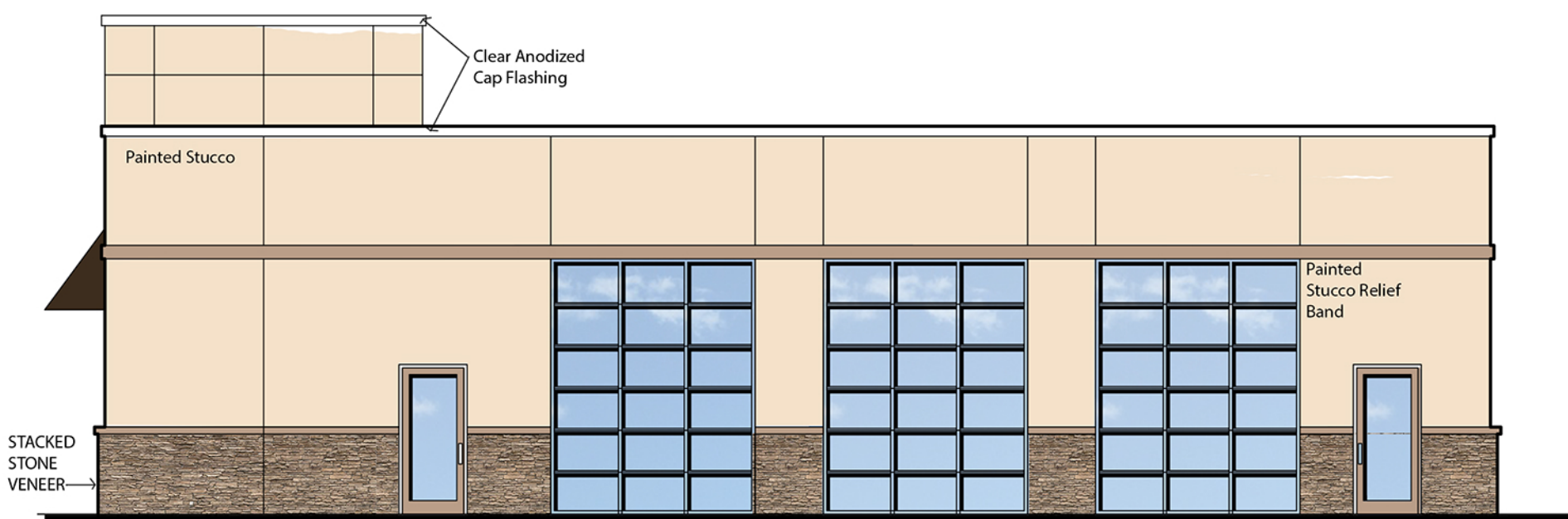
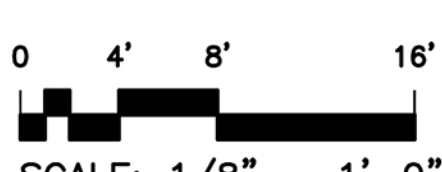
LEFT SIDE ELEVATION 1/8"



FRONT ELEVATION 1/8"



RIGHT SIDE ELEVATION 1/8"



REAR ELEVATION 1/8"





Traffic Impact Study

Proposed Commercial Development

SR 53/Dawsonville Highway
Gainesville, Georgia

Prepared For: Interface Properties LLC.

CHA Consulting, Inc. Project No.

21-TF-903



January 27, 2022


2-23-22

Revised February 23, 2022

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1. INTRODUCTION

1.1. STUDY AREA

This traffic study was conducted to evaluate the traffic impacts of a proposed commercial development consisting of a drive thru hamburger retailer which is not a full-service restaurant, auto servicing store and a cell phone store located in Gainesville, Georgia. The proposed site is located at the south-west corner of the SR 53 at Beechwood Boulevard intersection. The proposed lot for the site is currently undeveloped. Figure 1 illustrates the location of the site and identifies the roadway network in the vicinity.

1.2. PROPOSED DEVELOPMENT

The proposed development will consist of approximately 5,835 square feet of building space that will be divided among two main land uses. There will be a 3,750 square feet drive-through hamburger retailer on the north parcel which is not a full-service restaurant. On the south side, there will be a 2,085 square feet auto service (oil). The commercial businesses are expected to be built out in 2023. The site will have a full access point on Beechwood Boulevard and a right in/right out driveway on SR 53. **Appendix A** illustrates the proposed site plan.

1.3. PLANNED TRANSPORTATION IMPROVEMENTS

Georgia Department of Transportation (GDOT) District 1 has a corridor widening project being conducted on SR 53/Dawsonville Highway from Ahalluna Drive to Shallowford Road (PI 0015702) in Hall County. The main purpose of the project is to improve congestion for northbound and southbound through movements on SR 53 by connecting existing right-turn auxiliary lanes between Ahaluna Drive and Shallowford Road. This will create an approximate 0.83 miles segment with three through lanes in each direction. The project will also modify the existing median on SR 53 at Beechwood Boulevard into an R-CUT median to prohibit eastbound left turns from Beechwood Boulevard onto SR 53. The proposed project will also install a dual R-CUT median at the existing median opening on SR 53 between the McEver Corners Shopping Center and the Jackson EMC access driveway. The project is proposed to be constructed in 2023. The roadway plans showing the SR 53 corridor improvements from Beechwood Boulevard to McEver Road is presented in **Appendix B**.

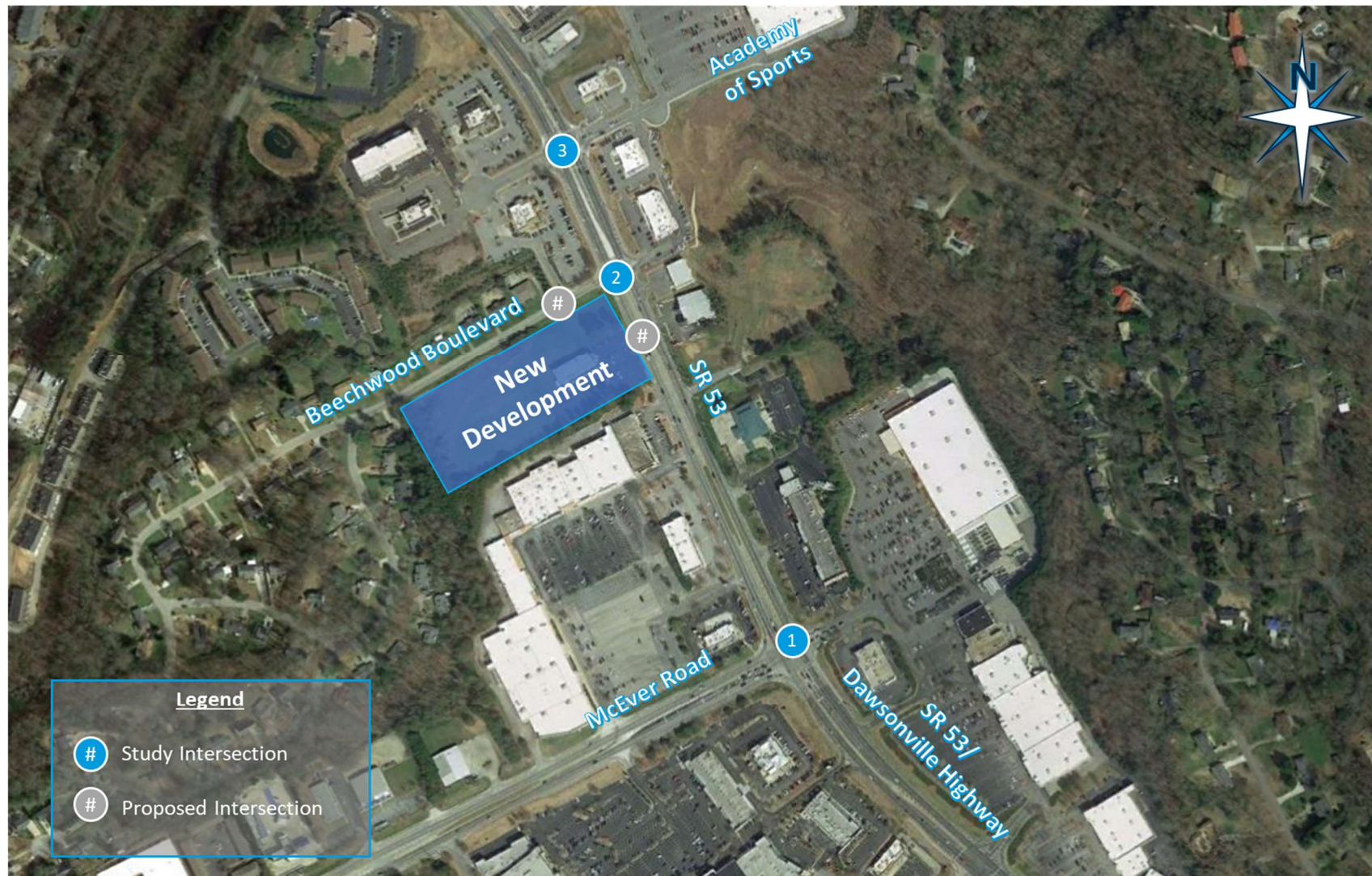


Figure 1 – Aerial View of Study Area

2. EXISTING CONDITIONS

2.1. ROADWAYS

SR 53/Dawsonville Highway is a four-lane median divided highway that runs primarily north-south and serves heavy commercial development within the vicinity of the site. SR 53/Dawsonville Highway is classified as an Urban Principal Arterial and has a posted speed limit of 45 mph within the study area. SR 53 originates at the Alabama state line and travels primarily east through Georgia's rural and mountainous regions in the northwest and northern portions of the state. SR 53 intersects US 19/SR 400 in Dawsonville and continues east through Forsyth County, before finally entering Hall County, crossing the Chestatee River and making the southwest turn onto McEver Road. SR 53 then proceeds in a southerly and southeasterly direction toward the Athens area, where it terminates at its intersection with SR 15 in downtown Watkinsville. On Dawsonville Highway south of McEver Road, the highway is signed as SR 53 Connector. SR 53 Connector runs east from McEver Road into downtown Gainesville, running in common with SR 60 beginning at its intersection with Jesse Jewell Parkway. SR 53 Connector terminates at its interchange with Interstate 985. As part of the GDOT PI 0015702, corridor improvement project, SR 53 will be widened to a 6-lane median divided highway by Year 2023.

SR 53/McEver Road is a four-lane median divided highway that runs primarily east-west and serves industrial and heavy commercial development within the vicinity of the site. McEver Road is classified as an Urban Principal Arterial and has a posted speed limit of 45 mph. McEver Road originates as Peachtree Industrial Boulevard in Gwinnett County at the intersection with Holcomb Bridge Road and becomes McEver Road at the Hall County line.

2.2. INTERSECTIONS

The following intersections were evaluated as part of this study:

1. SR 53/Dawsonville Highway and Academy of Sports (signalized)
2. SR 53/Dawsonville Highway and Beechwood Boulevard (unsignalized)
3. SR 53/Dawsonville Highway and SR 53/McEver Road (signalized)

Existing geometry and traffic operation control of the existing intersections were inventoried. Traffic signal timing data for the intersection of SR 53/Dawsonville Highway and SR 53/McEver Road is contained in the Synchro models developed for the GDOT PI 0015702, corridor improvement project.

2.3. EXISTING TRAFFIC FLOW PATTERNS

Existing Turning Movement Count (TMC) data were collected at three studied intersections on December 16, 2021 as shown in **Appendix C**. Counts were collected for two hours during the morning peak period (7:00-9:00 am) and for two hours during the evening peak period (4:00-6:00 pm).

The recent COVID-19 pandemic has resulted in various business closures and altered school schedules. As a result, traffic patterns in 2021 have differed from past years. The growth rate, as described in section 3.1, was applied to the 2019 traffic volume reported for SR 53 and McEver Road to estimate what the expected 2021 traffic would be.

COVID-19 adjustment factors were calculated based on the expected 2021 traffic and the peak hour count that was collected in the field. The adjustment factors, as shown in **Table 1**, were then applied to the raw counts collected in the field to estimate "typical" 2021 traffic for the study area. **Figure 2** presents the adjusted 2021 peak hour traffic for the study intersections.

Table 1 - COVID-19 Adjustment Factors

GDOT Count Station ID	Direction	Peak Hour	2019 TADA counts (Pre-COVID)	Growth Rate	Estimated 2021 counts	2021 TADA counts (Post-COVID)	COVID Adj. Factor
139_0258	NB	AM	934	1.0%	953	856	1.11
		PM	1738	1.0%	1773	1696	1.05
	SB	AM	1384	1.0%	1412	1329	1.06
		PM	1234	1.0%	1259	1218	1.03
139-0274	NB	AM	809	1.0%	825	785	1.05
		PM	1380	1.0%	1408	1284	1.10
	SB	AM	954	1.0%	973	923	1.05
		PM	927	1.0%	946	968	1.00

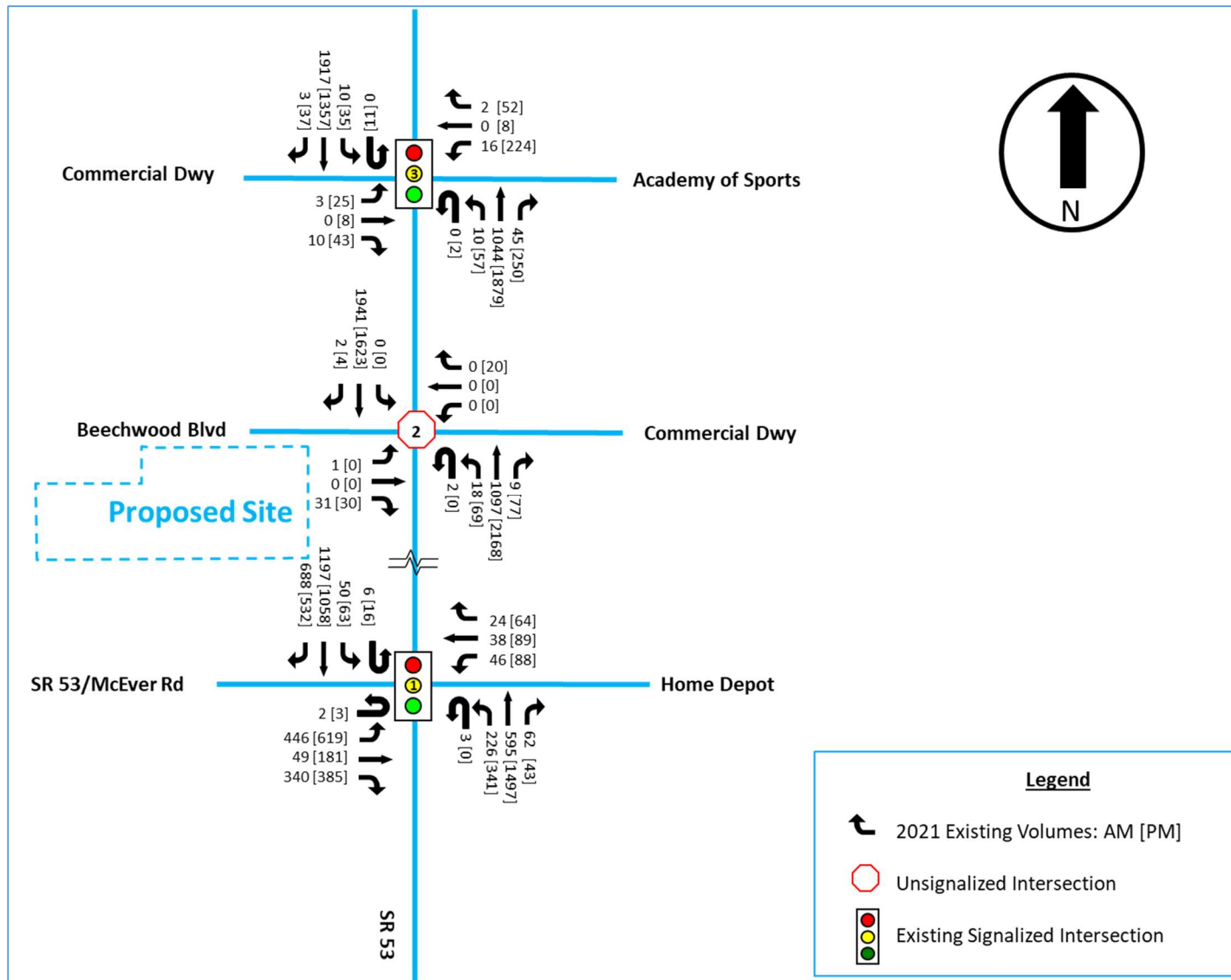


Figure 2 - Existing Peak Hour Volumes

3. TRAFFIC PROJECTIONS

3.1. FUTURE BACKGROUND TRAFFIC

A build-out year of 2023 was established for the project. The GDOT traffic corridor study (PI 0015702) projects the 2037 traffic for two of the intersections. This project had determined a 1% per year growth rate for the SR 53 corridor within the study limits. Therefore, a growth rate of 1.0 percent per year was applied to SR 53 and crossing roads.

3.2. TRIP GENERATION

Trip generation analysis was performed for each of the Development Land Uses based on data published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual 10th Edition (TGM)*.

A portion of the total trips to be generated by the proposed development would be pass-by trips which are trips made by existing traffic on the adjacent roadway. The *Trip Generation Handbook*, published by ITE, includes suggested pass-by trip rates for various land uses depending on their size. The recommended pass-by rate for Land Use Code 935 is 71 percent of the total trips generated by the site. The pass-by rate for Land Use Code 943 is assumed to be 20 percent of the total trips generated by the site. Daily and peak hour trips for the proposed development is presented in **Table 2**.

The total number of weekday trips that would be generated by the proposed development is 1,791 trips per day. A total of 134 weekday trips would be generated during the morning (AM) peak hour and 165 weekday trips would occur during the evening (PM) peak hour. Pass-by trips account for 1,240 of the daily trips, 91 of the morning peak hour trips, and 114 of the evening peak hour trips. Of the total trips generated, the new development is expected to generate 9 new heavy truck trips per day, with no heavy truck trips being made during the peak hours. The proposed project is not expected to generate any pedestrian, bicycle, or transit trips.

Table 2 – Trip Generation Summary

Land Use		Area (Sqft)	Primary Trips																	
			AM						PM						Daily					
			Total Trips		Car Trips		Truck Trips		Total Trips		Car Trips		Truck Trips		Total Trips		Car Trips		Truck Trips	
			Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
935	Fast Food Restaurant with Drive-Thru Window and No Indoor Seating	3,751	61	66	61	66	0	0	82	78	82	78	0	0	864	865	861	861	3	4
943	Auto Servicing	2,086	5	2	5	2	0	0	2	3	2	3	0	0	31	31	30	30	1	1
Total			66	68	66	68	0	0	84	81	84	81	0	0	895	896	891	891	4	5
Land Use		ITE Pass By Rate	ITE Pass By Trips																	
			AM						PM						Daily					
			Total Trips		Car Trips		Truck Trips		Total Trips		Car Trips		Truck Trips		Total Trips		Car Trips		Truck Trips	
			Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
935	Fast Food Restaurant with Drive-Thru Window and No Indoor Seating	71%	43	47	43	47	0	0	58	55	58	55	0	0	613	614	611	611	2	3
943	Auto Servicing	20%	1	0	1	0	0	0	0	1	0	1	0	0	6	6	6	6	0	0

3.3. TRIP DISTRIBUTION FOR NEW TRIPS

After the magnitude of generated trips has been established, it is then necessary to determine the routing of the new trips. The trip distribution for the new trips was based on the existing traffic patterns from the AM and PM peak period counts at the existing site driveway.



The majority of project trips are expected to be distributed to/from the south of the project site. Only 1 percent of the total trips are expected to be distributed to/from the west of the project on Beachwood Boulevard. **Figure 3** presents the expected trip distribution for the project. The project trips are expected to be distributed as follows:

- 35% to/from the south on SR 53
- 40% to/from the north on SR 53
- 1% to/from the west on Beachwood Boulevard
- 24% to/from the west on McEver Rd

3.4. ASSIGNMENT OF PROJECT-GENERATED TRIPS

Project-generated trips were assigned to each driveway based on the expectation that the trips generated by each user would enter at the most convenient driveway in relation to the user space. Project-generated trips assigned to the driveway on Beachwood Boulevard were then added as right turns at the intersection of SR 53 at Beachwood Boulevard. The new trips generated by the proposed development were added to the Background Traffic (shown in **Figure 4**) to estimate the Opening Year 2023 With Project traffic (shown in **Figure 5**).

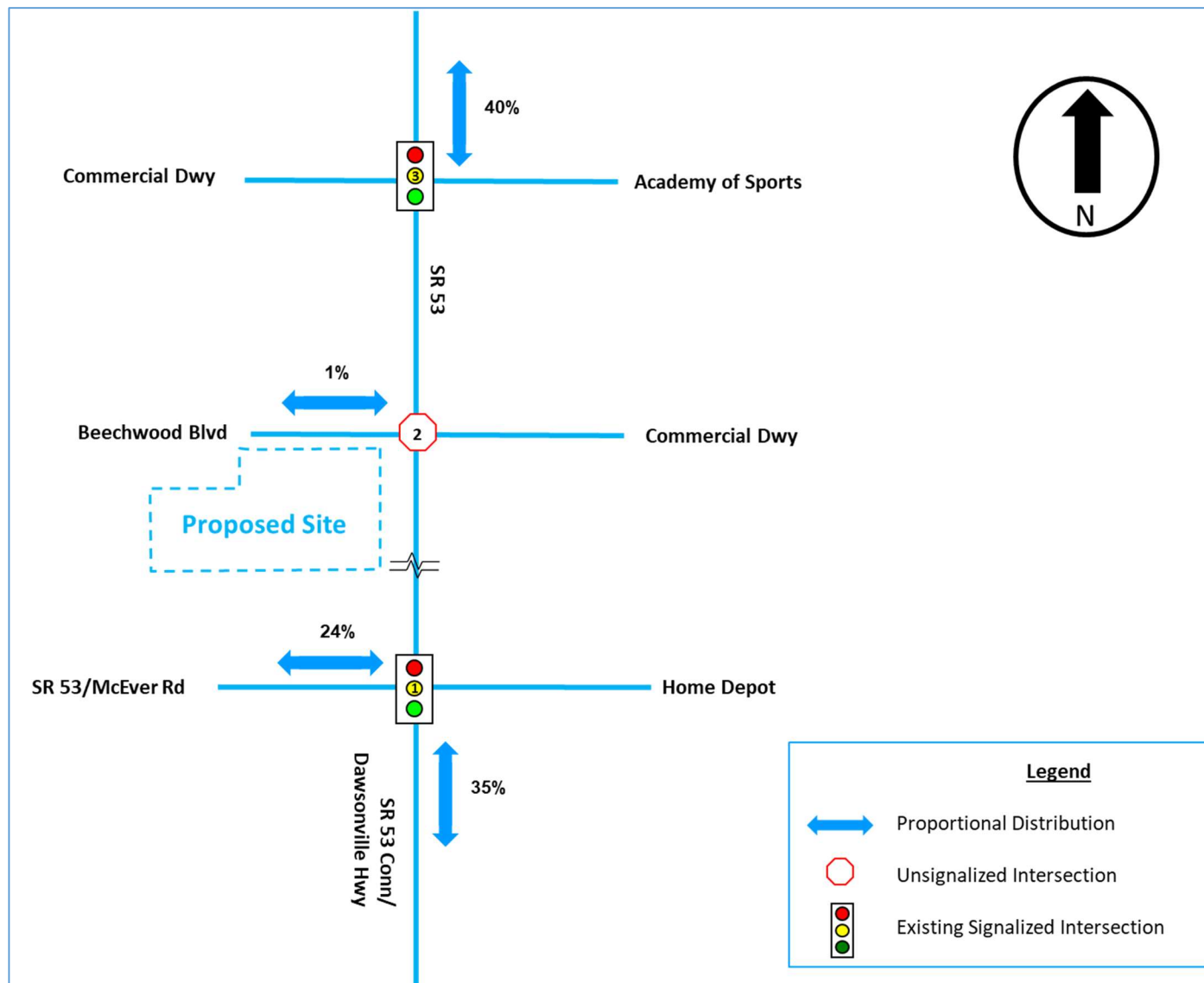


Figure 3 – New Trip Distribution

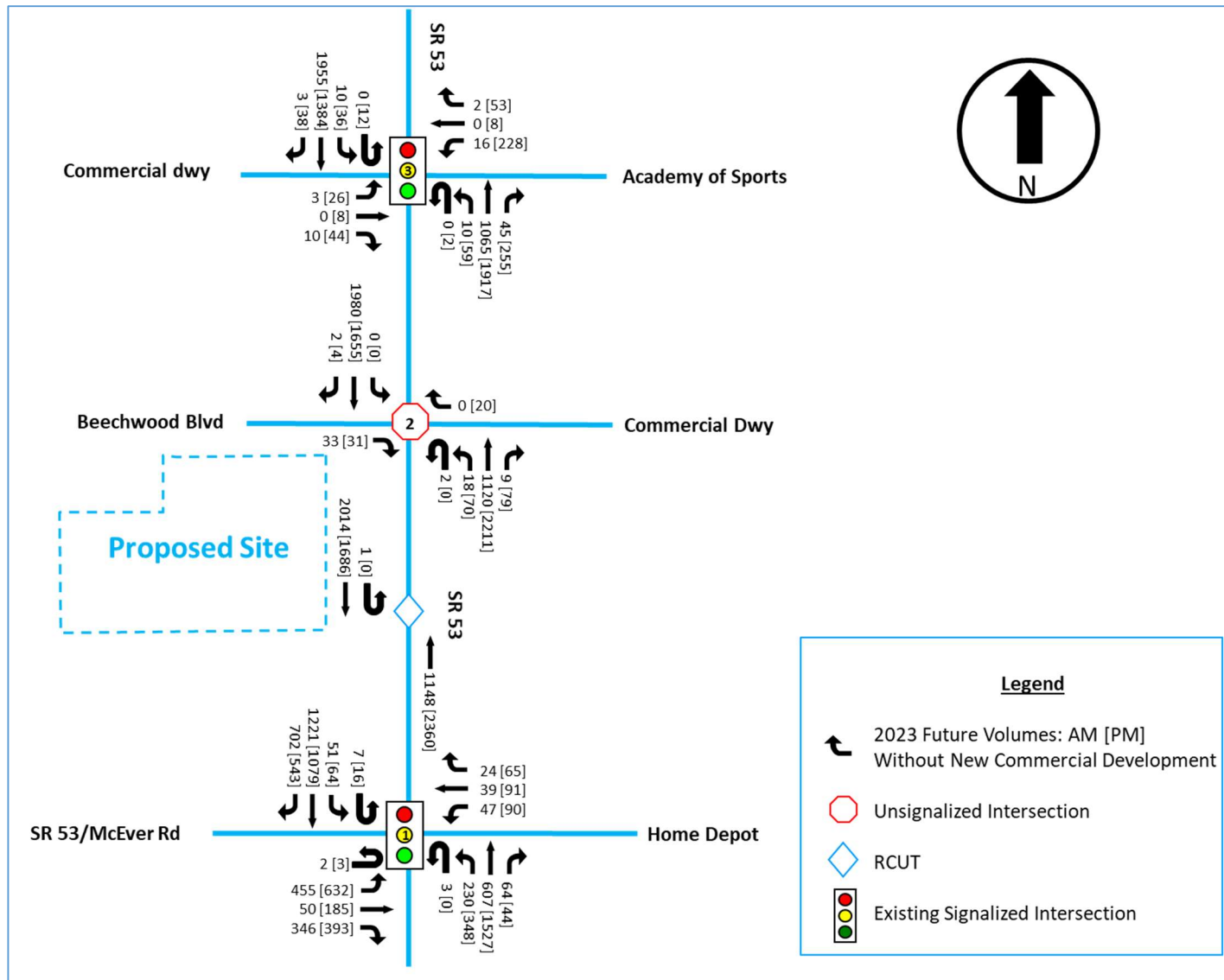


Figure 4 - Opening Year 2023 Background Traffic

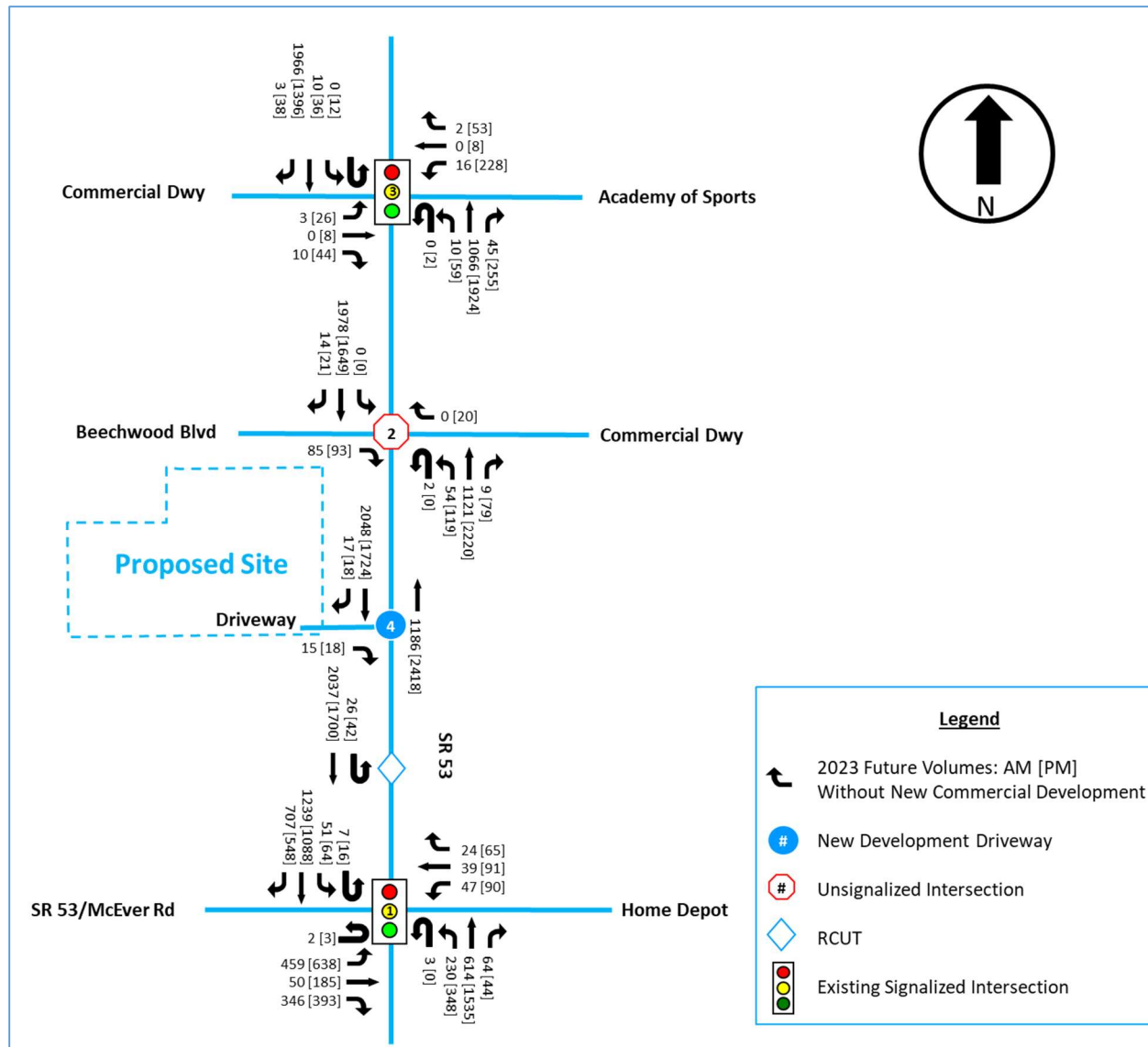


Figure 5 – Opening Year 2023 With Project Traffic

4. DATA ANALYSIS

4.1. LEVEL OF SERVICE CRITERIA

In order to quantify the impacts of the additional traffic and to determine any needed roadway and/or operational improvements, the existing and projected conditions were evaluated with traffic capacity analysis techniques. Synchro (10) was used to conduct capacity analysis. Synchro implements the capacity methods of the *Highway Capacity Manual* (HCM) for performing the industry standard evaluation of primarily signalized intersection performance. Delays used in the reports follow the procedure as recommended by the HCM. The 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 definitions for both stop sign controlled intersections and traffic signal-controlled intersections are provided in **Table 3**.

Table 3 – Level of Service 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

Source: *Highway Capacity Manual*

GDOT has ranges of adequate LOS based on area classification. Rural, sparsely developed areas have a minimum LOS requirement of C. This is due to the expectancy of rural residents for relatively uncongested conditions and design flexibility related to lower right of way costs. The minimum LOS for urban areas is D. This reflects 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 Dawsonville Highway project corridor is in the Atlanta metro area and, therefore, has a minimum LOS requirement of D.

4.2. INTERSECTION CAPACITY ANALYSIS RESULTS

Capacity analysis was used to evaluate the Existing Year 2021 and four future 2023 scenarios for the intersections being studied. For Existing Year 2021, the existing lane configurations and traffic control were used. For Future Year 2023, the lane configurations proposed by the corridor study (PI 0015702), as shown in **Appendix B**, and signal phasing plans, as shown in **Appendix D**, are used. The signal timings at the existing signalized intersections were optimized for the With Project traffic. **Table 4** shows the Intersection Delay and LOS during the AM and PM peak hours. **Table 5** presents the queue lengths for the traffic movements, impacted by the proposed development. Analysis reports are included in **Appendix E**.

INTERSECTION 1 – SR 53 AT MCEVER ROAD (SIGNALIZED)

The overall intersection operations exhibit a Level of Service (LOS) E in Existing Year 2021, and LOS D in the Opening Year 2023 Background condition and Opening Year 2023 With Project condition. The individual movements report failing operation (LOS F) for the Eastbound Left-turn, Northbound Left-turn and Southbound Left-turn movements. The queue length for the Eastbound Left-turn movement has increased by 5 ft and 10 ft during the AM and PM peak hours, respectively, in the With Project condition compared to the Background condition. The continuous eastbound left turn lane would accommodate these queues.

INTERSECTION 2 – SR 53 AT BEECHWOOD BLVD (UNSIGNALIZED)

The approaches at this intersection exhibit LOS D or better across the Existing, Opening Year 2023 Background condition and Opening Year 2023 With Project condition. This intersection is upgraded from a Two Way Stop Controlled intersection to an R-Cut intersection in the Opening Year as per the recommended improvements in the SR 53/Dawsonville Highway from Ahalluna Drive to Shallowford Road (PI 0015702) Corridor Study.

INTERSECTION 3 – SR 53 AT ACADEMY OF SPORTS

This intersection exhibits LOS C or better across the Existing, Opening Year 2023 Background condition and Opening Year 2023 With Project condition. The Eastbound and Westbound Movements report LOS E in the AM peak hour. In the PM peak hour, the Westbound Left turning movement operates at LOS F in the PM Peak hour, in all analysis years. Also, the Southbound left turning movement operates at LOS E during the PM Peak hour, in the Opening Year Background condition and With Project condition. The peak hours 95th queue at this intersection could be accommodated within the available storage.

INTERSECTION 4 – SR 53 AT NEW DEVELOPMENT DRIVEWAY

All the approaches at this right-in/right-out intersection would exhibit LOS A in the Opening Year 2023 With Project condition.

Table 4 – Results of Intersection Capacity Analysis

Int No.	Intersection	Approach	Movement	AM PEAK HOUR			PM PEAK HOUR		
				Existing Year 2021	Future Year 2023 Background	Future Year 2023 With Project	Existing Year 2021	Future Year 2023 Background	Future Year 2023 With Project
1	SR 53/McEver Road (Signalized)	Eastbound	Left	F (268.1)	F (139.7)	F (143.6)	F (141.5)	F (90.1)	F (101.1)
			Thru/Right	E (59.6)	E (55)	E (55)	E (60.7)	D (52.8)	D (53.8)
			Right	D (54.8)	D (51.2)	D (51.2)	D (49.0)	D (43.6)	D (43.8)
		Westbound	Left	E (64.0)	E (64.2)	E (64.2)	E (59.2)	E (59.3)	E (59.1)
			Thru/Right	E (67.9)	E (68.3)	E (68.3)	E (79.4)	E (79.6)	E (79.6)
		Northbound	Left	F (98.3)	E (74.4)	E (74.4)	F (141.2)	F (108.6)	F (128.2)
			Thru/Right	B (18.9)	C (20.3)	C (20.3)	D (51.7)	D (41.1)	D (42.8)
		Southbound	Left	E (70.5)	E (72.4)	E (71.6)	F (145.4)	F (106.5)	F (127.7)
			Thru	C (22.0)	C (23.6)	C (23.5)	C (33.5)	C (28.4)	C (29.2)
			Right	C (26.7)	E (67.3)	E (64.2)	C (23.9)	A (5.7)	A (7.2)
		Overall		E (60.4)	D (40.5)	D (52.1)	E (65.3)	D (49.1)	D (52)
2	SR 53/Beechwood Blvd (TWSC/RCUT)	Eastbound		C (15.8)	C (10)	B (10.5)	B (14.8)	A (9.2)	A (9.7)
		Westbound		A (0.0)	A (0)	A (0)	D (26.7)	C (17.3)	C (17)
		Northbound		A (0.3)	A (0.3)	C (22.7)	A (0.4)	A (0.4)	C (17.1)
		Southbound		A (0.0)	A (0)	A (0)	A (0.0)	A (0)	A (0)
3	SR 53/Academy of Sports (Signalized)	Eastbound	Left	E (70.2)	E (70.2)	E (70.2)	D (52.5)	D (52.2)	D (47.8)
			Thru/Right	E (69.5)	E (69.5)	E (69.5)	D (51.8)	D (51.5)	D (47.2)
		Westbound	Left	E (76.7)	E (76.7)	E (76.7)	F (92.1)	F (92.8)	F (133.6)
			Thru	A (0.0)	A (0)	A (0)	A (0.0)	D (50.9)	D (46.7)
			Right	E (69.4)	E (69.4)	E (69.4)	D (51.4)	D (51.1)	D (47)
		Northbound	Left	A (4.6)	A (2.4)	A (2.5)	B (11.8)	B (10.5)	B (12.5)
			Thru/Right	A (3.0)	A (1.8)	A (1.8)	B (15.6)	B (10.6)	B (13.5)
		Southbound	Left	A (2.2)	A (2.8)	A (2.8)	C (33.6)	E (57.4)	E (61.9)
			Thru/Right	A (7.6)	A (4.8)	A (4.8)	B (19.6)	B (18.3)	C (22.1)
		Overall		A (6.9)	A (4.6)	A (4.7)	C (22.5)	B (19.7)	C (27.3)
4	SR 53/Driveway	Eastbound	Right	–	–	A (10)	–	–	A (9.1)
		Northbound	Thru	–	–	A (0)	–	–	A (0)
		Southbound	Thru/Right	–	–	A (0)	–	–	A (0)

Table 5 – Queue Lengths of Impacted Movements due to the Development

Int No.	Intersection	Movement	AM PEAK HOUR			PM PEAK HOUR		
			Existing Year 2021	Future Year 2023 Background	Future Year 2023 With Project	Existing Year 2021	Future Year 2023 Background	Future Year 2023 With Project
1	SR 53/McEver Road	EB Left	441	401	406	552	508	518
		EB Thru	193	187	187	410	397	389
		EB Right	76	75	75	156	101	89
		WB Left	75	74	74	107	102	104
		WB Thru/Right	95	98	98	224	229	230
		NB Left	224	193	193	319	305	326
		NB Thru	244	183	185	1062	636	681
		NB Right	--	--	--	--	--	--
		SB Left	99	118	118	181	188	187
		SB Thru	567	383	387	570	309	338
		SB Right	591	489	492	167	4	12
2	Beechwood Blvd	EB Right	5	4	11	9	4	11
		WB Right	--	--	--	14	8	5
		NB Left	4	6	20	11	15	31
		NB Thru	--	--	--	--	--	--
		NB Right	--	--	--	--	--	--
		SB Thru/Right	--	--	--	--	--	--
3	Academy of Sports	EB Left	13	13	13	49	50	50
		EB Thru	0	0	0	28	28	28
		EB Right	--	--	--	--	--	--
		WB Left	40	40	40	382	391	373
		WB Thru	--	--	--	24	24	22
		WB Right	0	0	0	34	33	0
		NB Left	2	3	3	17	20	19
		NB Thru	80	63	63	562	402	392
		NB Right	0	--	--	45	--	--
		SB Left	4	7	7	54	61	51
		SB Thru	655	319	322	636	383	388
		SB Right	0	--	--	7	--	--

5. GDOT INTERSECTION CONTROL EVALUATION

A GDOT Intersection Control Evaluation (ICE) has been requested to be performed for the studied intersection to determine the preferred alternative for mitigating the peak hour intersection operations.

5.1. SIGNAL WARRANT ANALYSIS

The Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) outlines standards for warranting the installation of a traffic signal at a given intersection. The MUTCD includes a total of 9 Warrants which were examined as follows:

- ▶ Warrant 1, Eight-Hour Vehicular Volume
 - Examined for Future 2023 With Project conditions
- ▶ Warrant 2, Four-Hour Vehicular Volume
 - Examined for Future 2023 With Project conditions
- ▶ Warrant 3, Peak Hour
 - Not examined because land use is not expected to attract or discharge high volumes of traffic over a short period of time
- ▶ Warrant 4, Pedestrian Volume
 - Not examined because intersection has little to no pedestrian traffic
- ▶ Warrant 5, School Crossing
 - Not examined because there are no schools in the vicinity of the study intersection
- ▶ Warrant 6, Coordinated Signal System
 - Not examined because the intersection is not part of a coordinated signal system
- ▶ Warrant 7, Crash Experience
 - Examined for Future 2023 With Project conditions. The crash data for the calendar year 2020 was used for the analysis
- ▶ Warrant 8, Roadway Network
 - Not examined
- ▶ Warrant 9, Intersection Near a Grade Crossing
 - Not examined because intersection is not located near a railroad crossing

A signal warrant analysis was performed for the intersection of SR 53 at Beechwood Blvd, assuming that the intersection configuration remains as existing. Warrants 1 and 2 were examined using PC Warrants software for both the 2023 With Project volumes. The remaining Warrants 3 through 6 and also Warrants 8 and 9 do not apply to the study intersection. The PC Warrants reports are included in **Appendix F**.

Project-generated trips for the 24-hour period were estimated by applying the Time-of-Day Distribution published in the ITE TGM to the daily volume of trips expected to be generated by the proposed development. The project-generated trips for each hour were added to the 2023 Background volumes to establish 24 hours of the 2023 With Project volumes for the study intersection.

Warrants 1, 2, and 7 were analyzed for the 2023 With Project traffic. **The 2023 With Project Condition at the study intersection satisfies Warrants 1 or 2 and 7.** However, as part of the GDOT District 1 Widening Project (PI 0015702), the existing median on SR 53 at Beechwood Boulevard will be modified into an R-CUT median. Therefore, **an ICE waiver is being requested for this location.**

Full GDOT ICE analyses were conducted at two nearby signalized intersections (SR 53 at Mcever Road and SR 53 at Academy of sports). ICE analysis and waivers documents are included in **Appendix G**. The ICE evaluation indicated that the signal optimization for the two signalized intersections of SR 53 at Mcever Road and SR 53 at Academy of sports is the preferred alternative. The Opening Year With Project condition would provide similar results as the Opening Year Background condition.

6. CONCLUSIONS

This traffic study was conducted to evaluate the traffic impacts of a proposed commercial development consisting of a drive thru hamburger retailer which is not a full-service restaurant, auto servicing store and a cell phone store located in Gainesville, Georgia. The proposed site is located to the west of SR 53/Dawsonville Highway, just north of the intersection of SR 53/Dawsonville Highway and SR 53/McEver Road. The proposed lot for the site is currently undeveloped.

The proposed development will consist of a 5,835 square feet of building space that will be divided among two main land uses. There will be a 3,750 square feet drive-through hamburger retailer on the north parcel and a 2,085 square feet auto service (oil) on the south side. The commercial businesses are expected to be built out in 2023. The site will have a full access point on Beechwood Boulevard and a right in/right out driveway on SR 53.

Existing TMCs were collected at three studied intersections on December 16, 2021 for two hours during the morning peak period (7:00-9:00 am) and for two hours during the evening peak period (4:00-6:00 pm). These counts were adjusted for COVID-19 related impacts. A growth rate of 1.0% per year was applied on SR 53 and the crossing streets to establish traffic counts for the Opening Year 2023.

The total number of weekday trips that would be generated by the proposed development is 1,791 trips per day. A total of 134 weekday trips would be generated during the morning (AM) peak hour and 165 weekday trips would occur during the evening (PM) peak hour. Pass-by trips account for 1,240 of the daily trips, 91 of the morning peak hour trips, and 114 of the evening peak hour trips. Of the total trips generated, the new development is expected to generate 9 new heavy truck trips per day, with no heavy truck trips being made during the peak hours. The proposed project is not expected to generate any pedestrian, bicycle, or transit trips.

The majority of project trips are expected to be distributed to/from the south of the project site. Only 1 percent of the total trips are expected to be distributed to/from the west of the project on Beachwood Boulevard. The project trips are expected to be distributed as follows:

- 35% to/from the south on SR 53
- 40% to/from the north on SR 53
- 1% to/from the west on Beachwood Boulevard
- 24% to/from the west on McEver Rd

Intersection Capacity Analysis was performed using Synchro for the Existing Year, Opening Year Background condition and Opening Year With Project condition. The signal timings at the existing signalized intersections were reoptimized for the With Project traffic. Intersection 1 (SR 53 at McEver Road) is expected to operate at LOS D in both Background condition and Opening Year With Project condition. Intersection 2 (SR 53 at Beechwood Blvd) has individual movements operating at LOS C or better in the Background condition and Opening Year With Project condition. Intersection 3 (SR 53 at Academy of Sports) operates at overall intersection of LOS B in the Background condition and LOS C in Opening Year With Project condition.

Based on the results of the Opening Year analysis, the new trips generated by the new development will not deteriorate the intersections operation. The peak hours 95th queue at all intersections could be accommodated within the available storage. Therefore, **no geometric improvements are recommended at the studied intersections.**

APPENDIX A :

SITE PLAN



CITY OF GAINESVILLE PARCEL NO:
01115 002002E

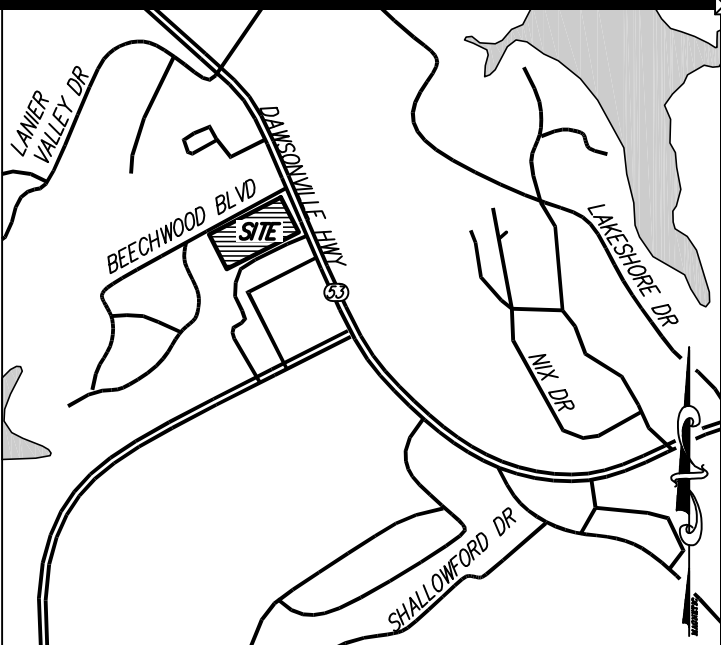
CHARACTER AREA:
SUBURBAN COMMERCIAL

CURRENT ZONING:
R-I, R-II, G-B

PROPOSED ZONING:
G-B

TOTAL AREA:
6.64 ACRES

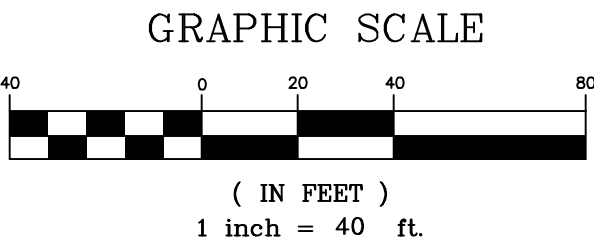
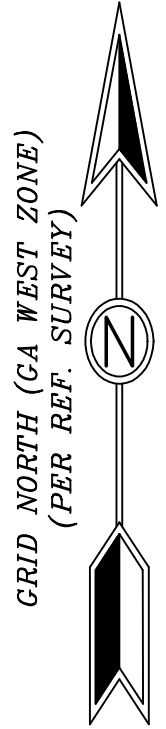
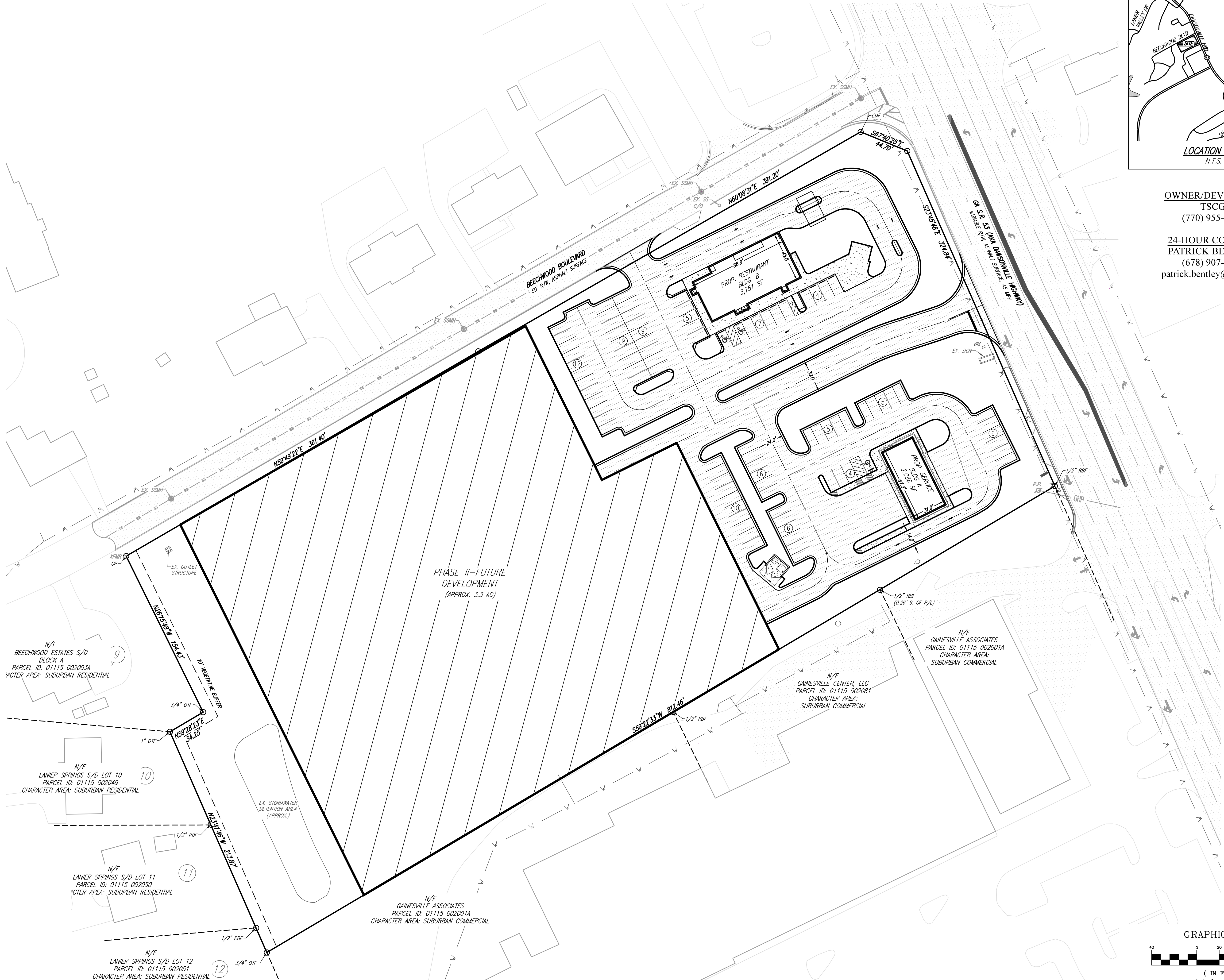
SITE ADDRESS:
989 DAWSONVILLE HIGHWAY
GAINESVILLE, GA 30501



LOCATION MAP
N.T.S.

OWNER/DEVELOPER
TSCG
(770) 955-2434

24-HOUR CONTACT
PATRICK BENTLEY
(678) 907-1914
patrick.bentley@tscg.com



REZONING CONCEPT

TSCG
LAND LOT 172
9TH DISTRICT
CITY OF GAINESVILLE, GA

DRAWN BY:	GRJ
CHECKED BY:	JKD
LAND LOT:	172
DISTRICT:	9TH
SECTION:	-
CITY:	GAINESVILLE
COUNTY:	HALL
DATE:	1/24/22

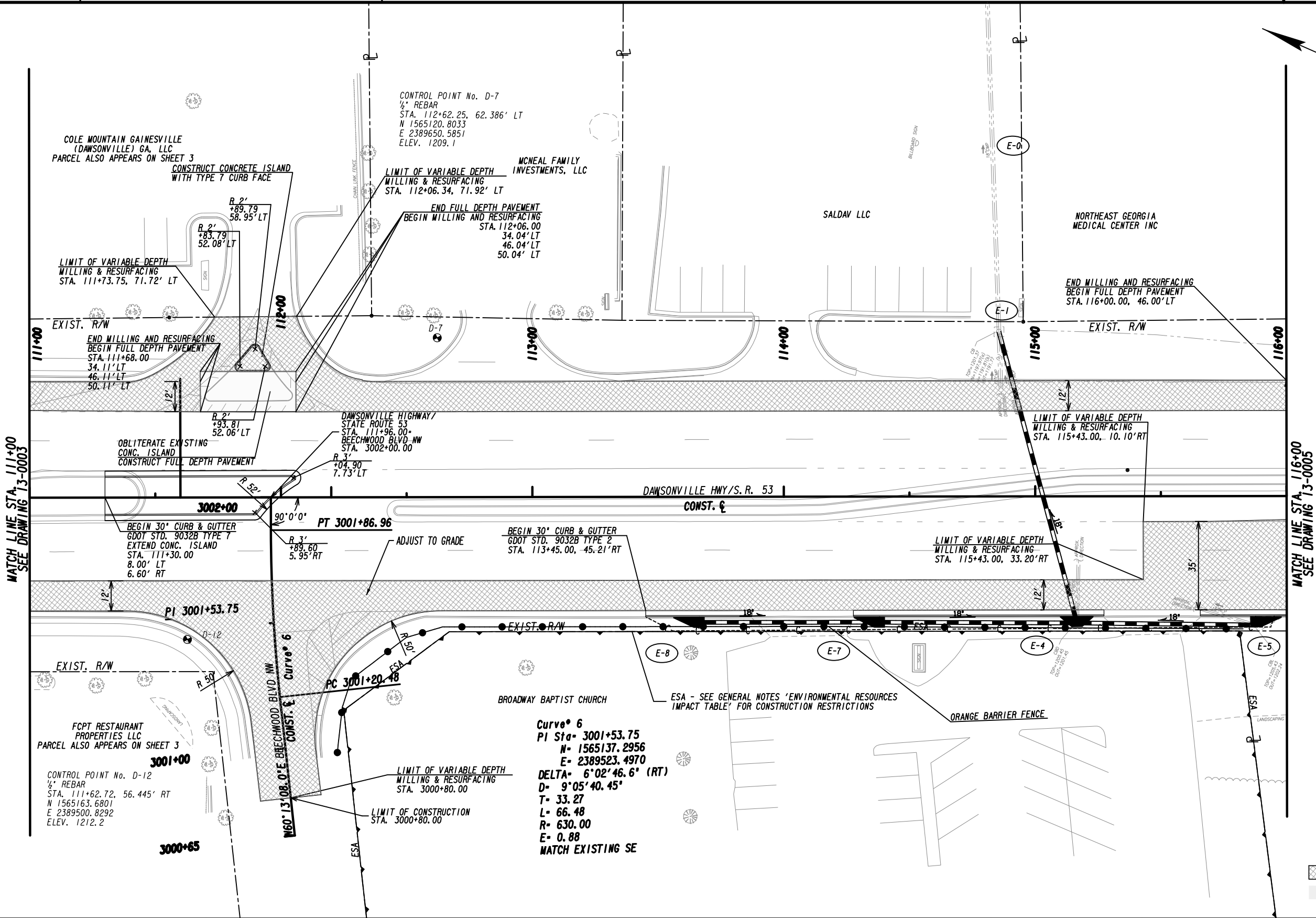
SHEET NO.
1 OF 1

PROJECT NO.
2021-521

APPENDIX B :

SR 53 CORRIDOR IMPROVEMENT ROADWAY PLAN





PROPERTY AND EXISTING R/W LINE
REQUIRED R/W LINE
CONSTRUCTION LIMITS
EASEMENT FOR CONSTR
& MAINTENANCE OF SLOPES
EASEMENT FOR CONSTR OF SLOPES
EASEMENT FOR CONSTR OF DRIVES

---P---

---G---

---F---

BEGIN LIMIT OF ACCESS.....BLA
END LIMIT OF ACCESS.....ELA
LIMIT OF ACCESS
REQ'D R/W & LIMIT OF ACCESS
ORANGE BARRIER FENCE
ESA - ENV. SENSITIVE AREA
(SEE ERIT TABLE)

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CHA

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Duluth, GA 30097
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SCALE IN FEET

0

20

40

80

REVISION DATES

MAINLINE PLAN

SR 53/AHALUNA Dr TO CS 966/SHALLOWFORD Rd
CORRIDOR IMPROVEMENT

CHECKED: DATE: DRAWING No.

BACKCHECKED: DATE:

CORRECTED: DATE:

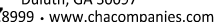
VERIFIED: DATE:

13-0004

0015702_13-0004.dgn 8/28/2020 5:08:18 PM



CHECKED:		DATE:		DRAWING No. 13-0005
BACKCHECKED:		DATE:		
CORRECTED:		DATE:		
VERIFIED:		DATE:		



APPENDIX C :

EXISTING TURNING MOVEMENT COUNTS





(303) 216-2439
www.alltrafficdata.net

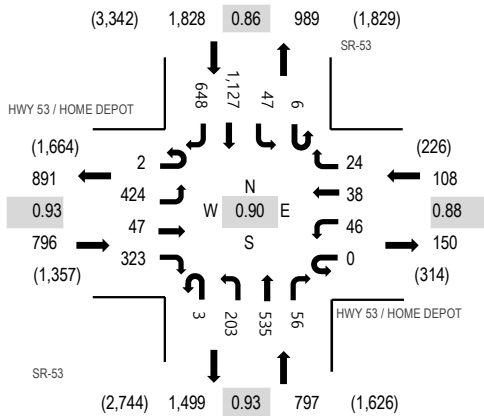
Location: #1 SR-53 & HWY 53 / HOME DEPOT AM

Date: Thursday, December 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

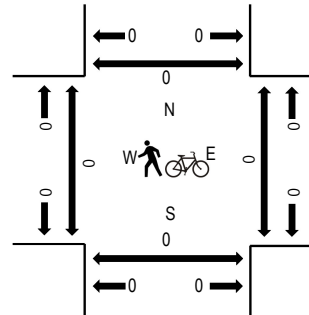
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 53 / HOME DEPOT				HWY 53 / HOME DEPOT				SR-53				SR-53				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						
7:00 AM	0	62	7	48	0	5	1	7	0	48	103	11	1	4	228	149	674	3,295	0	0	0	0
7:15 AM	0	74	4	65	0	12	4	5	0	61	117	12	2	5	273	148	782	3,465	0	0	0	0
7:30 AM	0	120	6	88	0	7	4	4	0	48	100	8	1	12	284	172	854	3,529	0	0	0	0
7:45 AM	0	108	15	84	0	8	6	5	1	66	144	7	1	12	347	181	985	3,491	0	0	0	0
8:00 AM	2	109	16	74	0	12	11	8	0	42	141	16	1	11	260	141	844	3,256	0	0	0	0
8:15 AM	0	87	10	77	0	19	17	7	2	47	150	25	3	12	236	154	846		0	0	0	0
8:30 AM	1	69	21	65	0	21	12	6	0	57	158	27	4	14	235	126	816		0	0	0	0
8:45 AM	0	68	17	60	0	24	13	8	0	52	152	31	4	11	209	101	750		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	11	1	0	0	2	2	0	0	0	17	0	0	0	16	2	51
Lights	2	392	45	315	0	44	36	23	3	199	491	56	6	46	1,089	630	3,377
Mediums	0	21	1	8	0	0	0	1	0	4	27	0	0	1	22	16	101
Total	2	424	47	323	0	46	38	24	3	203	535	56	6	47	1,127	648	3,529



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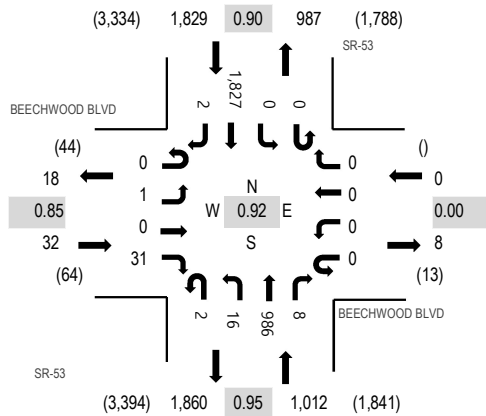
Location: #2 SR-53 & BEECHWOOD BLVD AM

Date: Thursday, December 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

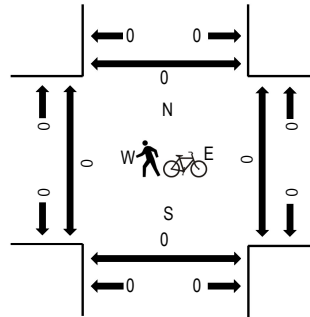
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	BEECHWOOD BLVD Eastbound				BEECHWOOD BLVD Westbound				SR-53 Northbound				SR-53 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
7:00 AM	0	0	0	12	0	0	0	0	0	7	153	0	0	0	378	2	552	2,710	0	0	0	0
7:15 AM	0	1	0	9	0	0	0	0	0	6	195	0	0	0	434	1	646	2,850	0	0	0	0
7:30 AM	0	1	0	8	0	0	0	0	1	5	227	0	0	0	491	1	734	2,873	0	0	0	0
7:45 AM	0	0	0	10	0	0	0	0	1	5	241	5	0	0	516	0	778	2,741	0	0	0	0
8:00 AM	0	0	0	8	0	0	0	0	0	3	261	2	0	0	418	0	692	2,529	0	0	0	0
8:15 AM	0	0	0	5	0	0	0	0	0	3	257	1	0	0	402	1	669		0	0	0	0
8:30 AM	0	0	0	4	0	0	0	0	1	5	223	1	0	0	367	1	602		1	0	0	0
8:45 AM	0	0	0	6	0	0	0	0	1	4	229	4	0	0	322	0	566		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	26	0	0	0	16	0	42
Lights	0	1	0	29	0	0	0	0	2	15	910	8	0	0	1,775	1	2,741
Mediums	0	0	0	2	0	0	0	0	0	1	50	0	0	0	36	1	90
Total	0	1	0	31	0	0	0	0	2	16	986	8	0	0	1,827	2	2,873



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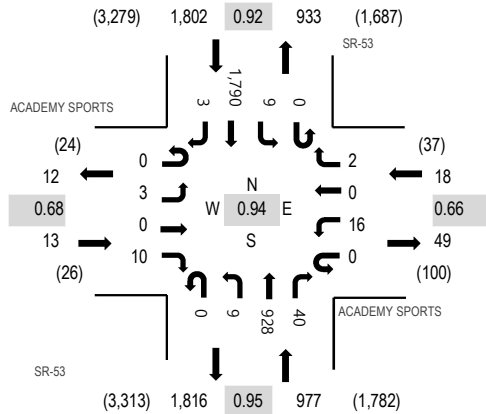
Location: #3 SR-53 & ACADEMY SPORTS AM

Date: Thursday, December 16, 2021

Peak Hour: 07:30 AM - 08:30 AM

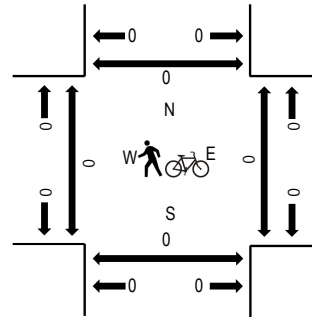
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	ACADEMY SPORTS Eastbound				ACADEMY SPORTS Westbound				SR-53 Northbound				SR-53 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
7:00 AM	0	0	0	4	0	1	0	0	0	2	153	1	0	0	369	0	530	2,639	0	0	0	0
7:15 AM	0	0	0	1	0	1	0	0	0	0	194	3	0	0	432	0	631	2,783	0	0	0	0
7:30 AM	0	0	0	1	0	1	0	0	0	1	223	3	0	1	497	0	727	2,810	0	0	0	0
7:45 AM	0	1	0	5	0	5	0	0	0	2	230	8	0	6	493	1	751	2,681	0	0	0	0
8:00 AM	0	1	0	2	0	4	0	0	0	3	242	12	0	2	408	0	674	2,485	0	0	0	0
8:15 AM	0	1	0	2	0	6	0	2	0	3	233	17	0	0	392	2	658		0	0	0	0
8:30 AM	0	2	0	5	0	5	0	1	0	3	206	17	1	2	356	0	598		0	0	0	0
8:45 AM	0	0	0	1	0	9	0	2	1	4	195	26	0	2	312	3	555		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	28	0	0	0	17	0	45
Lights	0	3	0	10	0	16	0	2	0	9	851	40	0	9	1,739	3	2,682
Mediums	0	0	0	0	0	0	0	0	0	0	49	0	0	0	34	0	83
Total	0	3	0	10	0	16	0	2	0	9	928	40	0	9	1,790	3	2,810



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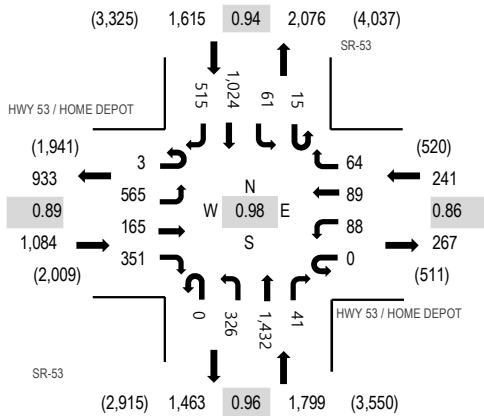
Location: #1 SR-53 & HWY 53 / HOME DEPOT PM

Date: Thursday, December 16, 2021

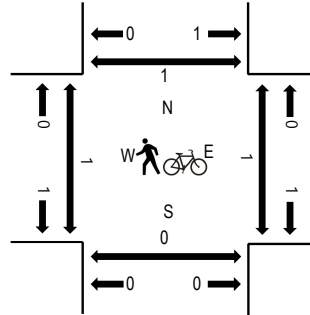
Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - Motorized Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 53 / HOME DEPOT Eastbound				HWY 53 / HOME DEPOT Westbound				SR-53 Northbound				SR-53 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
4:00 PM	3	131	21	80	0	24	27	18	0	95	329	17	4	12	262	172	1,195	4,673	0	0	0	0
4:15 PM	1	84	12	74	0	23	19	16	0	106	360	12	6	20	286	140	1,159	4,682	0	0	0	0
4:30 PM	3	136	20	70	0	39	17	21	0	98	332	12	3	24	252	125	1,152	4,715	0	0	0	0
4:45 PM	2	135	13	64	0	29	20	13	0	104	372	13	4	15	248	135	1,167	4,739	1	0	0	0
5:00 PM	0	115	36	103	0	25	21	19	0	76	379	13	3	13	283	118	1,204	4,731	0	1	0	1
5:15 PM	1	179	55	90	0	17	25	18	0	85	331	7	3	14	238	129	1,192		0	0	0	0
5:30 PM	0	136	61	94	0	17	23	14	0	61	350	8	5	19	255	133	1,176		0	0	0	0
5:45 PM	1	148	67	74	0	15	18	42	0	52	330	8	1	19	253	131	1,159		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	3	0	2	0	0	0	0	0	1	9	0	0	0	15	6	36
Lights	3	557	165	346	0	88	87	63	0	325	1,405	40	15	60	992	499	4,645
Mediums	0	5	0	3	0	0	2	1	0	0	18	1	0	1	17	10	58
Total	3	565	165	351	0	88	89	64	0	326	1,432	41	15	61	1,024	515	4,739



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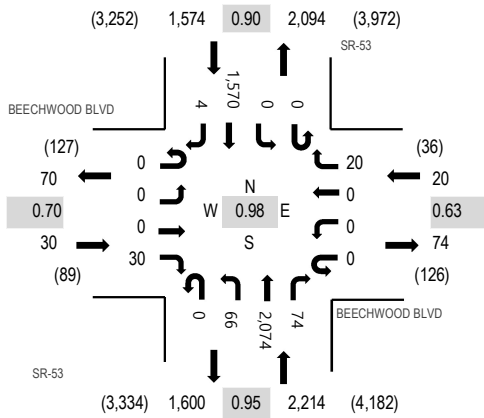
Location: #2 SR-53 & BEECHWOOD BLVD PM

Date: Thursday, December 16, 2021

Peak Hour: 05:00 PM - 06:00 PM

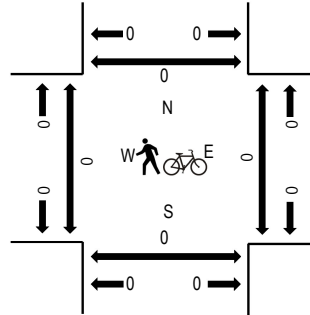
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	BEECHWOOD BLVD Eastbound				BEECHWOOD BLVD Westbound				SR-53 Northbound				SR-53 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
4:00 PM	0	0	0	21	0	0	0	3	1	12	456	14	0	0	463	2	972	3,721	0	0	0	0
4:15 PM	0	0	0	10	0	0	0	5	2	15	440	6	0	0	405	1	884	3,641	0	0	0	0
4:30 PM	0	3	0	12	0	0	0	6	2	13	472	18	0	0	360	3	889	3,738	0	0	0	0
4:45 PM	0	0	0	13	0	0	0	2	1	11	491	14	0	0	444	0	976	3,833	0	0	0	0
5:00 PM	0	0	0	7	0	0	0	3	0	17	487	18	0	0	360	0	892	3,838	0	0	0	0
5:15 PM	0	0	0	11	0	0	0	4	0	6	559	15	0	0	385	1	981		0	0	0	0
5:30 PM	0	0	0	5	0	0	0	8	0	15	524	16	0	0	416	0	984		0	0	0	0
5:45 PM	0	0	0	7	0	0	0	5	0	28	504	25	0	0	409	3	981		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	9	0	0	0	22	0	31
Lights	0	0	0	30	0	0	0	20	0	66	2,050	74	0	0	1,520	4	3,764
Mediums	0	0	0	0	0	0	0	0	0	0	15	0	0	0	28	0	43
Total	0	0	0	30	0	0	0	20	0	66	2,074	74	0	0	1,570	4	3,838



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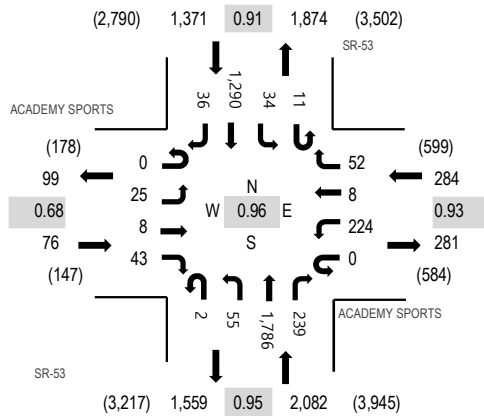
Location: #3 SR-53 & ACADEMY SPORTS PM

Date: Thursday, December 16, 2021

Peak Hour: 05:00 PM - 06:00 PM

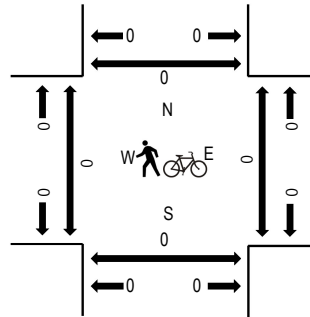
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - Motorized Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts - Motorized Vehicles

Interval Start Time	ACADEMY SPORTS Eastbound				ACADEMY SPORTS Westbound				SR-53 Northbound				SR-53 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
4:00 PM	0	5	0	16	0	61	2	13	0	15	369	59	2	9	374	4	929	3,668	0	0	0	0
4:15 PM	0	3	0	17	0	62	2	20	1	12	370	71	1	11	317	4	891	3,622	1	0	0	0
4:30 PM	0	4	0	11	0	65	2	18	2	13	401	68	2	10	291	7	894	3,698	0	0	0	0
4:45 PM	0	3	4	8	0	58	1	11	2	15	404	61	2	10	373	2	954	3,798	0	0	0	0
5:00 PM	0	6	2	9	0	53	2	12	0	9	414	59	5	10	296	6	883	3,813	0	0	0	0
5:15 PM	0	8	4	5	0	59	4	13	1	15	469	62	1	7	311	8	967		0	0	0	0
5:30 PM	0	2	1	11	0	58	1	9	1	15	473	55	5	7	350	6	994		0	0	0	0
5:45 PM	0	9	1	18	0	54	1	18	0	16	430	63	0	10	333	16	969		0	0	0	0

Peak Rolling Hour Flow Rates

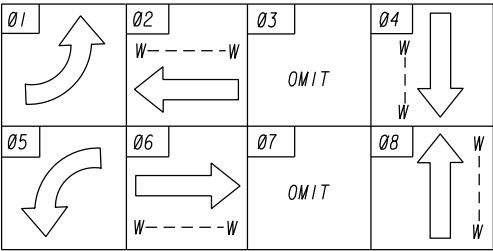
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	9	0	0	0	23	0	32
Lights	0	25	8	43	0	224	8	51	2	55	1,762	238	11	34	1,238	35	3,734
Mediums	0	0	0	0	0	0	0	1	0	0	15	1	0	0	29	1	47
Total	0	25	8	43	0	224	8	52	2	55	1,786	239	11	34	1,290	36	3,813

APPENDIX D :

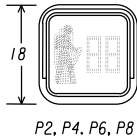
SIGNAL PLANS



PHASING DIAGRAM

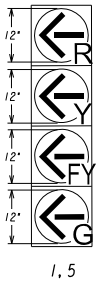


PEDESTRIAN HEADS

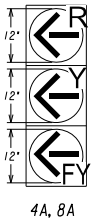


P2, P4, P6, P8

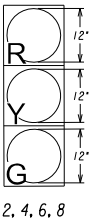
PROPOSED LED SIGNAL HEADS WITH
2" RETRO-REFLECTIVE BORDER ON BACKPLATE



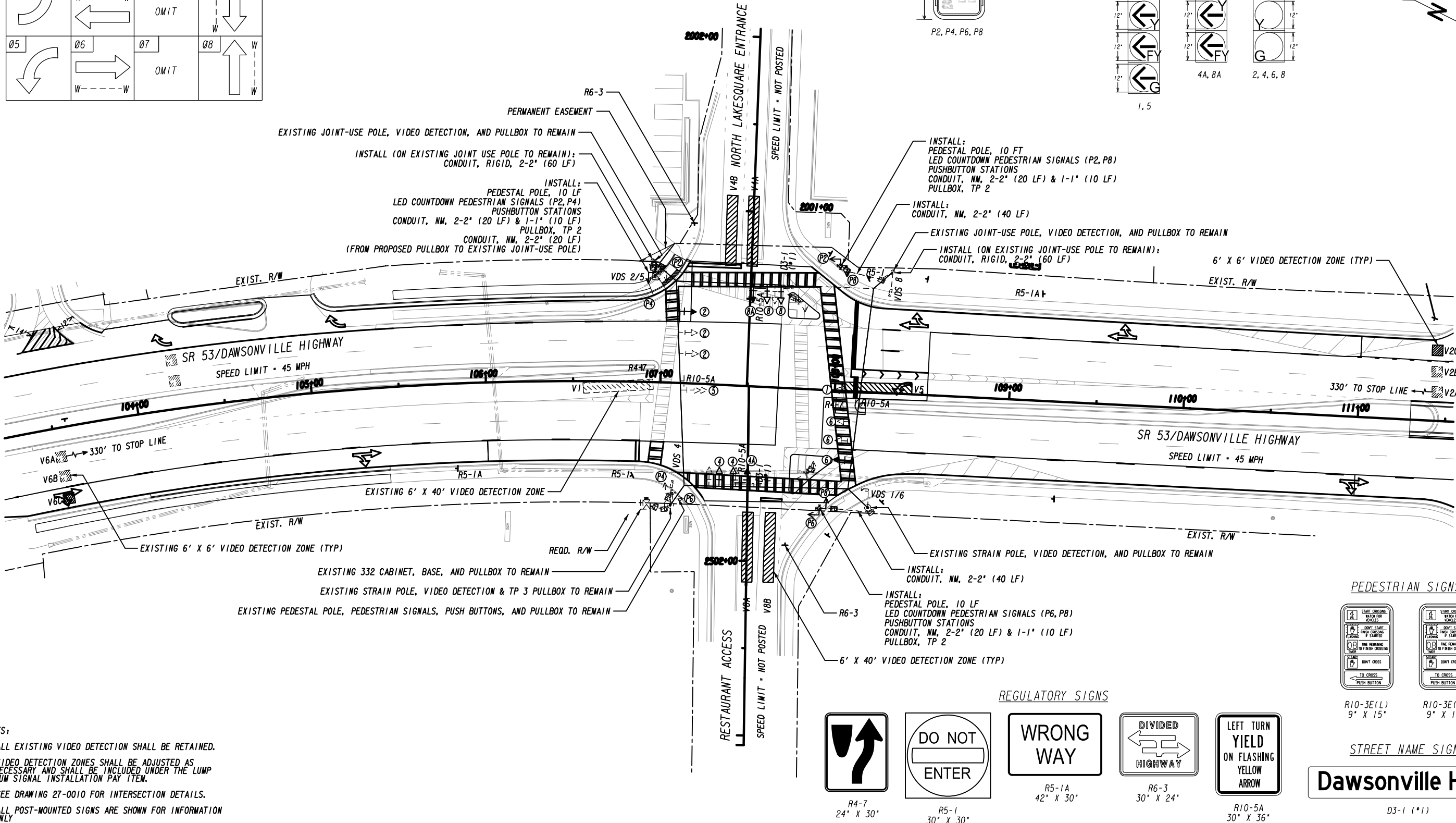
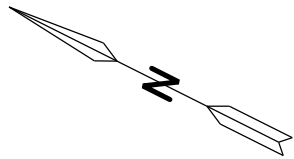
1, 5



4A, 8A

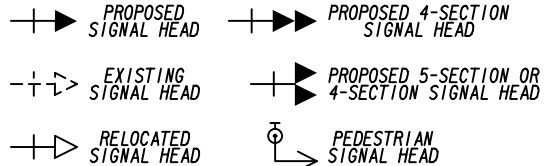


2, 4, 6, 8

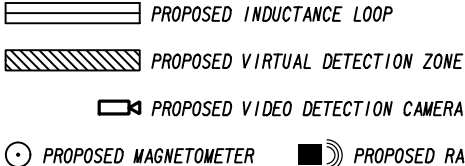


- NOTES:
1. ALL EXISTING VIDEO DETECTION SHALL BE RETAINED.
 2. VIDEO DETECTION ZONES SHALL BE ADJUSTED AS NECESSARY AND SHALL BE INCLUDED UNDER THE LUMP SUM SIGNAL INSTALLATION PAY ITEM.
 3. SEE DRAWING 27-0010 FOR INTERSECTION DETAILS.
 4. ALL POST-MOUNTED SIGNS ARE SHOWN FOR INFORMATION ONLY

SIGNAL LEGEND



DETECTION LEGEND

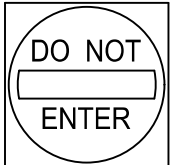


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REGULATORY SIGNS



R4-7
24" X 30"



R5-1
30" X 30"



R5-1A
42" X 30"



R6-3
30" X 24"



R10-5A
30" X 36"

PEDESTRIAN SIGNS



R10-3E(L)
9" X 15"



R10-3E(R)
9" X 15"

STREET NAME SIGNS

Dawsonville Hwy

D3-1 (*1)

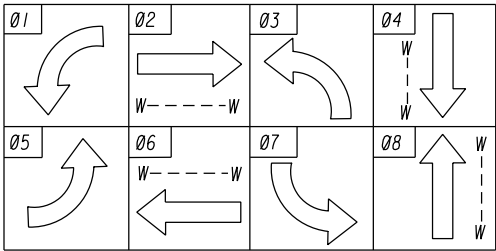
REVISION DATES

NO.	DATE	DESCRIPTION

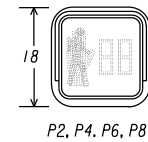
SIGNAL PLANS
INTERSECTION #2
SR 53/DAWSONVILLE HIGHWAY
@ ACADEMY SPORTS ENTRANCE

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	27-0008
CORRECTED:	DATE:	
VERIFIED:	DATE:	

PHASING DIAGRAM

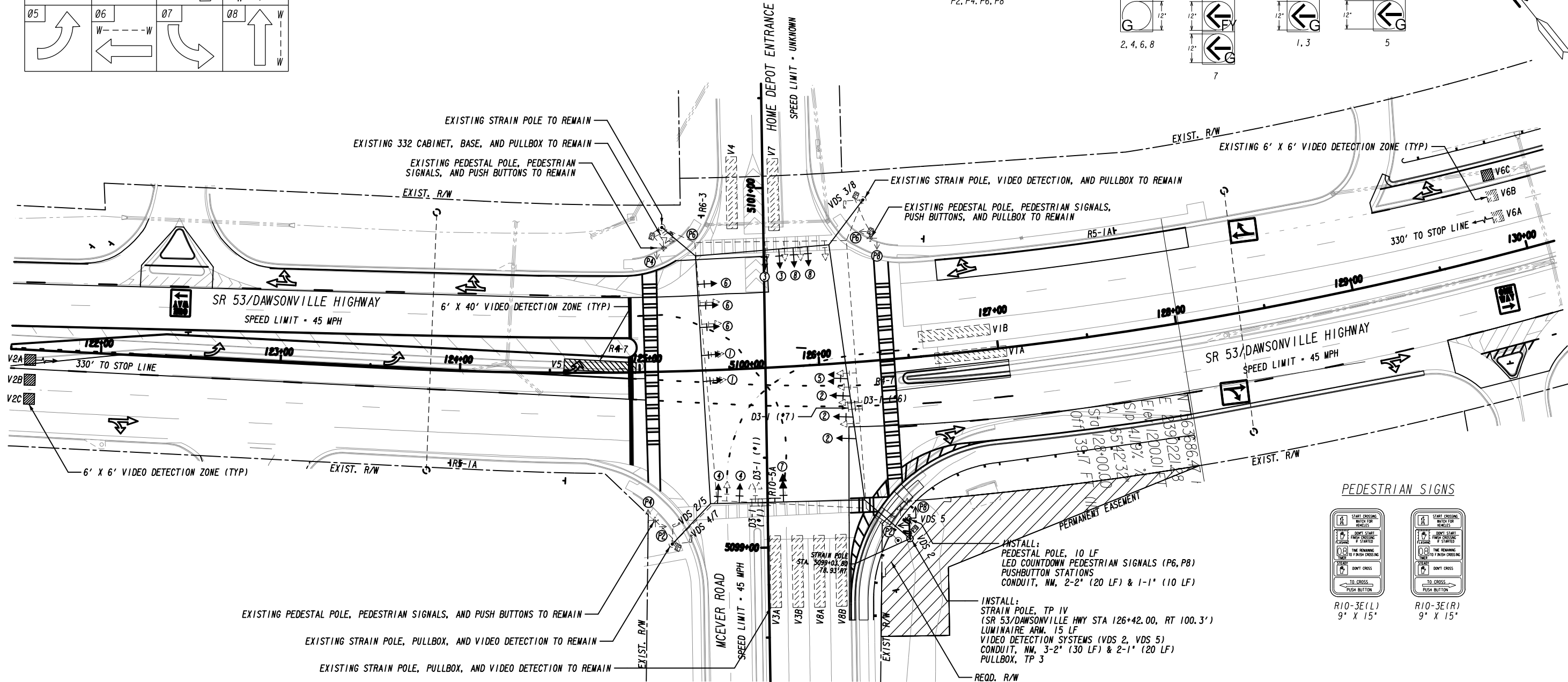
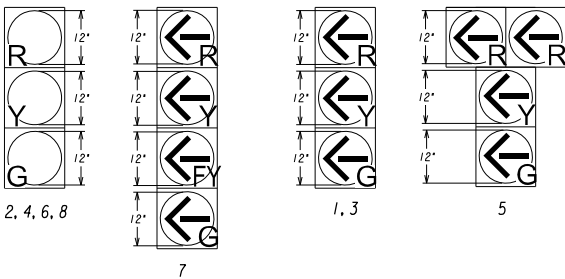


PEDESTRIAN HEADS

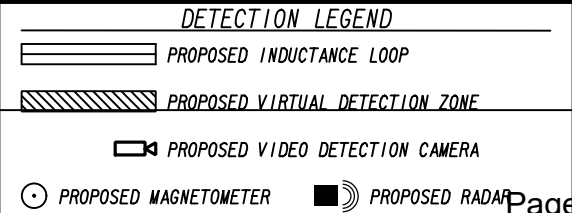
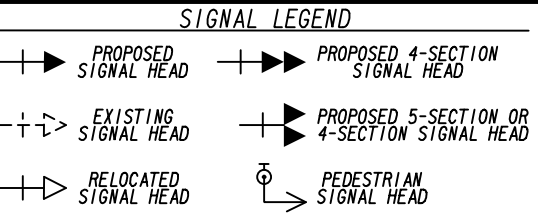


P2, P4, P6, P8

LED SIGNAL HEADS WITH
2" RETRO-REFLECTIVE BORDER ON BACKPLATE



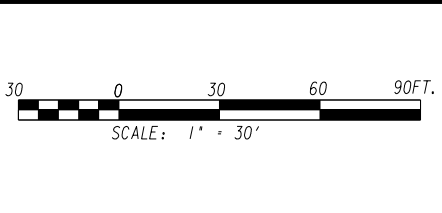
- NOTES:
- EXISTING D3-1 (*1), D3-1 (*6) AND D3-1 (*7) SIGNS SHALL BE RELOCATED TO PROPOSED SPAN WIRE AND SHALL BE INCLUDED UNDER THE LUMP SUM SIGNAL INSTALLATION PAY ITEM.
 - VIDEO DETECTION ZONES SHALL BE ADJUSTED AS NECESSARY AND SHALL BE INCLUDED UNDER THE LUMP SUM SIGNAL INSTALLATION PAY ITEM.
 - SEE DRAWING 27-0014 FOR INTERSECTION DETAILS.
 - POST-MOUNTED SIGNS ARE SHOWN FOR INFORMATION ONLY



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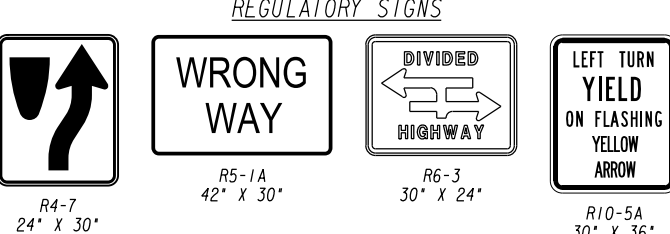


REVISION DATES	

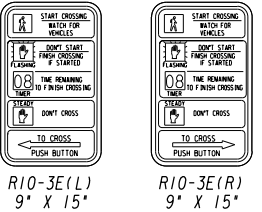
SIGNAL PLANS

INTERSECTION #3
SR 53/DAWSONVILLE HIGHWAY
@ MCEVER ROAD/HOME DEPOT ENTRANCE

CHECKED:	DATE:	DRAWING No.
BACKCHECKED:	DATE:	27-0012
CORRECTED:	DATE:	
VERIFIED:	DATE:	



PEDESTRIAN SIGNS



STREET NAME SIGNS

Dawsonville Hwy

← McEver Rd

McEver Rd →

APPENDIX E :

SYNCHRO ANALYSIS REPORTS



Queues

Timing Plan: Existing AM

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

01/12/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	482	214	205	52	70	246	640	67	65	1392	800
v/c Ratio	1.41	0.64	0.51	0.37	0.53	1.02	0.33	0.07	0.43	0.70	0.75
Control Delay	247.1	37.7	11.3	55.2	60.8	131.0	19.0	0.1	73.5	21.0	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	247.1	37.7	11.3	55.2	60.8	131.0	19.0	0.1	73.5	21.0	13.3
Queue Length 50th (ft)	~324	102	0	41	47	~131	178	0	65	502	340
Queue Length 95th (ft)	#441	193	76	75	95	#224	244	0	m99	567	591
Internal Link Dist (ft)		1109			394		815			1309	
Turn Bay Length (ft)	450		475	130		450		265	310		
Base Capacity (vph)	342	600	639	139	473	240	1947	946	170	1981	1070
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	1.41	0.36	0.32	0.37	0.15	1.02	0.33	0.07	0.38	0.70	0.75

Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

Timing Plan: Existing AM

01/12/2022

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	446	49	340	46	38	24	3	226	595	62	6
Future Volume (vph)	2	446	49	340	46	38	24	3	226	595	62	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%				0%		
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6	6.6	
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00			0.97	0.95	1.00	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Frt		1.00	0.89	0.85	1.00	0.94			1.00	1.00	0.85	
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00	1.00	
Satd. Flow (prot)		3336	1525	1461	1693	1679			3303	3406	1517	
Flt Permitted		0.95	1.00	1.00	0.62	1.00			0.95	1.00	1.00	
Satd. Flow (perm)		3336	1525	1461	1101	1679			3303	3406	1517	
Peak-hour factor, PHF	0.90	0.93	0.93	0.93	0.88	0.88	0.88	0.93	0.93	0.93	0.93	0.86
Adj. Flow (vph)	2	480	53	366	52	43	27	3	243	640	67	7
RTOR Reduction (vph)	0	0	94	173	0	19	0	0	0	0	30	0
Lane Group Flow (vph)	0	482	120	32	52	51	0	0	246	640	37	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	Prot	NA	Perm	Prot
Protected Phases	3	3	8		7	4		1	1	6		5
Permitted Phases				8	4						6	
Actuated Green, G (s)		15.4	23.5	23.5	15.7	11.5			12.4	83.0	83.0	
Effective Green, g (s)		15.4	23.5	23.5	15.7	11.5			12.4	83.0	83.0	
Actuated g/C Ratio		0.10	0.16	0.16	0.10	0.08			0.08	0.55	0.55	
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6	6.6	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		342	238	228	131	128			273	1884	839	
v/s Ratio Prot		c0.14	c0.08		0.01	0.03			c0.07	0.19		
v/s Ratio Perm				0.02	0.03						0.02	
v/c Ratio		1.41	0.51	0.14	0.40	0.40			0.90	0.34	0.04	
Uniform Delay, d1		67.3	57.9	54.5	62.0	65.9			68.2	18.4	15.3	
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2		200.8	1.7	0.3	2.0	2.0			30.1	0.5	0.1	
Delay (s)		268.1	59.6	54.8	64.0	67.9			98.3	18.9	15.4	
Level of Service		F	E	D	E	E			F	B	B	
Approach Delay (s)			170.1			66.3				39.2		
Approach LOS			F			E				D		
Intersection Summary												
HCM 2000 Control Delay			60.4			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				28.7		
Intersection Capacity Utilization			90.1%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

Timing Plan: Existing AM
01/12/2022



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	50	1197	688
Future Volume (vph)	50	1197	688
Ideal Flow (vphpl)	1900	1900	1900
Grade (%)		0%	
Total Lost time (s)	7.2	6.6	6.6
Lane Util. Factor	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1752	3505	1547
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	1752	3505	1547
Peak-hour factor, PHF	0.86	0.86	0.86
Adj. Flow (vph)	58	1392	800
RTOR Reduction (vph)	0	0	204
Lane Group Flow (vph)	65	1392	596
Confl. Peds. (#/hr)			1
Heavy Vehicles (%)	3%	3%	3%
Bus Blockages (#/hr)	0	0	0
Turn Type	Prot	NA	Perm
Protected Phases	5	2	
Permitted Phases			2
Actuated Green, G (s)	11.7	82.0	82.0
Effective Green, g (s)	11.7	82.0	82.0
Actuated g/C Ratio	0.08	0.55	0.55
Clearance Time (s)	7.2	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	136	1916	845
v/s Ratio Prot	0.04	c0.40	
v/s Ratio Perm			0.38
v/c Ratio	0.48	0.73	0.70
Uniform Delay, d1	66.2	25.6	25.1
Progression Factor	1.03	0.79	0.91
Incremental Delay, d2	2.1	1.9	3.9
Delay (s)	70.5	22.2	26.7
Level of Service	E	C	C
Approach Delay (s)		25.2	
Approach LOS		C	
Intersection Summary			

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

Timing Plan: Existing AM

01/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	0	31	0	0	0	2	18	1097	9	0	1941
Future Volume (Veh/h)	1	0	31	0	0	0	2	18	1097	9	0	1941
Sign Control	Stop			Yield			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	1	0	36	0	0	0	0	19	1155	9	0	2157
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	0.76	0.76	0.76	0.76	0.76		0.00	0.76				
vC, conflicting volume	2774	3360	720	1912	3352	578	0	2159			1164	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2224	2997	0	1088	2987	578	0	1414			1164	
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	0.0	4.3			4.2	
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	0.0	2.3			2.2	
p0 queue free %	94	100	96	100	100	100	0	94			100	
cM capacity (veh/h)	16	9	813	120	10	464	0	340			590	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	37	0	19	578	578	9	863	863	433			
Volume Left	1	0	19	0	0	0	0	0	0			
Volume Right	36	0	0	0	0	9	0	0	2			
cSH	607	1700	340	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.06	0.00	0.06	0.34	0.34	0.01	0.51	0.51	0.25			
Queue Length 95th (ft)	5	0	4	0	0	0	0	0	0			
Control Delay (s)	15.8	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	C	A	C									
Approach Delay (s)	15.8	0.0	0.3	0.0								
Approach LOS	C	A										
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												
ICU Level of Service												
A												

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

Timing Plan: Existing AM

01/12/2022

Movement	SBR
Left Lane Configurations	
Traffic Volume (veh/h)	2
Future Volume (Veh/h)	2
Sign Control	
Grade	
Peak Hour Factor	0.90
Hourly flow rate (vph)	2
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	
Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	
vCu, unblocked vol	
tC, single (s)	
tC, 2 stage (s)	
tF (s)	
p0 queue free %	
cM capacity (veh/h)	
Direction, Lane #	

Queues

Timing Plan: Existing AM

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

01/12/2022



Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	4	15	24	3	11	1099	47	11	2084	3
v/c Ratio	0.05	0.10	0.32	0.01	0.07	0.37	0.04	0.02	0.68	0.00
Control Delay	67.0	1.4	78.0	0.0	1.7	2.8	0.0	1.9	7.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	1.4	78.0	0.0	1.7	2.8	0.0	1.9	7.1	0.0
Queue Length 50th (ft)	4	0	23	0	1	53	0	1	273	0
Queue Length 95th (ft)	13	0	40	0	m2	m80	m0	4	655	0
Internal Link Dist (ft)		591				377			764	
Turn Bay Length (ft)	100		270	115	250			235		395
Base Capacity (vph)	345	438	341	500	161	2943	1324	449	3081	1387
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	0.01	0.03	0.07	0.01	0.07	0.37	0.04	0.02	0.68	0.00

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

Timing Plan: Existing AM

01/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	10	16	0	2	10	1044	45	10	1917	3
Future Volume (vph)	3	0	10	16	0	2	10	1044	45	10	1917	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4		6.4	6.4	6.2	6.2	6.0	6.2	6.2
Lane Util. Factor	1.00	1.00		1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.85		1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1615		1805		1615	1671	3343	1495	1752	3505	1568
Flt Permitted	0.76	1.00		0.75		1.00	0.07	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1439	1615		1421		1615	118	3343	1495	456	3505	1568
Peak-hour factor, PHF	0.68	0.68	0.68	0.66	0.66	0.66	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	4	0	15	24	0	3	11	1099	47	11	2084	3
RTOR Reduction (vph)	0	14	0	0	0	3	0	0	8	0	0	1
Lane Group Flow (vph)	4	1	0	24	0	0	11	1099	39	11	2084	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	8%	8%	8%	3%	3%	3%
Turn Type	Perm	NA		Perm		Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2		2	6		6
Actuated Green, G (s)	5.7	5.7		5.7		5.7	125.7	123.4	123.4	125.3	123.0	123.0
Effective Green, g (s)	5.7	5.7		5.7		5.7	125.7	123.4	123.4	125.3	123.0	123.0
Actuated g/C Ratio	0.04	0.04		0.04		0.04	0.84	0.82	0.82	0.84	0.82	0.82
Clearance Time (s)	6.4	6.4		6.4		6.4	6.4	6.2	6.2	6.0	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	54	61		53		61	122	2750	1229	400	2874	1285
v/s Ratio Prot		0.00					c0.00	0.33		0.00	c0.59	
v/s Ratio Perm	0.00			c0.02		0.00	0.07		0.03	0.02		0.00
v/c Ratio	0.07	0.01		0.45		0.00	0.09	0.40	0.03	0.03	0.73	0.00
Uniform Delay, d1	69.6	69.4		70.6		69.4	6.7	3.5	2.4	2.2	6.0	2.4
Progression Factor	1.00	1.00		1.00		1.00	0.66	0.78	0.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.1		6.0		0.0	0.2	0.3	0.0	0.0	1.6	0.0
Delay (s)	70.2	69.5		76.7		69.4	4.6	3.0	0.0	2.2	7.6	2.4
Level of Service	E	E		E		E	A	A	A	A	A	A
Approach Delay (s)		69.6			75.9			2.9			7.6	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.9									
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			150.0									
Intersection Capacity Utilization			71.0%									
Analysis Period (min)			15									
c Critical Lane Group												

Queues

Timing Plan: Existing PM

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

01/12/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	699	333	303	102	177	355	1559	45	84	1126	566
v/c Ratio	1.13	0.74	0.54	0.46	0.76	1.07	0.94	0.05	0.99	0.76	0.67
Control Delay	133.2	60.8	16.1	44.6	78.3	134.7	51.9	0.1	145.6	34.5	12.4
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	133.2	60.8	16.1	44.6	78.3	134.7	51.9	0.1	145.6	34.5	12.4
Queue Length 50th (ft)	~433	316	65	73	160	~210	802	0	91	277	65
Queue Length 95th (ft)	#552	410	156	107	224	#319	#1062	0	m#181	570	167
Internal Link Dist (ft)		1009			530		800			1293	
Turn Bay Length (ft)	450		475	130		450		265	310		
Base Capacity (vph)	621	665	727	222	460	332	1663	834	85	1472	842
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	1.13	0.50	0.42	0.46	0.38	1.07	0.94	0.05	0.99	0.76	0.67

Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

Timing Plan: Existing PM

01/12/2022

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	3	619	181	385	88	89	64	341	1497	43	16	63
Future Volume (vph)	3	619	181	385	88	89	64	341	1497	43	16	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%			0%			
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6	6.6		7.2
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00		0.97	0.95	1.00		1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00
Frt		1.00	0.94	0.85	1.00	0.94		1.00	1.00	0.85		1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)		3467	1682	1519	1760	1737		3433	3539	1577		1752
Flt Permitted		0.95	1.00	1.00	0.54	1.00		0.95	1.00	1.00		0.95
Satd. Flow (perm)		3467	1682	1519	1001	1737		3433	3539	1577		1752
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.86	0.86	0.86	0.96	0.96	0.96	0.94	0.94
Adj. Flow (vph)	3	696	203	433	102	103	74	355	1559	45	17	67
RTOR Reduction (vph)	0	0	18	170	0	19	0	0	0	24	0	0
Lane Group Flow (vph)	0	699	315	133	102	158	0	355	1559	21	0	84
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	Prot
Protected Phases	3	3	8		7	4		1	6		5	5
Permitted Phases				8	4					6		
Actuated Green, G (s)		28.7	41.0	41.0	28.3	19.9		15.5	75.2	75.2		7.8
Effective Green, g (s)		28.7	41.0	41.0	28.3	19.9		15.5	75.2	75.2		7.8
Actuated g/C Ratio		0.18	0.26	0.26	0.18	0.12		0.10	0.47	0.47		0.05
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6	6.6		7.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)		621	431	389	216	216		332	1663	741		85
v/s Ratio Prot		c0.20	c0.19		0.02	0.09		c0.10	c0.44			0.05
v/s Ratio Perm				0.09	0.06					0.01		
v/c Ratio		1.13	0.73	0.34	0.47	0.73		1.07	0.94	0.03		0.99
Uniform Delay, d1		65.7	54.5	48.5	57.5	67.5		72.2	40.2	22.8		76.1
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		0.85
Incremental Delay, d2		75.9	6.3	0.5	1.6	12.0		69.0	11.5	0.1		80.7
Delay (s)		141.5	60.7	49.0	59.2	79.4		141.2	51.7	22.8		145.4
Level of Service		F	E	D	E	E		F	D	C		F
Approach Delay (s)			100.4			72.0			67.3			
Approach LOS			F			E			E			
Intersection Summary												
HCM 2000 Control Delay			65.3									
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			95.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

Timing Plan: Existing PM

01/12/2022



Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1058	532
Future Volume (vph)	1058	532
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.95	1.00
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3505	1547
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3505	1547
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	1126	566
RTOR Reduction (vph)	0	193
Lane Group Flow (vph)	1126	373
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	3%	3%
Bus Blockages (#/hr)	0	0
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	67.2	67.2
Effective Green, g (s)	67.2	67.2
Actuated g/C Ratio	0.42	0.42
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1472	649
v/s Ratio Prot	0.32	
v/s Ratio Perm		0.24
v/c Ratio	0.76	0.58
Uniform Delay, d1	39.7	35.5
Progression Factor	0.77	0.59
Incremental Delay, d2	2.9	2.8
Delay (s)	33.5	23.9
Level of Service	C	C
Approach Delay (s)	35.7	
Approach LOS	D	
Intersection Summary		

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

Timing Plan: Existing PM

01/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	30	0	0	20	69	2168	77	0	1623	4
Future Volume (Veh/h)	0	0	30	0	0	20	69	2168	77	0	1623	4
Sign Control	Stop			Yield			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.95	0.95	0.95	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	43	0	0	32	73	2282	81	0	1803	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked	0.75	0.75	0.75	0.75	0.75		0.75					
vC, conflicting volume	3092	4314	603	3029	4235	1141	1807			2363		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2633	4253	0	2550	4149	1141	930			2363		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	95	100	100	84	87			100		
cM capacity (veh/h)	7	1	823	9	2	197	556			200		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	43	32	73	1141	1141	81	721	721	365			
Volume Left	0	0	73	0	0	0	0	0	0			
Volume Right	43	32	0	0	0	81	0	0	4			
cSH	411	197	556	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.10	0.16	0.13	0.67	0.67	0.05	0.42	0.42	0.21			
Queue Length 95th (ft)	9	14	11	0	0	0	0	0	0			
Control Delay (s)	14.8	26.7	12.4	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	B	D	B									
Approach Delay (s)	14.8	26.7	0.4	0.0								
Approach LOS	B	D										
Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												
ICU Level of Service												
C												

Queues

Timing Plan: Existing PM

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

01/12/2022



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	75	241	9	56	62	1978	263	50	1491	41
v/c Ratio	0.13	0.19	0.90	0.02	0.15	0.29	0.84	0.24	0.47	0.66	0.04
Control Delay	51.5	15.8	95.5	49.0	9.8	7.4	16.2	3.8	32.3	20.5	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	15.8	95.5	49.0	9.8	7.4	16.2	3.8	32.3	20.5	1.1
Queue Length 50th (ft)	31	10	243	8	0	12	499	38	15	527	0
Queue Length 95th (ft)	49	28	#382	24	34	m17	m562	m45	54	636	7
Internal Link Dist (ft)		673		657			368			581	
Turn Bay Length (ft)	100		270		115	250			235		395
Base Capacity (vph)	321	422	299	423	408	247	2364	1114	106	2255	1031
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.18	0.81	0.02	0.14	0.25	0.84	0.24	0.47	0.66	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

Timing Plan: Existing PM

01/12/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	25	8	43	224	8	52	2	57	1879	250	11	35
Future Volume (vph)	25	8	43	224	8	52	2	57	1879	250	11	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2	6.2		6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00
Frt	1.00	0.87		1.00	1.00	0.85		1.00	1.00	0.85		1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00	1.00		0.95
Satd. Flow (prot)	1805	1661		1787	1881	1599		1787	3574	1599		1736
Flt Permitted	0.75	1.00		0.71	1.00	1.00		0.11	1.00	1.00		0.04
Satd. Flow (perm)	1428	1661		1332	1881	1599		203	3574	1599		71
Peak-hour factor, PHF	0.68	0.68	0.68	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.91	0.91
Adj. Flow (vph)	37	12	63	241	9	56	2	60	1978	263	12	38
RTOR Reduction (vph)	0	50	0	0	0	45	0	0	0	58	0	0
Lane Group Flow (vph)	37	25	0	241	9	11	0	62	1978	205	0	50
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	4%	4%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	pm+pt	NA	Perm	Prot	pm+pt
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4		2		2		6
Actuated Green, G (s)	32.3	32.3		32.3	32.3	32.3		110.6	104.6	104.6		107.2
Effective Green, g (s)	32.3	32.3		32.3	32.3	32.3		110.6	104.6	104.6		107.2
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20		0.69	0.65	0.65		0.67
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2	6.2		6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	288	335		268	379	322		199	2336	1045		94
v/s Ratio Prot		0.01			0.00			0.01	c0.55			c0.01
v/s Ratio Perm	0.03			c0.18		0.01		0.20		0.13		0.34
v/c Ratio	0.13	0.07		0.90	0.02	0.04		0.31	0.85	0.20		0.53
Uniform Delay, d1	52.3	51.7		62.3	51.2	51.3		14.1	21.5	11.0		27.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.82	0.65	0.81		1.00
Incremental Delay, d2	0.2	0.1		29.8	0.0	0.0		0.3	1.6	0.2		5.7
Delay (s)	52.5	51.8		92.1	51.2	51.4		11.8	15.6	9.0		33.6
Level of Service	D	D		F	D	D		B	B	A		C
Approach Delay (s)		52.1			83.4				14.7			
Approach LOS		D			F				B			
Intersection Summary												
HCM 2000 Control Delay			22.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		19.0			
Intersection Capacity Utilization			81.5%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

Timing Plan: Existing PM
01/12/2022



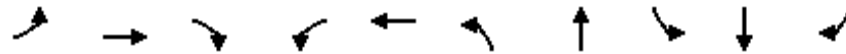
Movement	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1357	37
Future Volume (vph)	1357	37
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	6.2
Lane Util. Factor	0.95	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	3471	1553
Flt Permitted	1.00	1.00
Satd. Flow (perm)	3471	1553
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	1491	41
RTOR Reduction (vph)	0	15
Lane Group Flow (vph)	1491	26
Heavy Vehicles (%)	4%	4%
Turn Type	NA	Perm
Protected Phases	6	
Permitted Phases		6
Actuated Green, G (s)	102.7	102.7
Effective Green, g (s)	102.7	102.7
Actuated g/C Ratio	0.64	0.64
Clearance Time (s)	6.2	6.2
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	2227	996
v/s Ratio Prot	0.43	
v/s Ratio Perm		0.02
v/c Ratio	0.67	0.03
Uniform Delay, d1	18.0	10.4
Progression Factor	1.00	1.00
Incremental Delay, d2	1.6	0.0
Delay (s)	19.6	10.5
Level of Service	B	B
Approach Delay (s)	19.8	
Approach LOS	B	
Intersection Summary		

Queues

2023 Background- AM

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

01/14/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	491	218	208	53	71	250	722	67	1420	816
v/c Ratio	1.11	0.58	0.47	0.38	0.54	0.83	0.28	0.44	0.55	0.70
Control Delay	132.3	31.9	9.9	53.1	63.2	89.1	19.8	76.3	22.3	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	132.3	31.9	9.9	53.1	63.2	89.1	19.8	76.3	22.3	10.2
Queue Length 50th (ft)	~284	96	0	40	49	125	141	63	337	181
Queue Length 95th (ft)	#401	187	75	74	98	#193	183	118	383	489
Internal Link Dist (ft)		1109			394		815		848	
Turn Bay Length (ft)	450		475	130		450		310		330
Base Capacity (vph)	444	644	677	139	472	308	2621	170	2603	1161
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	1.11	0.34	0.31	0.38	0.15	0.81	0.28	0.39	0.55	0.70

Intersection Summary

~ 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.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 Background- AM

01/14/2022

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations		LT	LT	LT	LT	LT			LT	LT	LT	
Traffic Volume (vph)	2	455	50	346	47	39	24	3	230	607	64	7
Future Volume (vph)	2	455	50	346	47	39	24	3	230	607	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%				0%		
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6		
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00			0.97	0.91		
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Frt		1.00	0.89	0.85	1.00	0.94			1.00	0.99		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		3336	1525	1461	1693	1681			3303	4823		
Flt Permitted		0.95	1.00	1.00	0.62	1.00			0.95	1.00		
Satd. Flow (perm)		3336	1525	1461	1097	1681			3303	4823		
Peak-hour factor, PHF	0.90	0.93	0.93	0.93	0.88	0.88	0.88	0.93	0.93	0.93	0.93	0.86
Adj. Flow (vph)	2	489	54	372	53	44	27	3	247	653	69	8
RTOR Reduction (vph)	0	0	95	169	0	18	0	0	0	6	0	0
Lane Group Flow (vph)	0	491	123	39	53	53	0	0	250	716	0	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	Prot	NA		Prot
Protected Phases	3	3	8		7	4		1	1	6		5
Permitted Phases				8	4							
Actuated Green, G (s)		20.0	28.0	28.0	15.6	11.4			15.2	78.5		
Effective Green, g (s)		20.0	28.0	28.0	15.6	11.4			15.2	78.5		
Actuated g/C Ratio		0.13	0.19	0.19	0.10	0.08			0.10	0.52		
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6		
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)		444	284	272	130	127			334	2524		
v/s Ratio Prot		c0.15	c0.08		0.01	0.03			c0.08	0.15		
v/s Ratio Perm				0.03	0.03							
v/c Ratio		1.11	0.43	0.14	0.41	0.41			0.75	0.28		
Uniform Delay, d1		65.0	54.0	51.0	62.2	66.1			65.5	20.0		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2		74.7	1.1	0.2	2.1	2.2			8.9	0.3		
Delay (s)		139.7	55.0	51.2	64.2	68.3			74.4	20.3		
Level of Service		F	E	D	E	E			E	C		
Approach Delay (s)			99.5			66.6				34.2		
Approach LOS			F			E				C		
Intersection Summary												
HCM 2000 Control Delay			52.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				28.7		
Intersection Capacity Utilization			91.3%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 Background- AM

01/14/2022



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	51	1221	702
Future Volume (vph)	51	1221	702
Ideal Flow (vphpl)	1900	1900	1900
Grade (%)		0%	
Total Lost time (s)	7.2	6.6	6.6
Lane Util. Factor	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1752	5036	1547
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	1752	5036	1547
Peak-hour factor, PHF	0.86	0.86	0.86
Adj. Flow (vph)	59	1420	816
RTOR Reduction (vph)	0	0	375
Lane Group Flow (vph)	67	1420	441
Confl. Peds. (#/hr)			1
Heavy Vehicles (%)	3%	3%	3%
Bus Blockages (#/hr)	0	0	0
Turn Type	Prot	NA	Perm
Protected Phases	5	2	
Permitted Phases			2
Actuated Green, G (s)	11.7	74.7	74.7
Effective Green, g (s)	11.7	74.7	74.7
Actuated g/C Ratio	0.08	0.50	0.50
Clearance Time (s)	7.2	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	136	2507	770
v/s Ratio Prot	0.04	0.28	
v/s Ratio Perm			c0.28
v/c Ratio	0.49	0.57	0.57
Uniform Delay, d1	66.3	26.3	26.4
Progression Factor	1.05	0.86	2.44
Incremental Delay, d2	2.5	0.9	2.8
Delay (s)	72.4	23.6	67.3
Level of Service	E	C	E
Approach Delay (s)		40.5	
Approach LOS		D	
Intersection Summary			

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

2023 Background- AM

01/14/2022

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT			
Lane Configurations								  	  			 			
Traffic Volume (veh/h)	0	0	33	0	0	0	2	18	1120	9	0	1980			
Future Volume (Veh/h)	0	0	33	0	0	0	2	18	1120	9	0	1980			
Sign Control	Stop				Yield				Free		Free				
Grade	0%				0%				0%		0%				
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90	0.90			
Hourly flow rate (vph)	0	0	39	0	0	0	0	19	1179	9	0	2200			
Pedestrians															
Lane Width (ft)															
Walking Speed (ft/s)															
Percent Blockage															
Right turn flare (veh)															
Median type	None										None				
Median storage (veh)															
Upstream signal (ft)	457														
pX, platoon unblocked	0.86	0.86	0.86	0.86	0.86		0.00	0.86							
vC, conflicting volume	2632	3427	734	1994	3424	398	0	2202			1188				
vC1, stage 1 conf vol															
vC2, stage 2 conf vol															
vCu, unblocked vol	2334	3256	134	1594	3252	398	0	1835			1188				
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	0.0	4.3			4.2				
tC, 2 stage (s)															
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	0.0	2.3			2.2				
p0 queue free %	100	100	95	100	100	100	0	93			100				
cM capacity (veh/h)	15	7	757	56	8	608	0	262			578				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3						
Volume Total	39	0	19	472	472	245	880	880	442						
Volume Left	0	0	19	0	0	0	0	0	0						
Volume Right	39	0	0	0	0	9	0	0	2						
cSH	757	1700	262	1700	1700	1700	1700	1700	1700						
Volume to Capacity	0.05	0.00	0.07	0.28	0.28	0.14	0.52	0.52	0.26						
Queue Length 95th (ft)	4	0	6	0	0	0	0	0	0						
Control Delay (s)	10.0	0.0	19.8	0.0	0.0	0.0	0.0	0.0	0.0						
Lane LOS	B	A	C												
Approach Delay (s)	10.0	0.0	0.3												
Approach LOS	B	A													
Intersection Summary															
Average Delay	0.2														
Intersection Capacity Utilization	48.3%														
Analysis Period (min)	15														
ICU Level of Service															
A															

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	2
Future Volume (Veh/h)	2
Sign Control	
Grade	
Peak Hour Factor	0.90
Hourly flow rate (vph)	2
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	
Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	
vCu, unblocked vol	
tC, single (s)	
tC, 2 stage (s)	
tF (s)	
p0 queue free %	
cM capacity (veh/h)	
Direction, Lane #	



Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	15	24	3	11	1168	11	2128
v/c Ratio	0.05	0.08	0.32	0.01	0.06	0.28	0.03	0.48
Control Delay	67.0	0.8	78.0	0.0	3.0	1.6	3.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	0.8	78.0	0.0	3.0	1.6	3.8	4.4
Queue Length 50th (ft)	4	0	23	0	1	30	1	136
Queue Length 95th (ft)	13	0	40	0	m3	m63	7	319
Internal Link Dist (ft)		591				377		764
Turn Bay Length (ft)	100		270	115	250		235	
Base Capacity (vph)	345	473	341	500	185	4200	393	4417
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	0.01	0.03	0.07	0.01	0.06	0.28	0.03	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

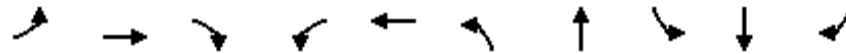
HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

2023 Background- AM

01/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	10	16	0	2	10	1065	45	10	1955	3
Future Volume (vph)	3	0	10	16	0	2	10	1065	45	10	1955	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4		6.4	6.4	6.2		6.0	6.2	
Lane Util. Factor	1.00	1.00		1.00		1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.85		1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1615		1805		1615	1671	4774		1752	5035	
Flt Permitted	0.76	1.00		0.75		1.00	0.08	1.00		0.21	1.00	
Satd. Flow (perm)	1439	1615		1421		1615	137	4774		396	5035	
Peak-hour factor, PHF	0.68	0.68	0.68	0.66	0.66	0.66	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	4	0	15	24	0	3	11	1121	47	11	2125	3
RTOR Reduction (vph)	0	14	0	0	0	3	0	1	0	0	0	0
Lane Group Flow (vph)	4	1	0	24	0	0	11	1167	0	11	2128	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	8%	8%	8%	3%	3%	3%
Turn Type	Perm	NA		Perm		Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	5.7	5.7		5.7		5.7	123.3	123.3		122.7	122.7	
Effective Green, g (s)	5.7	5.7		5.7		5.7	123.3	123.3		122.7	122.7	
Actuated g/C Ratio	0.04	0.04		0.04		0.04	0.82	0.82		0.82	0.82	
Clearance Time (s)	6.4	6.4		6.4		6.4	6.4	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	54	61		53		61	139	3924		345	4118	
v/s Ratio Prot		0.00					0.00	c0.24		0.00	c0.42	
v/s Ratio Perm	0.00			c0.02		0.00	0.06			0.03		
v/c Ratio	0.07	0.01		0.45		0.00	0.08	0.30		0.03	0.52	
Uniform Delay, d1	69.6	69.4		70.6		69.4	3.9	3.1		2.7	4.3	
Progression Factor	1.00	1.00		1.00		1.00	0.55	0.51		1.00	1.00	
Incremental Delay, d2	0.6	0.1		6.0		0.0	0.2	0.2		0.0	0.5	
Delay (s)	70.2	69.5		76.7		69.4	2.4	1.8		2.8	4.8	
Level of Service	E	E		E		E	A	A		A	A	
Approach Delay (s)		69.6			75.9			1.8			4.8	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			4.6				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			150.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			55.9%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	713	341	309	105	182	363	1637	85	1148	578
v/c Ratio	0.98	0.67	0.48	0.47	0.76	0.97	0.75	0.86	0.61	0.61
Control Delay	90.0	52.4	8.9	42.7	78.5	108.8	42.2	115.3	29.1	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.0	52.4	8.9	42.7	78.5	108.8	42.2	115.3	29.1	3.0
Queue Length 50th (ft)	386	309	25	71	165	198	525	92	197	0
Queue Length 95th (ft)	#508	397	101	102	229	#305	636	m#188	309	4
Internal Link Dist (ft)		1009			530		800		829	
Turn Bay Length (ft)	450		475	130		450		310		330
Base Capacity (vph)	730	721	799	222	460	375	2169	99	1881	940
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	0.98	0.47	0.39	0.47	0.40	0.97	0.75	0.86	0.61	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 Background-Pm

01/14/2022

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	3	632	185	393	90	91	65	348	1527	44	16	64
Future Volume (vph)	3	632	185	393	90	91	65	348	1527	44	16	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%			0%			
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6			7.2
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00		0.97	0.91			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.94	0.85	1.00	0.94		1.00	1.00			1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.95
Satd. Flow (prot)		3467	1683	1519	1760	1737		3433	5064			1752
Flt Permitted		0.95	1.00	1.00	0.55	1.00		0.95	1.00			0.95
Satd. Flow (perm)		3467	1683	1519	1013	1737		3433	5064			1752
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.86	0.86	0.86	0.96	0.96	0.96	0.94	0.94
Adj. Flow (vph)	3	710	208	442	105	106	76	362	1591	46	17	68
RTOR Reduction (vph)	0	0	18	197	0	19	0	0	2	0	0	0
Lane Group Flow (vph)	0	713	323	112	105	163	0	363	1635	0	0	85
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	2%	2%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	NA		Prot	Prot
Protected Phases	3	3	8		7	4		1	6		5	5
Permitted Phases				8	4							
Actuated Green, G (s)		33.7	46.7	46.7	28.4	20.3		17.5	68.5			9.1
Effective Green, g (s)		33.7	46.7	46.7	28.4	20.3		17.5	68.5			9.1
Actuated g/C Ratio		0.21	0.29	0.29	0.18	0.13		0.11	0.43			0.06
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6			7.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		730	491	443	217	220		375	2168			99
v/s Ratio Prot		c0.21	c0.19		0.02	0.09		c0.11	c0.32			0.05
v/s Ratio Perm				0.07	0.06							
v/c Ratio		0.98	0.66	0.25	0.48	0.74		0.97	0.75			0.86
Uniform Delay, d1		62.8	49.7	43.3	57.6	67.3		71.0	38.6			74.8
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.84
Incremental Delay, d2		27.3	3.2	0.3	1.7	12.3		37.6	2.5			43.4
Delay (s)		90.1	52.8	43.6	59.3	79.6		108.6	41.1			106.5
Level of Service		F	D	D	E	E		F	D			F
Approach Delay (s)			70.2			72.1			53.4			
Approach LOS			E			E			D			
Intersection Summary												
HCM 2000 Control Delay			49.1				HCM 2000 Level of Service		D			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		28.7			
Intersection Capacity Utilization			94.5%				ICU Level of Service		F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 Background-Pm

01/14/2022



Movement	SBT	SBR
Lane Configurations	↑↑↑	↑
Traffic Volume (vph)	1079	543
Future Volume (vph)	1079	543
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.91	1.00
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5036	1547
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5036	1547
Peak-hour factor, PHF	0.94	0.94
Adj. Flow (vph)	1148	578
RTOR Reduction (vph)	0	362
Lane Group Flow (vph)	1148	216
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	3%	3%
Bus Blockages (#/hr)	0	0
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	59.8	59.8
Effective Green, g (s)	59.8	59.8
Actuated g/C Ratio	0.37	0.37
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1882	578
v/s Ratio Prot	0.23	
v/s Ratio Perm		0.14
v/c Ratio	0.61	0.37
Uniform Delay, d1	40.6	36.5
Progression Factor	0.67	0.11
Incremental Delay, d2	1.3	1.6
Delay (s)	28.4	5.7
Level of Service	C	A
Approach Delay (s)	24.8	
Approach LOS	C	
Intersection Summary		

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

2023 Background-Pm

01/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	31	0	0	20	70	2211	79	0	1655	4
Future Volume (Veh/h)	0	0	31	0	0	20	70	2211	79	0	1655	4
Sign Control	Stop				Yield				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.70	0.70	0.70	0.63	0.63	0.63	0.95	0.95	0.95	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	44	0	0	32	74	2327	83	0	1839	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												448
pX, platoon unblocked	0.83	0.83	0.83	0.83	0.83	0.83						
vC, conflicting volume	2765	4399	615	3174	4360	817	1843	2410				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2410	4378	0	2902	4331	817	1299	2410				
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.2				
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	100	100	95	100	100	90	83	100				
cM capacity (veh/h)	11	1	906	5	1	324	444	192				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	44	32	74	931	931	548	736	736	372			
Volume Left	0	0	74	0	0	0	0	0	0			
Volume Right	44	32	0	0	0	83	0	0	4			
cSH	906	324	444	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.05	0.10	0.17	0.55	0.55	0.32	0.43	0.43	0.22			
Queue Length 95th (ft)	4	8	15	0	0	0	0	0	0			
Control Delay (s)	9.2	17.3	14.7	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	A	C	B									
Approach Delay (s)	9.2	17.3	0.4	0.0								
Approach LOS	A	C										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			54.5%	ICU Level of Service					A			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	77	245	9	57	64	2286	53	1563
v/c Ratio	0.13	0.20	0.90	0.02	0.15	0.25	0.68	0.53	0.50
Control Delay	51.5	15.4	95.9	48.9	9.3	7.7	10.7	54.5	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.5	15.4	95.9	48.9	9.3	7.7	10.7	54.5	17.5
Queue Length 50th (ft)	32	10	247	7	0	15	338	16	341
Queue Length 95th (ft)	50	28	#391	24	33	m20	m402	#61	383
Internal Link Dist (ft)		673		657			368		581
Turn Bay Length (ft)	100		270		115	250		235	
Base Capacity (vph)	321	423	299	423	410	265	3347	100	3145
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	0.12	0.18	0.82	0.02	0.14	0.24	0.68	0.53	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

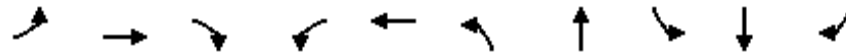
2023 Background-Pm

01/14/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	26	8	44	228	8	53	2	59	1917	255	12	36
Future Volume (vph)	26	8	44	228	8	53	2	59	1917	255	12	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2			6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.91			1.00
Frt	1.00	0.87		1.00	1.00	0.85		1.00	0.98			1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00			0.95
Satd. Flow (prot)	1805	1659		1787	1881	1599		1787	5045			1736
Flt Permitted	0.75	1.00		0.71	1.00	1.00		0.12	1.00			0.04
Satd. Flow (perm)	1428	1659		1330	1881	1599		226	5045			73
Peak-hour factor, PHF	0.68	0.68	0.68	0.93	0.93	0.93	0.95	0.95	0.95	0.95	0.91	0.91
Adj. Flow (vph)	38	12	65	245	9	57	2	62	2018	268	13	40
RTOR Reduction (vph)	0	52	0	0	0	45	0	0	10	0	0	0
Lane Group Flow (vph)	38	25	0	245	9	12	0	64	2276	0	0	53
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	4%	4%
Turn Type	Perm	NA		Perm	NA	Perm	Prot	pm+pt	NA		Prot	pm+pt
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4		2				6
Actuated Green, G (s)	32.7	32.7		32.7	32.7	32.7		112.9	104.6			104.1
Effective Green, g (s)	32.7	32.7		32.7	32.7	32.7		112.9	104.6			104.1
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20		0.71	0.65			0.65
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2			6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)	291	339		271	384	326		240	3298			90
v/s Ratio Prot		0.02			0.00			c0.01	c0.45			c0.02
v/s Ratio Perm	0.03			c0.18		0.01		0.17				0.37
v/c Ratio	0.13	0.07		0.90	0.02	0.04		0.27	0.69			0.59
Uniform Delay, d1	52.0	51.4		62.1	50.9	51.0		19.1	17.5			47.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.53	0.56			1.00
Incremental Delay, d2	0.2	0.1		30.7	0.0	0.0		0.4	0.8			9.5
Delay (s)	52.2	51.5		92.8	50.9	51.1		10.5	10.6			57.4
Level of Service	D	D		F	D	D		B	B			E
Approach Delay (s)		51.8			84.0				10.6			
Approach LOS		D			F				B			
Intersection Summary												
HCM 2000 Control Delay			19.7				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		19.0			
Intersection Capacity Utilization			80.5%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												



Movement	SBT	SBR
Lane Configurations	↑↑↑	↑
Traffic Volume (vph)	1384	38
Future Volume (vph)	1384	38
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	4967	
Flt Permitted	1.00	
Satd. Flow (perm)	4967	
Peak-hour factor, PHF	0.91	0.91
Adj. Flow (vph)	1521	42
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	1562	0
Heavy Vehicles (%)	4%	4%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	100.0	
Effective Green, g (s)	100.0	
Actuated g/C Ratio	0.62	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	3104	
v/s Ratio Prot	0.31	
v/s Ratio Perm		
v/c Ratio	0.50	
Uniform Delay, d1	16.4	
Progression Factor	1.00	
Incremental Delay, d2	0.6	
Delay (s)	17.0	
Level of Service	B	
Approach Delay (s)	18.3	
Approach LOS	B	
Intersection Summary		



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	496	218	208	53	71	250	729	67	1441	822
v/c Ratio	1.12	0.58	0.47	0.38	0.54	0.83	0.28	0.44	0.55	0.71
Control Delay	135.7	31.9	9.9	53.1	63.2	89.1	19.8	75.6	22.2	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	135.7	31.9	9.9	53.1	63.2	89.1	19.8	75.6	22.2	10.2
Queue Length 50th (ft)	~289	96	0	40	49	125	143	63	341	184
Queue Length 95th (ft)	#406	187	75	74	98	#193	185	118	387	492
Internal Link Dist (ft)		1109			394		815		626	
Turn Bay Length (ft)	450		475	130		450		310		330
Base Capacity (vph)	444	644	677	139	472	308	2621	170	2603	1161
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	1.12	0.34	0.31	0.38	0.15	0.81	0.28	0.39	0.55	0.71

Intersection Summary

~ 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.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 With Project- AM
01/27/2022

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	2	459	50	346	47	39	24	3	230	614	64	7
Future Volume (vph)	2	459	50	346	47	39	24	3	230	614	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%				0%		
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6		
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00			0.97	0.91		
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Frt		1.00	0.89	0.85	1.00	0.94			1.00	0.99		
Flt Protected		0.95	1.00	1.00	0.95	1.00			0.95	1.00		
Satd. Flow (prot)		3336	1525	1461	1693	1681			3303	4824		
Flt Permitted		0.95	1.00	1.00	0.62	1.00			0.95	1.00		
Satd. Flow (perm)		3336	1525	1461	1097	1681			3303	4824		
Peak-hour factor, PHF	0.90	0.93	0.93	0.93	0.88	0.88	0.88	0.93	0.93	0.93	0.93	0.86
Adj. Flow (vph)	2	494	54	372	53	44	27	3	247	660	69	8
RTOR Reduction (vph)	0	0	95	169	0	18	0	0	0	6	0	0
Lane Group Flow (vph)	0	496	123	39	53	53	0	0	250	723	0	0
Confl. Peds. (#/hr)									1			
Heavy Vehicles (%)	0%	5%	5%	5%	5%	5%	5%	6%	6%	6%	6%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	1	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	Prot	NA		Prot
Protected Phases	3	3	8		7	4		1	1	6		5
Permitted Phases				8	4							
Actuated Green, G (s)		20.0	28.0	28.0	15.6	11.4			15.2	78.5		
Effective Green, g (s)		20.0	28.0	28.0	15.6	11.4			15.2	78.5		
Actuated g/C Ratio		0.13	0.19	0.19	0.10	0.08			0.10	0.52		
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3			7.5	6.6		
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)		444	284	272	130	127			334	2524		
v/s Ratio Prot		c0.15	c0.08		0.01	0.03			c0.08	0.15		
v/s Ratio Perm				0.03	0.03							
v/c Ratio		1.12	0.43	0.14	0.41	0.41			0.75	0.29		
Uniform Delay, d1		65.0	54.0	51.0	62.2	66.1			65.5	20.0		
Progression Factor		1.00	1.00	1.00	1.00	1.00			1.00	1.00		
Incremental Delay, d2		78.6	1.1	0.2	2.1	2.2			8.9	0.3		
Delay (s)		143.6	55.0	51.2	64.2	68.3			74.4	20.3		
Level of Service		F	E	D	E	E			E	C		
Approach Delay (s)			101.8			66.6				34.1		
Approach LOS			F			E				C		
Intersection Summary												
HCM 2000 Control Delay			52.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			150.0			Sum of lost time (s)				28.7		
Intersection Capacity Utilization			91.8%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 With Project- AM
01/27/2022



Movement	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	51	1239	707
Future Volume (vph)	51	1239	707
Ideal Flow (vphpl)	1900	1900	1900
Grade (%)		0%	
Total Lost time (s)	7.2	6.6	6.6
Lane Util. Factor	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00
Frt	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00
Satd. Flow (prot)	1752	5036	1547
Flt Permitted	0.95	1.00	1.00
Satd. Flow (perm)	1752	5036	1547
Peak-hour factor, PHF	0.86	0.86	0.86
Adj. Flow (vph)	59	1441	822
RTOR Reduction (vph)	0	0	375
Lane Group Flow (vph)	67	1441	447
Confl. Peds. (#/hr)			1
Heavy Vehicles (%)	3%	3%	3%
Bus Blockages (#/hr)	0	0	0
Turn Type	Prot	NA	Perm
Protected Phases	5	2	
Permitted Phases			2
Actuated Green, G (s)	11.7	74.7	74.7
Effective Green, g (s)	11.7	74.7	74.7
Actuated g/C Ratio	0.08	0.50	0.50
Clearance Time (s)	7.2	6.6	6.6
Vehicle Extension (s)	3.0	3.0	3.0
Lane Grp Cap (vph)	136	2507	770
v/s Ratio Prot	0.04	0.29	
v/s Ratio Perm			c0.29
v/c Ratio	0.49	0.57	0.58
Uniform Delay, d1	66.3	26.5	26.6
Progression Factor	1.04	0.85	2.31
Incremental Delay, d2	2.6	0.9	2.9
Delay (s)	71.6	23.5	64.2
Level of Service	E	C	E
Approach Delay (s)		39.3	
Approach LOS		D	
Intersection Summary			

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

2023 With Project- AM
01/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations									  			 
Traffic Volume (veh/h)	0	0	85	0	0	0	2	54	1121	9	0	1978
Future Volume (Veh/h)	0	0	85	0	0	0	2	54	1121	9	0	1978
Sign Control	Stop				Yield				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90	0.90
Hourly flow rate (vph)	0	0	100	0	0	0	0	57	1180	9	0	2198
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None									None		
Median storage veh												
Upstream signal (ft)												457
pX, platoon unblocked	0.86	0.86	0.86	0.86	0.86		0.00	0.86				
vC, conflicting volume	2713	3509	741	2131	3512	398	0	2214	1189			
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2425	3349	134	1749	3353	398	0	1845	1189			
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	0.0	4.3	4.2			
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	0.0	2.3	2.2			
p0 queue free %	100	100	87	100	100	100	0	78	100			
cM capacity (veh/h)	11	5	756	35	5	607	0	260	577			
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	100	0	57	472	472	245	879	879	456			
Volume Left	0	0	57	0	0	0	0	0	0			
Volume Right	100	0	0	0	0	9	0	0	16			
cSH	756	1700	260	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.13	0.07	0.22	0.28	0.28	0.14	0.52	0.52	0.27			
Queue Length 95th (ft)	11	0	20	0	0	0	0	0	0			
Control Delay (s)	10.5	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	B	A	C									
Approach Delay (s)	10.5	0.0	1.0	0.0								
Approach LOS	B	A										
Intersection Summary												
Average Delay			0.7									
Intersection Capacity Utilization			57.1%	ICU Level of Service					B			
Analysis Period (min)			15									

Movement	SBR
Approach	
Lane Configurations	
Traffic Volume (veh/h)	14
Future Volume (Veh/h)	14
Sign Control	
Grade	
Peak Hour Factor	0.90
Hourly flow rate (vph)	16
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	
Median type	
Median storage veh)	
Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	
vCu, unblocked vol	
tC, single (s)	
tC, 2 stage (s)	
tF (s)	
p0 queue free %	
cM capacity (veh/h)	
Direction, Lane #	



Lane Group	EBL	EBT	WBL	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	4	15	24	3	11	1169	11	2140
v/c Ratio	0.05	0.08	0.32	0.01	0.06	0.28	0.03	0.48
Control Delay	67.0	0.8	78.0	0.0	3.1	1.6	3.8	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.0	0.8	78.0	0.0	3.1	1.6	3.8	4.4
Queue Length 50th (ft)	4	0	23	0	1	30	1	137
Queue Length 95th (ft)	13	0	40	0	m3	m63	7	322
Internal Link Dist (ft)		591				377		764
Turn Bay Length (ft)	100		270	115	250		235	
Base Capacity (vph)	345	473	341	500	183	4200	391	4417
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	0.01	0.03	0.07	0.01	0.06	0.28	0.03	0.48

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

2023 With Project- AM
01/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	10	16	0	2	10	1066	45	10	1966	3
Future Volume (vph)	3	0	10	16	0	2	10	1066	45	10	1966	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4		6.4	6.4	6.2		6.0	6.2	
Lane Util. Factor	1.00	1.00		1.00		1.00	1.00	0.91		1.00	0.91	
Frt	1.00	0.85		1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1615		1805		1615	1671	4774		1752	5035	
Flt Permitted	0.76	1.00		0.75		1.00	0.08	1.00		0.21	1.00	
Satd. Flow (perm)	1439	1615		1421		1615	135	4774		396	5035	
Peak-hour factor, PHF	0.68	0.68	0.68	0.66	0.66	0.66	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	4	0	15	24	0	3	11	1122	47	11	2137	3
RTOR Reduction (vph)	0	14	0	0	0	3	0	1	0	0	0	0
Lane Group Flow (vph)	4	1	0	24	0	0	11	1168	0	11	2140	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	8%	8%	8%	3%	3%	3%
Turn Type	Perm	NA		Perm		Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		8			4		5	2		1	6	
Permitted Phases	8			4		4	2			6		
Actuated Green, G (s)	5.7	5.7		5.7		5.7	123.3	123.3		122.7	122.7	
Effective Green, g (s)	5.7	5.7		5.7		5.7	123.3	123.3		122.7	122.7	
Actuated g/C Ratio	0.04	0.04		0.04		0.04	0.82	0.82		0.82	0.82	
Clearance Time (s)	6.4	6.4		6.4		6.4	6.4	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	54	61		53		61	137	3924		345	4118	
v/s Ratio Prot		0.00					0.00	c0.24		0.00	c0.43	
v/s Ratio Perm	0.00			c0.02		0.00	0.06			0.03		
v/c Ratio	0.07	0.01		0.45		0.00	0.08	0.30		0.03	0.52	
Uniform Delay, d1	69.6	69.4		70.6		69.4	4.0	3.1		2.7	4.3	
Progression Factor	1.00	1.00		1.00		1.00	0.57	0.51		1.00	1.00	
Incremental Delay, d2	0.6	0.1		6.0		0.0	0.2	0.2		0.0	0.5	
Delay (s)	70.2	69.5		76.7		69.4	2.5	1.8		2.8	4.8	
Level of Service	E	E		E		E	A	A		A	A	
Approach Delay (s)		69.6			75.9			1.8			4.8	
Approach LOS		E			E			A			A	
Intersection Summary												
HCM 2000 Control Delay			4.7				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			150.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			56.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

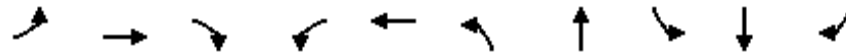
HCM Unsignalized Intersection Capacity Analysis

4: SR 53/Dawsonville Hwy & Driveway

2023 With Project- AM
01/27/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		↗		↑↑↑	↑↑↑↗		
Traffic Volume (veh/h)	0	15	0	1186	2048	17	
Future Volume (Veh/h)	0	15	0	1186	2048	17	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	0	17	0	1318	2276	19	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh							
Upstream signal (ft)				1152	694		
pX, platoon unblocked	0.89	0.86	0.86				
vC, conflicting volume	2725	768	2295				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2063	161	1936				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	98	100				
cM capacity (veh/h)	43	741	265				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	17	439	439	439	910	910	474
Volume Left	0	0	0	0	0	0	0
Volume Right	17	0	0	0	0	0	19
cSH	741	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.26	0.26	0.26	0.54	0.54	0.28
Queue Length 95th (ft)	2	0	0	0	0	0	0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	10.0	0.0			0.0		
Approach LOS	A						
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			49.9%		ICU Level of Service		A
Analysis Period (min)			15				



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	689	326	296	102	177	374	1698	93	1265	637
v/c Ratio	1.01	0.68	0.48	0.47	0.76	1.04	0.80	0.94	0.66	0.67
Control Delay	99.3	53.4	7.8	43.3	78.7	124.1	43.7	131.4	29.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.3	53.4	7.8	43.3	78.7	124.1	43.7	131.4	29.9	3.9
Queue Length 50th (ft)	~381	296	11	70	160	~215	560	100	245	0
Queue Length 95th (ft)	#518	389	89	104	230	#326	681	m#187	m338	m12
Internal Link Dist (ft)		1109			394		815		626	
Turn Bay Length (ft)	450		475	130		450		310		330
Base Capacity (vph)	681	695	777	217	453	361	2114	99	1908	947
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	1.01	0.47	0.38	0.47	0.39	1.04	0.80	0.94	0.66	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

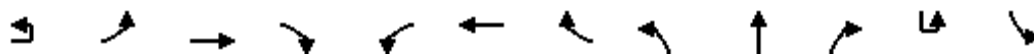
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 With Project- PM
01/27/2022



Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL
Lane Configurations		RT	LT	LT	LT	LT		RT	RT	RT		RT
Traffic Volume (vph)	3	638	185	393	90	91	65	348	1535	44	16	64
Future Volume (vph)	3	638	185	393	90	91	65	348	1535	44	16	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)			0%			3%			0%			
Total Lost time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6			7.2
Lane Util. Factor		0.97	0.95	0.95	1.00	1.00		0.97	0.91			1.00
Frpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00
Frt		1.00	0.94	0.85	1.00	0.94		1.00	1.00			1.00
Flt Protected		0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.95
Satd. Flow (prot)		3336	1619	1461	1693	1671		3303	4873			1752
Flt Permitted		0.95	1.00	1.00	0.55	1.00		0.95	1.00			0.95
Satd. Flow (perm)		3336	1619	1461	989	1671		3303	4873			1752
Peak-hour factor, PHF	0.90	0.93	0.93	0.93	0.88	0.88	0.88	0.93	0.93	0.93	0.86	0.86
Adj. Flow (vph)	3	686	199	423	102	103	74	374	1651	47	19	74
RTOR Reduction (vph)	0	0	18	200	0	19	0	0	2	0	0	0
Lane Group Flow (vph)	0	689	308	96	102	158	0	374	1696	0	0	93
Confl. Peds. (#/hr)								1				
Heavy Vehicles (%)	0%	5%	5%	5%	5%	5%	5%	6%	6%	6%	3%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	1	0	0
Turn Type	Prot	Prot	NA	Perm	pm+pt	NA		Prot	NA		Prot	Prot
Protected Phases	3	3	8		7	4		1	6		5	5
Permitted Phases				8	4							
Actuated Green, G (s)		32.7	45.9	45.9	28.6	20.5		17.5	69.3			9.1
Effective Green, g (s)		32.7	45.9	45.9	28.6	20.5		17.5	69.3			9.1
Actuated g/C Ratio		0.20	0.29	0.29	0.18	0.13		0.11	0.43			0.06
Clearance Time (s)		7.3	7.3	7.3	6.5	7.3		7.5	6.6			7.2
Vehicle Extension (s)		3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)		681	464	419	212	214		361	2110			99
v/s Ratio Prot		c0.21	c0.19		0.02	0.09		c0.11	c0.35			0.05
v/s Ratio Perm				0.07	0.06							
v/c Ratio		1.01	0.66	0.23	0.48	0.74		1.04	0.80			0.94
Uniform Delay, d1		63.6	50.3	43.5	57.4	67.2		71.2	39.4			75.2
Progression Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.85
Incremental Delay, d2		37.4	3.6	0.3	1.7	12.4		57.0	3.4			63.8
Delay (s)		101.1	53.8	43.8	59.1	79.6		128.2	42.8			127.7
Level of Service		F	D	D	E	E		F	D			F
Approach Delay (s)			76.4			72.1			58.2			
Approach LOS			E			E			E			
Intersection Summary												
HCM 2000 Control Delay			52.0									
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			160.0									
Intersection Capacity Utilization			94.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
1: SR 53/Dawsonville Hwy & SR 53/McEver Rd/Home Depot

2023 With Project- PM
01/27/2022



Movement	SBT	SBR
Lane Configurations	↑↑↑	↑
Traffic Volume (vph)	1088	548
Future Volume (vph)	1088	548
Ideal Flow (vphpl)	1900	1900
Grade (%)	0%	
Total Lost time (s)	6.6	6.6
Lane Util. Factor	0.91	1.00
Frpb, ped/bikes	1.00	0.99
Flpb, ped/bikes	1.00	1.00
Frt	1.00	0.85
Flt Protected	1.00	1.00
Satd. Flow (prot)	5036	1547
Flt Permitted	1.00	1.00
Satd. Flow (perm)	5036	1547
Peak-hour factor, PHF	0.86	0.86
Adj. Flow (vph)	1265	637
RTOR Reduction (vph)	0	362
Lane Group Flow (vph)	1265	275
Confl. Peds. (#/hr)		1
Heavy Vehicles (%)	3%	3%
Bus Blockages (#/hr)	0	0
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Actuated Green, G (s)	60.6	60.6
Effective Green, g (s)	60.6	60.6
Actuated g/C Ratio	0.38	0.38
Clearance Time (s)	6.6	6.6
Vehicle Extension (s)	3.0	3.0
Lane Grp Cap (vph)	1907	585
v/s Ratio Prot	0.25	
v/s Ratio Perm		0.18
v/c Ratio	0.66	0.47
Uniform Delay, d1	41.2	37.6
Progression Factor	0.67	0.13
Incremental Delay, d2	1.6	2.3
Delay (s)	29.2	7.2
Level of Service	C	A
Approach Delay (s)	26.7	
Approach LOS	C	
Intersection Summary		

HCM Unsignalized Intersection Capacity Analysis

2: SR 53/Dawsonville Hwy & Beechwood Blvd NW/Shopping Center

2023 With Project- PM

01/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	93	0	0	20	119	2220	79	0	1649	21
Future Volume (Veh/h)	0	0	93	0	0	20	119	2220	79	0	1649	21
Sign Control	Stop				Yield				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	109	0	0	22	125	2337	83	0	1832	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)												457
pX, platoon unblocked	0.82	0.82	0.82	0.82	0.82		0.82					
vC, conflicting volume	2872	4514	622	3348	4484	820	1855	2420				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2507	4517	0	3090	4480	820	1261	2420				
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.3	4.2				
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.3	2.2				
p0 queue free %	100	100	88	100	100	93	70	100				
cM capacity (veh/h)	8	1	875	3	1	322	421	190				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3			
Volume Total	109	22	125	935	935	550	733	733	389			
Volume Left	0	0	125	0	0	0	0	0	0			
Volume Right	109	22	0	0	0	83	0	0	23			
cSH	875	322	421	1700	1700	1700	1700	1700	1700			
Volume to Capacity	0.12	0.07	0.30	0.55	0.55	0.32	0.43	0.43	0.23			
Queue Length 95th (ft)	11	5	31	0	0	0	0	0	0			
Control Delay (s)	9.7	17.0	17.1	0.0	0.0	0.0	0.0	0.0	0.0			
Lane LOS	A	C	C									
Approach Delay (s)	9.7	17.0	0.8	0.0								
Approach LOS	A	C										
Intersection Summary												
Average Delay			0.8									
Intersection Capacity Utilization			54.7%	ICU Level of Service					A			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	38	77	345	12	80	64	2293	52	1558
v/c Ratio	0.11	0.17	1.08	0.03	0.17	0.27	0.77	0.51	0.52
Control Delay	50.6	15.1	127.7	48.8	4.0	8.5	12.9	50.3	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	15.1	127.7	48.8	4.0	8.5	12.9	50.3	20.2
Queue Length 50th (ft)	32	10	~420	10	0	15	327	16	347
Queue Length 95th (ft)	50	28	#373	22	0	m19	m392	51	388
Internal Link Dist (ft)		591		845			377		764
Turn Bay Length (ft)	100		270		115	250		235	
Base Capacity (vph)	340	445	320	453	468	246	2969	102	2973
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	0.11	0.17	1.08	0.03	0.17	0.26	0.77	0.51	0.52

Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis

3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

2023 With Project- PM

01/27/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	26	8	44	228	8	53	2	59	1924	255	12	36
Future Volume (vph)	26	8	44	228	8	53	2	59	1924	255	12	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2			6.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00		1.00	0.91			1.00
Frt	1.00	0.87		1.00	1.00	0.85		1.00	0.98			1.00
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95	1.00			0.95
Satd. Flow (prot)	1805	1659		1805	1900	1615		1675	4719			1765
Flt Permitted	0.75	1.00		0.71	1.00	1.00		0.11	1.00			0.04
Satd. Flow (perm)	1424	1659		1343	1900	1615		202	4719			79
Peak-hour factor, PHF	0.68	0.68	0.68	0.66	0.66	0.66	0.90	0.95	0.95	0.95	0.90	0.92
Adj. Flow (vph)	38	12	65	345	12	80	2	62	2025	268	13	39
RTOR Reduction (vph)	0	49	0	0	0	61	0	0	11	0	0	0
Lane Group Flow (vph)	38	28	0	345	12	19	0	64	2282	0	0	52
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	8%	8%	0%	3%
Turn Type	Perm	NA		Perm	NA	Perm	pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases		8			4		5	5	2		1	1
Permitted Phases	8			4		4	2	2			6	6
Actuated Green, G (s)	38.2	38.2		38.2	38.2	38.2		108.4	99.1			97.6
Effective Green, g (s)	38.2	38.2		38.2	38.2	38.2		108.4	99.1			97.6
Actuated g/C Ratio	0.24	0.24		0.24	0.24	0.24		0.68	0.62			0.61
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.4	6.2			6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0			3.0
Lane Grp Cap (vph)	339	396		320	453	385		222	2922			91
v/s Ratio Prot		0.02			0.01			c0.02	c0.48			c0.01
v/s Ratio Perm	0.03			c0.26		0.01		0.18				0.33
v/c Ratio	0.11	0.07		1.08	0.03	0.05		0.29	0.78			0.57
Uniform Delay, d1	47.6	47.1		60.9	46.7	46.9		23.9	22.5			53.5
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.50	0.54			1.00
Incremental Delay, d2	0.1	0.1		72.7	0.0	0.1		0.5	1.4			8.4
Delay (s)	47.8	47.2		133.6	46.7	47.0		12.5	13.5			61.9
Level of Service	D	D		F	D	D		B	B			E
Approach Delay (s)		47.4			115.4				13.5			
Approach LOS		D			F				B			
Intersection Summary												
HCM 2000 Control Delay			27.3				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)		19.0			
Intersection Capacity Utilization			80.5%				ICU Level of Service		D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
3: SR 53/Dawsonville Hwy & Olive Garden/BWW/Academy Sports

2023 With Project- PM
01/27/2022



Movement	SBT	SBR
Lane Configurations	↑↑↑	↑
Traffic Volume (vph)	1396	38
Future Volume (vph)	1396	38
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.2	
Lane Util. Factor	0.91	
Frt	1.00	
Flt Protected	1.00	
Satd. Flow (prot)	5016	
Flt Permitted	1.00	
Satd. Flow (perm)	5016	
Peak-hour factor, PHF	0.92	0.92
Adj. Flow (vph)	1517	41
RTOR Reduction (vph)	2	0
Lane Group Flow (vph)	1556	0
Heavy Vehicles (%)	3%	3%
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Actuated Green, G (s)	93.5	
Effective Green, g (s)	93.5	
Actuated g/C Ratio	0.58	
Clearance Time (s)	6.2	
Vehicle Extension (s)	3.0	
Lane Grp Cap (vph)	2931	
v/s Ratio Prot	0.31	
v/s Ratio Perm		
v/c Ratio	0.53	
Uniform Delay, d1	20.0	
Progression Factor	1.00	
Incremental Delay, d2	0.7	
Delay (s)	20.7	
Level of Service	C	
Approach Delay (s)	22.1	
Approach LOS	C	
Intersection Summary		

HCM Unsignalized Intersection Capacity Analysis

4: SR 53/Dawsonville Hwy & Driveway

2023 With Project- PM
01/27/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations		↗		↑↑↑	↑↑↑↗		
Traffic Volume (veh/h)	0	18	0	2418	1724	18	
Future Volume (Veh/h)	0	18	0	2418	1724	18	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly flow rate (vph)	0	20	0	2687	1916	20	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)							
Upstream signal (ft)				1152	694		
pX, platoon unblocked	0.79	0.82	0.82				
vC, conflicting volume	2822	649	1936				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	845	0	1371				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	98	100				
cM capacity (veh/h)	242	894	416				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	20	896	896	896	766	766	403
Volume Left	0	0	0	0	0	0	0
Volume Right	20	0	0	0	0	0	20
cSH	894	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.02	0.53	0.53	0.53	0.45	0.45	0.24
Queue Length 95th (ft)	2	0	0	0	0	0	0
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						
Approach Delay (s)	9.1	0.0			0.0		
Approach LOS	A						
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			50.1%		ICU Level of Service		A
Analysis Period (min)			15				

APPENDIX F :

SIGNAL WARRANT ANALYSIS



SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Signal Warrants - Summary

Major Street Approaches

Northbound: 38000

Number of Lanes : 2+

Total Approach Volume: 18,893

Southbound: 37000

Number of Lanes :2+

Total Approach Volume: 24,744

Minor Street Approaches

Eastbound: 200

Number of Lanes :1

Total Approach Volume: 1,178

Westbound: 300

Number of Lanes :1

Total Approach Volume: 0

Warrant Summary (Urban Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes.....Satisfied

Warrant 1A - Minimum Vehicular Volume.....Not Satisfied

Required volumes reached for 0 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic.....Satisfied

Required volumes reached for 9 hours, 8 are needed

Warrant 1C - Combination of Warrants.....Not Satisfied

Required 1A volumes reached for 1 hours, 8 are needed

Required 1B volumes reached for 11 hours, 8 are needed

Warrant 2 - Four Hour Volumes.....Satisfied

Number of hours (8) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour.....Not Evaluated

Warrant 3A - Peak Hour Delay.....Not Evaluated

Warrant 3B - Peak Hour Volumes.....Not Evaluated

Warrant 4 - Pedestrian Volumes.....Not Evaluated

Warrant 5 - School Crossing.....Not Evaluated

Warrant 6 - Coordinated Signal System.....Not Evaluated

Warrant 7 - Crash Experience.....Satisfied

Number of accidents (17) is more than minimum (5) and volume requirements are met.

Warrant 8 - Roadway Network.....Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing.....Not Evaluated

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Veh/Hr Major = **600**

Veh/Hr Minor = **150**

		Major Road				Minor Road					
		38000				200					
Time	Major NB	+	Major SB	=	Total		Minor EB		Minor WB		Met?
17:00 - 18:00	2238	+	1586	=	3824		78		0		No
16:45 - 17:45	2200	+	1619	=	3819		86		0		No
16:30 - 17:30	2151	+	1567	=	3718		98		0		No
16:00 - 17:00	1998	+	1694	=	3692		115		0		No
16:15 - 17:15	2035	+	1588	=	3623		99		0		No
17:15 - 18:15	2016	+	1599	=	3615		78		0		No
15:45 - 16:45	1842	+	1667	=	3509		111		0		No
15:30 - 16:30	1696	+	1733	=	3429		105		0		No
17:30 - 18:30	1764	+	1659	=	3423		75		0		No
15:15 - 16:15	1559	+	1767	=	3326		105		0		No
13:00 - 14:00	1289	+	1894	=	3183		83		0		No
12:45 - 13:45	1260	+	1915	=	3175		94		0		No
15:00 - 16:00	1425	+	1744	=	3169		94		0		No
12:15 - 13:15	1370	+	1791	=	3161		113		0		No
12:30 - 13:30	1325	+	1833	=	3158		103		0		No
12:00 - 13:00	1373	+	1771	=	3144		123		0		No
13:30 - 14:30	1276	+	1859	=	3135		84		0		No
13:15 - 14:15	1237	+	1898	=	3135		84		0		No
11:45 - 12:45	1425	+	1687	=	3112		114		0		No
14:45 - 15:45	1343	+	1767	=	3110		92		0		No
17:45 - 18:45	1501	+	1606	=	3107		77		0		No
13:45 - 14:45	1317	+	1773	=	3090		82		0		No
14:15 - 15:15	1300	+	1770	=	3070		86		0		No
14:30 - 15:30	1303	+	1762	=	3065		89		0		No
11:30 - 12:30	1395		1666		3061		106		0		No

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

9 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Veh/Hr Major = **900**

Veh/Hr Minor = **75**

		Major Road				Minor Road					
		38000				200					
Time	Major NB	+	Major SB	=	Total		Minor EB		Minor WB		Met?
16:45 - 17:45	2200	+	1619	=	3819		86		0		Yes
15:45 - 16:45	1842	+	1667	=	3509		111		0		Yes
12:45 - 13:45	1260	+	1915	=	3175		94		0		Yes
11:45 - 12:45	1425	+	1687	=	3112		114		0		Yes
14:45 - 15:45	1343	+	1767	=	3110		92		0		Yes
17:45 - 18:45	1501	+	1606	=	3107		77		0		Yes
13:45 - 14:45	1317	+	1773	=	3090		82		0		Yes
10:45 - 11:45	1198	+	1451	=	2649		80		0		Yes
06:45 - 07:45	750	+	1651	=	2401		76		0		Yes
07:45 - 08:45	1029	+	1714	=	2743		58		0		No
08:00 - 09:00	1013	+	1519	=	2532		51		0		No
10:30 - 11:30	1131	+	1364	=	2495		70		0		No
10:15 - 11:15	1059	+	1382	=	2441		62		0		No
09:30 - 10:30	939	+	1418	=	2357		54		0		No
10:00 - 11:00	1003	+	1344	=	2347		53		0		No
08:15 - 09:15	964	+	1379	=	2343		48		0		No
09:15 - 10:15	909	+	1412	=	2321		54		0		No
09:45 - 10:45	977	+	1324	=	2301		52		0		No
18:45 - 19:45	991	+	1308	=	2299		61		0		No
09:00 - 10:00	872	+	1377	=	2249		53		0		No
08:45 - 09:45	883	+	1354	=	2237		53		0		No
08:30 - 09:30	902	+	1306	=	2208		49		0		No
19:00 - 20:00	945	+	1210	=	2155		56		0		No
06:30 - 07:30	618	+	1442	=	2060		69		0		No
19:15 - 20:15	849		1100		1949		51		0		No

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

Only 1 hours meet 1A minimums.
11 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Warrant 1A 1B
Veh/Hr Major = **480 720**

Veh/Hr Minor = **120 60**

Major Road						Minor Road		
38000						200		
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
12:00 - 13:00	1373	+	1771	=	3144	123	0	Yes
17:00 - 18:00	2238	+	1586	=	3824	78	0	No
16:45 - 17:45	2200	+	1619	=	3819	86	0	No
16:30 - 17:30	2151	+	1567	=	3718	98	0	No
16:00 - 17:00	1998	+	1694	=	3692	115	0	No
16:15 - 17:15	2035	+	1588	=	3623	99	0	No
17:15 - 18:15	2016	+	1599	=	3615	78	0	No
15:45 - 16:45	1842	+	1667	=	3509	111	0	No
15:30 - 16:30	1696	+	1733	=	3429	105	0	No
17:30 - 18:30	1764	+	1659	=	3423	75	0	No
15:15 - 16:15	1559	+	1767	=	3326	105	0	No
13:00 - 14:00	1289	+	1894	=	3183	83	0	No

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	2035	+	1588	=	3623	99	0	Yes
17:15 - 18:15	2016	+	1599	=	3615	78	0	Yes
15:15 - 16:15	1559	+	1767	=	3326	105	0	Yes
12:15 - 13:15	1370	+	1791	=	3161	113	0	Yes
13:15 - 14:15	1237	+	1898	=	3135	84	0	Yes
14:15 - 15:15	1300	+	1770	=	3070	86	0	Yes
11:15 - 12:15	1365	+	1537	=	2902	96	0	Yes
07:30 - 08:30	1034	+	1839	=	2873	66	0	Yes
18:15 - 19:15	1129	+	1529	=	2658	72	0	Yes
10:15 - 11:15	1059	+	1382	=	2441	62	0	Yes
06:30 - 07:30	618	+	1442	=	2060	69	0	Yes
09:30 - 10:30	939	+	1418	=	2357	54	0	No

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

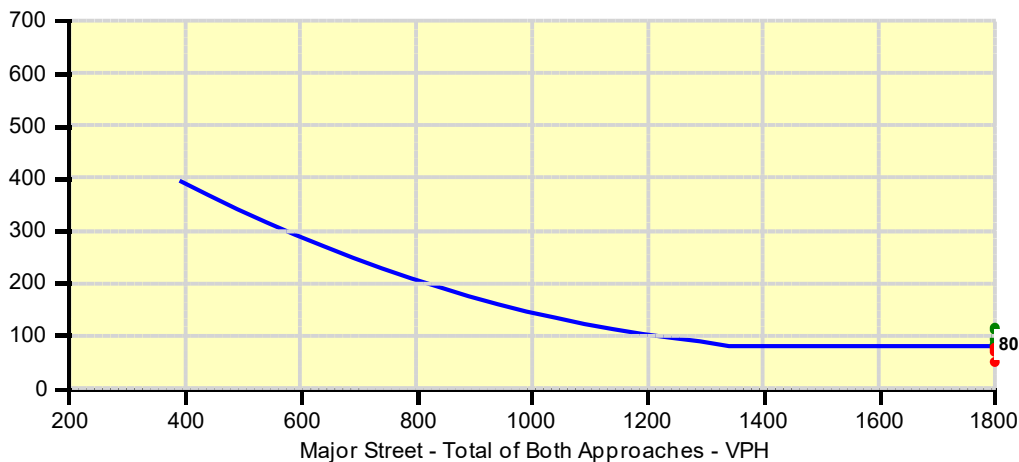
Summary

8 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 38000						Minor Road 200		Met?
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
16:45 - 17:45	2200	+	1619	=	3819	86	0	Yes
15:45 - 16:45	1842	+	1667	=	3509	111	0	Yes
12:45 - 13:45	1260	+	1915	=	3175	94	0	Yes
11:45 - 12:45	1425	+	1687	=	3112	114	0	Yes
14:45 - 15:45	1343	+	1767	=	3110	92	0	Yes
13:45 - 14:45	1317	+	1773	=	3090	82	0	Yes
07:00 - 08:00	872	+	1835	=	2707	81	0	Yes
10:45 - 11:45	1198	+	1451	=	2649	80	0	Yes
17:45 - 18:45	1501	+	1606	=	3107	77	0	No
18:00 - 19:00	1185	+	1543	=	2728	76	0	No
18:15 - 19:15	1129	+	1529	=	2658	72	0	No



SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = 800

Veh/Hr Minor = 100

Total Delay (Veh-Hrs) = 0

Major Road						Minor Road			
38000						200			
Time	Total of All Approaches	Met?	Minor EB	Delay EB	Met?	Minor WB	Delay WB	Met?	Warrant Met?
16:45 - 17:45	3905	Yes	86	0.0	No	0	0.0	---	No
17:00 - 18:00	3902	Yes	78	0.0	No	0	0.0	---	No
16:30 - 17:30	3816	Yes	98	0.0	No	0	0.0	---	No
16:00 - 17:00	3807	Yes	115	0.0	No	0	0.0	---	No
16:15 - 17:15	3722	Yes	99	0.0	No	0	0.0	---	No
17:15 - 18:15	3693	Yes	78	0.0	No	0	0.0	---	No
15:45 - 16:45	3620	Yes	111	0.0	No	0	0.0	---	No
15:30 - 16:30	3534	Yes	105	0.0	No	0	0.0	---	No
17:30 - 18:30	3498	Yes	75	0.0	No	0	0.0	---	No
15:15 - 16:15	3431	Yes	105	0.0	No	0	0.0	---	No
12:15 - 13:15	3274	Yes	113	0.0	No	0	0.0	---	No
12:45 - 13:45	3269	Yes	94	0.0	No	0	0.0	---	No
12:00 - 13:00	3267	Yes	123	0.0	No	0	0.0	---	No
13:00 - 14:00	3266	Yes	83	0.0	No	0	0.0	---	No
15:00 - 16:00	3263	Yes	94	0.0	No	0	0.0	---	No
12:30 - 13:30	3261	Yes	103	0.0	No	0	0.0	---	No
11:45 - 12:45	3226	Yes	114	0.0	No	0	0.0	---	No
13:15 - 14:15	3219	Yes	84	0.0	No	0	0.0	---	No
13:30 - 14:30	3219	Yes	84	0.0	No	0	0.0	---	No
14:45 - 15:45	3202	Yes	92	0.0	No	0	0.0	---	No
17:45 - 18:45	3184	Yes	77	0.0	No	0	0.0	---	No
13:45 - 14:45	3172	Yes	82	0.0	No	0	0.0	---	No
11:30 - 12:30	3167	Yes	106	0.0	No	0	0.0	---	No
14:15 - 15:15	3156	Yes	86	0.0	No	0	0.0	---	No
14:30 - 15:30	3154	Yes	89	0.0	No	0	0.0	---	No

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

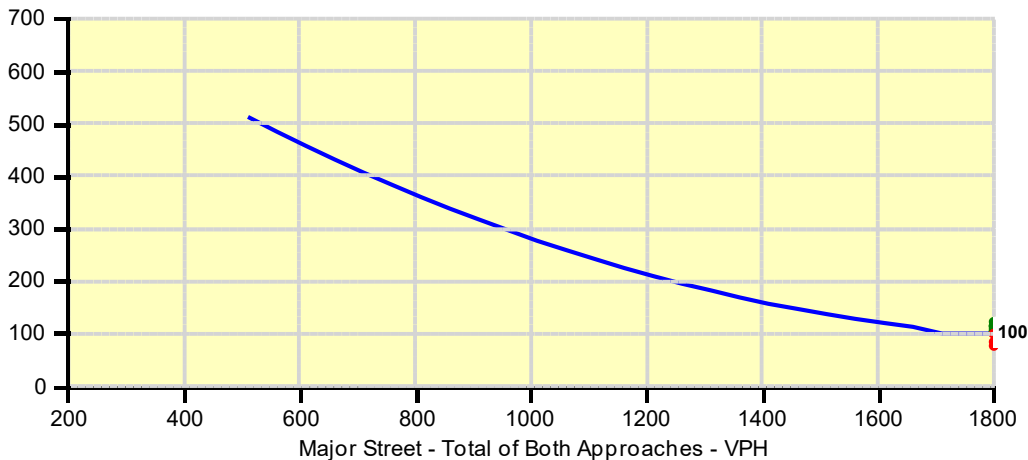
Summary

Only 0 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **False**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 38000						Minor Road 200		Met?
Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	
16:00 - 17:00	1998	+	1694	=	3692	115	0	Yes
15:45 - 16:45	1842	+	1667	=	3509	111	0	Yes
15:30 - 16:30	1696	+	1733	=	3429	105	0	Yes
15:15 - 16:15	1559	+	1767	=	3326	105	0	Yes
12:15 - 13:15	1370	+	1791	=	3161	113	0	Yes
12:30 - 13:30	1325	+	1833	=	3158	103	0	Yes
12:00 - 13:00	1373	+	1771	=	3144	123	0	Yes
11:45 - 12:45	1425	+	1687	=	3112	114	0	Yes
11:30 - 12:30	1395	+	1666	=	3061	106	0	Yes
17:00 - 18:00	2238	+	1586	=	3824	78	0	No
16:45 - 17:45	2200	+	1619	=	3819	86	0	No
							0	No



SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

Warrant 7 - Crash Experience

Description

Intended for sites where the frequency of correctible crashes in the past 12 months is the primary motivation for installing a traffic signal.

Summary

Number of crashes meet minimum.
Pedestrian volumes do not meet the 80% criteria.
War 1A or 1B volumes meet the 80% criteria.
Warrant IS met.

Site Data Required

Number of crashes in last 12 months = 17

Rural Settings Apply = False
Number of Major Lanes = 2 or more
Number of Minor Lanes = 1

Crash and Volume Requirements

Minimum number of crashes = 5

Veh/Hr Major: War 1A = 480 War 1B = 720

Veh/Hr Minor: War 1A = 120 War 1B = 60

Volume and Pedestrian Data

Hours data meets 80% requirements of Warrant 1A (8 needed) 1 Met? No
Hours data meets 80% requirements of Warrant 1B (8 needed) 11 Met? Yes
Hours data meets 80% requirements of Warrant 4 (4,1 needed) 0 0 Met? No

Major Road

38000

Minor Road

200

Warrant 1A Details

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1A?
12:00 - 13:00	1373	+	1771	=	3144	123	0	Yes
17:00 - 18:00	2238	+	1586	=	3824	78	0	No
16:45 - 17:45	2200	+	1619	=	3819	86	0	No
16:30 - 17:30	2151	+	1567	=	3718	98	0	No
16:00 - 17:00	1998	+	1694	=	3692	115	0	No
16:15 - 17:15	2035	+	1588	=	3623	99	0	No
17:15 - 18:15	2016	+	1599	=	3615	78	0	No
15:45 - 16:45	1842	+	1667	=	3509	111	0	No
15:30 - 16:30	1696	+	1733	=	3429	105	0	No
17:30 - 18:30	1764	+	1659	=	3423	75	0	No
15:15 - 16:15	1559	+	1767	=	3326	105	0	No
13:00 - 14:00	1289	+	1894	=	3183	83	0	No

Warrant 1B Details

Time	Major NB	+	Major SB	=	Total	Minor EB	Minor WB	Met1B?
16:15 - 17:15	2035	+	1588	=	3623	99	0	Yes
17:15 - 18:15	2016	+	1599	=	3615	78	0	Yes
15:15 - 16:15	1559	+	1767	=	3326	105	0	Yes
12:15 - 13:15	1370	+	1791	=	3161	113	0	Yes
13:15 - 14:15	1237	+	1898	=	3135	84	0	Yes
14:15 - 15:15	1300	+	1770	=	3070	86	0	Yes
11:15 - 12:15	1365	+	1537	=	2902	96	0	Yes
07:30 - 08:30	1034	+	1839	=	2873	66	0	Yes
18:15 - 19:15	1129	+	1529	=	2658	72	0	Yes
10:15 - 11:15	1059	+	1382	=	2441	62	0	Yes
06:30 - 07:30	618	+	1442	=	2060	69	0	Yes
09:30 - 10:30	939	+	1418	=	2357	54	0	No

SR 53 at Beechwood Blvd

Year (100% Thresholds)

Build Alternative- With RCUT

Study Name: SR 53- TIS- Without RCUT

Study Date : 1/27/2022

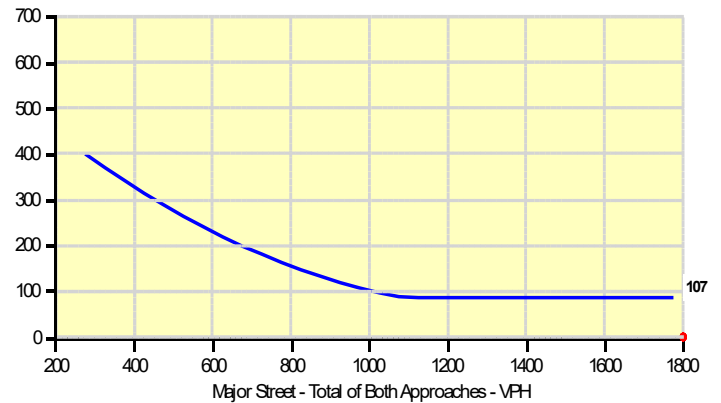
Warrant 7 - Crash Experience

Major Road

37000

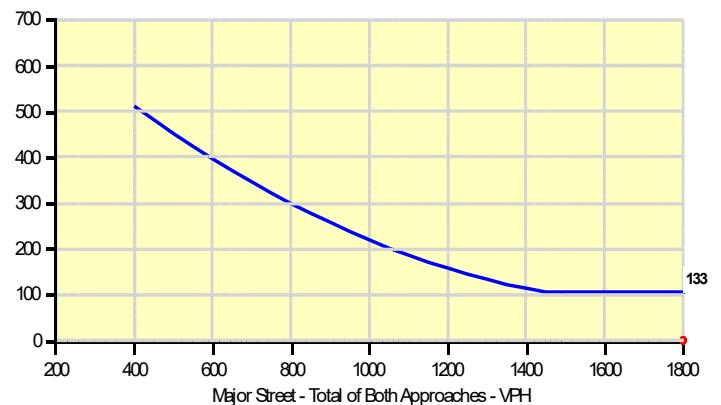
80% of Warrant 4 - 4 Hr Pedestrian Data

Time	NB Vehs	+	SB Vehs	=	Total Vehs	NB Peds	+	SB Peds	=	Ped Total	Met?
17:00 - 18:00	2238	+	1586	=	3824	0	+	0	=	0	No
16:45 - 17:45	2200	+	1619	=	3819	0	+	0	=	0	No
16:30 - 17:30	2151	+	1567	=	3718	0	+	0	=	0	No
16:00 - 17:00	1998	+	1694	=	3692	0	+	0	=	0	No
16:15 - 17:15	2035	+	1588	=	3623	0	+	0	=	0	No
17:15 - 18:15	2016	+	1599	=	3615	0	+	0	=	0	No
15:45 - 16:45	1842	+	1667	=	3509	0	+	0	=	0	No
15:30 - 16:30	1696	+	1733	=	3429	0	+	0	=	0	No
17:30 - 18:30	1764	+	1659	=	3423	0	+	0	=	0	No
15:15 - 16:15	1559	+	1767	=	3326	0	+	0	=	0	No
13:00 - 14:00	1289	+	1894	=	3183	0	+	0	=	0	No
12:45 - 13:45	1260	+	1915	=	3175	0	+	0	=	0	No



80% of Warrant 4 - 1 Hr Pedestrian Data

Time	NB Vehs	+	SB Vehs	=	Total Vehs	NB Peds	+	SB Peds	=	Ped Total	Met?
17:00 - 18:00	2238	+	1586	=	3824	0	+	0	=	0	No
16:45 - 17:45	2200	+	1619	=	3819	0	+	0	=	0	No
16:30 - 17:30	2151	+	1567	=	3718	0	+	0	=	0	No
16:00 - 17:00	1998	+	1694	=	3692	0	+	0	=	0	No
16:15 - 17:15	2035	+	1588	=	3623	0	+	0	=	0	No
17:15 - 18:15	2016	+	1599	=	3615	0	+	0	=	0	No
15:45 - 16:45	1842	+	1667	=	3509	0	+	0	=	0	No
15:30 - 16:30	1696	+	1733	=	3429	0	+	0	=	0	No
17:30 - 18:30	1764	+	1659	=	3423	0	+	0	=	0	No
15:15 - 16:15	1559	+	1767	=	3326	0	+	0	=	0	No
13:00 - 14:00	1289	+	1894	=	3183	0	+	0	=	0	No
12:45 - 13:45	1260	+	1915	=	3175	0	+	0	=	0	No



APPENDIX G :

ICE ANALYSIS REPORTS



GDOT PI # (or N/A): Request By:

County: GDOT District:

Major (State) Road: Speed Limit:

Minor (Crossing) ST: Speed Limit:

Major ST Direction: Area Type:

Intersection Control:

Prepared By: Analyst:

Date: Project ID:

Project Purpose:

2021	Existing Data Year	2021 Existing Year Volumes										 Annual Growth Rate: 1.0% K Factor*: 9%
2023	Project Opening Year	1941 (1669) [42800]										
2023	Project Design Year											
		(0)	(532)	(1058)	(79)							
		0	688	1,197	56							
		EB McEver Road				WB McEver Road						
		(622)	448	2021 Intersection Daily Entering Volume (est): 55,300	24	(64)	108 (241) [6000]					
		(181)	49		38	(89)						
		(385)	340		46	(88)						
		(0)	0									
		Peak Hour % Trucks				Legend:						
		EB	WB	NB	SB	000 = AM Peak Approach Vol						
		5%	5%	6%	3%	(000) = PM Peak Approach Vol						
							[000] = ADT Volume (Estimate)					
							Approach Splits: SR 53 - 0.72 / McEver Road - 0.28					

2023 Opening Year Volumes										
2039 (1776) [45100]										
		(0)	(561)	(1135)	(80)					
		0	716	1,265	58					
		EB McEver Road				WB McEver Road				
		Peds	↶	↵	↷	Peds	0	(0)	[24700]	
		(649)	467	2023 Intersection Daily Entering Volume (est): 57,900	↶	24	(65)			
		(185)	50		↷	39	(91)			
		(393)	346		↶	47	(90)			
		(0)	0		Peds	↶	↷	↷		
						</				

GDOT PI #		N/A		Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2 1. Does alternative address the project need in a balanced manner and in scale with the project? 2. Does alternative improve safety performance in terms of reducing severe crashes? 3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists? 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? 5. Does alternative appear feasible given the site characteristics, constraints & location context? 6. Does alternative appear feasible with respect to other project factors? 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?					
Project Location:		SR 53 @ McEver Road							
Existing Control:		Signal (turn lanes on mainline)							
Prepared by:		CHA							
Date:		1/27/2022							
Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column									
Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)				Screening Decision Justification:					
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing condition is signalized
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Existing condition is signalized
	Mini Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	Single Lane Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	Multilane Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	RCUT (stop control)	No	No	No	No	No	No	No	Existing condition is signalized
	RIO w/down stream U-Turn	No	No	No	No	No	No	No	Existing condition is signalized
	High-T (unsignalized)	No	No	No	No	No	No	No	Not a T-intersection
	Offset-T Intersections	No	No	No	No	No	No	No	Not a T-intersection
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not an interchange
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Existing condition is signalized
Signalized Intersections	Traffic Signal	Yes	No	No	Yes	Yes	Yes	Yes	Optimized Signal in Build Condition
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	High LT volumes/inadequate median
	RCUT (signalized)	No	No	No	No	No	No	No	Not appropriate for location
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not appropriate for location
	Continuous Green-T	No	No	No	No	No	No	No	Not a T-intersection
	Jughandle	No	No	No	No	No	No	No	Not appropriate for location
	Quadrant Roadway	No	No	No	No	No	No	No	Not appropriate for location
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not an interchange
	Diverging Diamond	No	No	No	No	No	No	No	Not an interchange
	Single Point Interchange	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT PI # (or N/A) N/A

County: Hall

GDOT District: 1 - Gainesville

Area Type: Urban

Date: 1/27/2022

Agency/Firm: CHA

Project Location: SR 53 @ McEver Road

Analyst: F Baratian

Existing Intersection Control: Signal (turn lanes on mainline)

Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 10	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2023 Opening Yr No-Build Peak Hr Intersection Delay	68.5 sec	59.0 sec
2023 Opening Yr No-Build Peak Hr Intersection V/C	0.71	0.88
2023 Design Yr No-Build Peak Hr Intersection Delay	68.5 sec	59.0 sec
2023 Design Yr No-Build Peak Hr Intersection V/C	0.71	0.88

Complete Streets Warrants Met?

- ☐ PEDESTRIANS
☐ BICYCLES
☐ TRANSIT

Crash Type	Crash Data: Enter most recent 5 years of crash data	Crash Severity		
		PDO	Injury Crash*	Fatal Crash*
Angle		107	16	0
Head-On		2	1	0
Rear End		227	39	0
Sideswipe - same		54	2	0
Sideswipe - opposite		1	0	0
Not Collision w/Motor Veh		14	2	0
TOTALS:		405	60	0

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

Proposed Control Type/Improvement:

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Traffic Signal	N/A	N/A	N/A	N/A

Project Cost: (From CostEst Worksheet)

	Signal Timing Optimization	Use Old Mars Hill Rd			
Construction Cost	\$5,000	\$0			
ROW Cost	\$0	\$0			
Environmental Cost	\$0	\$0			
Reimbursable Utility Cost	\$0	\$0			
Design & Contingency Cost	\$0	\$0			
Cost Adjustment (justification req'd)					
Total Cost	\$5,000	\$0			

Traffic Operations:

	Synchro 10		Synchro 10				
	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr			
Traffic Analysis Software Used							
Analysis Period							
2023 Design Yr Build Intersection Delay	52.1 sec	52.0 sec					
2023 Design Yr Build Intersection V/C	0.68	0.90					

Safety Analysis:

Predefined CRF: PDO	0%				
Predefined CRF: Fatal/Inj	0%				
Predefined CRF Source:	N/A	N/A			
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					

Environmental Impacts:¹

Historic District/Property	None	None			
Archaeology Resources	None	None			
Graveyard	None	None			
Stream	None	None			
Underground Tank/Hazmat	None	None			
Park Land	None	None			
EJ Community	None	None			
Wooded Area	None	None			
Wetland	None	None			

Note: If environmental impact is significant (RED), provide justification impact won't jeopardize project delivery using "Env" worksheet

¹ Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report

Stakeholder Posture:

Local Community Support	Neutral	Neutral			
GDOT Support	Neutral	Neutral			

Final ICE Stage 2 Score:

Rank of Control Type Alternatives:	3.0	-			
	1	-			

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary):
2023 Opening Year-No Build is the 2023 Background Traffic + existing geometry and Signal control
2023 Opening Year-Build is the 2023 with Project Traffic + existing geometry and Signal control retiming

GDOT PI # (or N/A): Request By:
 County: GDOT District:
 Major (State) Road: Speed Limit:
 Minor (Crossing) ST: Speed Limit:
 Major ST Direction: Area Type:
 Intersection Control:
 Prepared By: Analyst:
 Date: Project ID:
 Project Purpose:

2021 Existing Data Year
 2023 Project Opening Year
 2023 Project Design Year

2021 Existing Year Volumes
 1943 (1627) [42400]

Annual Growth Rate:
 K Factor*:

2021 Intersection Daily Entering Volume (est): 44,350

Peak Hour % Trucks

EB	WB	NB	SB
6%	0%	8%	3%

Approach Splits: SR 53 - 0.97 / Beechwood Blvd - 0.03

2023 Opening Year Volumes
 2040 (1737) [44800]

2023 Intersection Daily Entering Volume (est): 49,000

1244 (2486) [47900]

2023 Design Year Volumes
 1993 (1671) [43400]

2023 Intersection Daily Entering Volume (est): 46,650

1185 (2417) [46200]

Introduction: In 2005, SAFETEA-LU established the Highway Safety Improvement Program (HSIP) and mandated that each state prepare a Strategic Highway Safety Plan (SHSP) to prioritize safety funding investments. Intersections quickly became a common component of most states' SHSP emphasis areas and HSIP project lists, including Georgia's SHSP. Intersection Control Evaluation (ICE) policies and procedures represent a traceable and transparent procedure to streamline the evaluation of intersection control alternatives, and further leverage safety advancements for intersection improvements beyond just the safety program. Approximately one-third of all traffic fatalities and roughly seventy five percent of all traffic crashes in Georgia occur at or adjacent to intersections. Accordingly, the Georgia SHSP includes an emphasis on enhancing intersection safety to advance the *Toward Zero Deaths* vision embraced by the Georgia Governor's Office of Highway Safety (GOHS). This ICE tool was developed to support the ICE policy, developed and adopted to help ensure that intersection investments across the entire Georgia highway system are selected, prioritized and implemented with defensible benefits for safety towards those ends.

Tool Goal: The goal of this ICE tool is to provide a simplified and consistent way of importing traffic, safety, cost, environmental impact and stakeholder posture data to assess and quantify intersection control improvement benefits. The tool supports the ICE policy and procedures to provide traceability, transparency, consistency and accountability when identifying and selecting an intersection control solution that both meets project purpose and reflects overall best value in terms of specific performance-based criteria.

Requirements: An ICE is required for any intersection improvement (e.g. new or modified intersection, widening/reconstruction or corridor project, or work accomplished through a driveway or encroachment permit that affects an intersection) where: **1)** the intersection includes at least one roadway designated as a State Route (State Highway System) or as part of the National Highway System; or **2)** the intersection will be designed or constructed using State or Federal funding. In certain circumstances where an ICE would otherwise be required, the requirement may be waived based on appropriate evidence presented with a written request. (See the "Waiver" tab to review criteria that may make a project waiver eligible and for instructions to submit a waiver request to the Department). An ICE is not required when the proposed work does not include any changes to the intersection design, involves only routine traffic signal timing and equipment maintenance, or for driveway permits where the driveway is not a new leg to an already existing intersection on either 1) a divided, multi-lane highway with a closed median and only right-in/right-out access or 2) an undivided roadway where the development is not required to construct left and/or right turn lanes (as per the Driveway Manual and District Traffic Engineer).

Two-Stage Process: A complete ICE process consists of two (2) distinct stages, and it is expected that the respective level of effort for completing both stages of ICE will correspond to the magnitude and complexity of the intersection. Prior to starting an ICE, the District Traffic Engineer and/or State Traffic Engineer should be consulted for advice on an appropriate level of effort. The Stage 1 and Stage 2 ICE forms are designed minimize required data inputs using drop-down menu choices and limiting text entry. All fields shaded grey include drop down menu choices and all fields shaded blue require data entry. All other cells in the worksheet are locked.

Stage 1: Screening Decision Record Stage 1 should be conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to *eliminate* non-competitive options and identify which alternatives merit further considerations based on their practical feasibility. Users should use good engineering judgement in responding to the seven policy questions by selecting "Yes" or "No" in the drop-down boxes. Alternatives should not be summarily eliminated without due consideration, and reasons for eliminating or advancing an alternative should be documented in the "Screening Decision Justification" column.

Stage 2: Alternative Selection Decision Record Stage 2 involves a more detailed and familiar evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 data entry may require the use of external analysis tools to determine costs, operations and/or safety data that, combined with environmental and stakeholder posture data, form the basis of the ICE evaluation. A separate "CostEst" worksheet tab helps users develop pre-planning-level cost estimates for each Stage 2 alternative evaluated, and a separate Users Guide has been prepared to give guidance on Stage 1 and Stage 2 data entry. Once all data is entered, each alternative is scored and ranked, with the results reported at the bottom of the Stage 2 worksheet to inform on the best of the intersection controls evaluated for project recommendation.

Documentation: A complete ICE document consists of the combination of the outputs from either a completed and signed waiver form or both Stage 1 and Stage 2 worksheets (along with supporting costing and/or environmental documentation), to be included in the approved project Concept Report (or equivalent) or as a stand-alone document.

GDOT PI #		N/A		Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2 1. Does alternative address the project need in a balanced manner and in scale with the project? 2. Does alternative improve safety performance in terms of reducing severe crashes? 3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists? 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? 5. Does alternative appear feasible given the site characteristics, constraints & location context? 6. Does alternative appear feasible with respect to other project factors? 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?						
Project Location:		SR 53 @ Beechwood Blvd								
Existing Control:		Conventional (Minor Stop)								
Prepared by:		CHA								
Date:		1/27/2022		Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column						
Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)										
Unsignalized Intersections	Conventional (Minor Stop)		Yes	No	No	Yes	Yes	Yes	Yes	Existing condition is Stop Controlled
	Conventional (All-Way Stop)		No	No	No	No	No	No	No	Existing condition is Stop Controlled
	Mini Roundabout		No	No	No	No	No	No	No	Existing condition is Stop Controlled
	Single Lane Roundabout		No	No	No	No	No	No	No	Existing condition is Stop Controlled
	Multilane Roundabout		No	No	No	No	No	No	No	Existing condition is Stop Controlled
	RCUT (stop control)		No	No	No	No	No	No	No	No-Build condition
	RIRO w/down stream U-Turn		No	No	No	No	No	No	No	Existing condition is Stop Controlled
	High-T (unsignalized)		No	No	No	No	No	No	No	Not a T-intersection
	Offset-T Intersections		No	No	No	No	No	No	No	Not a T-intersection
	Diamond Interch (Stop Control)		No	No	No	No	No	No	No	Not an interchange
	Diamond Interch (RAB Control)		No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements		No	No	No	No	No	No	No	
	No RT Lane Improvements		No	No	No	No	No	No	No	
	Other unsignalized (provide description):		No	No	No	No	No	No	No	Existing condition is Stop Controlled
Signalized Intersections	Traffic Signal		No	No	No	No	No	No	No	Signal is not warranted
	Median U-Turn (Indirect Left)		No	No	No	No	No	No	No	Signal is not warranted
	RCUT (signalized)		No	No	No	No	No	No	No	Signal is not warranted
	Displaced Left Turn (CFI)		No	No	No	No	No	No	No	Signal is not warranted
	Continuous Green-T		No	No	No	No	No	No	No	Signal is not warranted
	Jughandle		No	No	No	No	No	No	No	Signal is not warranted
	Quadrant Roadway		No	No	No	No	No	No	No	Signal is not warranted
	Diamond Interch (Signal Control)		No	No	No	No	No	No	No	Signal is not warranted
	Diverging Diamond		No	No	No	No	No	No	No	Signal is not warranted
	Single Point Interchange		No	No	No	No	No	No	No	Signal is not warranted
	No LT Lane Improvements		No	No	No	No	No	No	No	
	No RT Lane Improvements		No	No	No	No	No	No	No	

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

Waiver Request - Level 2 / 3

In certain circumstances where an ICE would otherwise be required, an ICE may be waived based on appropriate evidence presented with a written request. Scenarios in which an ICE waiver request may be considered include:

- Proposed improvements do not substantially alter the character of the intersection, and are considered minor in nature, such as extending existing turn lane(s) or modifying signal phasing at an existing traffic signal
- The intersection consists of a public roadway intersecting a divided, multilane roadway where the access will be limited to a closed median with only right-in/right-out access that will operate acceptably; or
- The intersection is along an undivided, two-lane roadway that will not be widened and meets the following criteria:
 - Low risk in terms of exposure (total intersection entering volume less than 1,000 vehicles /day)
 - Latest 5 years of crash history is not indicative of a crash problem (no discernible crash patterns coupled with low crash frequency and severity)
 - Layout has no unusual or undesirable geometric features (such as restricted sight distance)
 - The proposed changes are not expected to adversely affect safety

If only one alternative is determined to be feasible from the ICE Stage 1, then a waiver may be submitted in lieu of completing ICE Stage 2. The waiver must clearly explain why there is no other feasible alternative. A Waiver Form should also be submitted to document an agreed upon decision to select a preferred alternative other than the highest scoring alternative in Stage 2.

ICE waiver forms with supporting documentation should be submitted for approval to the Office of Traffic Operations or District Engineer (depending on Waiver level). Questions regarding the waiver process should be routed to the State Traffic Engineer.

Project Information: Location: SR 53 @ Beechwood Blvd
County: Hall
GDOT District: 1 - Gainesville
Area Type: Urban
Existing Intersection Control: Conventional (Minor Stop)

GDOT PI # (or N/A): N/A
Requested By: CHA
Prepared By: CHA
Analyst: F Baratian
Date: 1/27/2022

Waiver Request Type: Driveway Permit

Traffic and Operations Data:¹

Intersection meets signal/AWS warrants?	None	
Traffic Analysis Type:	Intersection Delay	
Existing Avg Daily Traffic (Major Street):	48,000	
Existing Avg Daily Traffic (Minor Street):	4,200	
Analysis Period:	AM Peak	PM Peak
2023 Opening Yr Peak Hour Intersection Delay:	0.9 sec	1.2 sec
2023 Opening Yr Peak Hour Intersection V/C:	0.52	0.56
2023 Design Yr Peak Hour Intersection Delay:	0.7 sec	0.8 sec
2023 Design Yr Peak Hour Intersection V/C:	0.52	0.55

¹Crash data required for all existing intersections. ADT's required if available (from data collected or nearest GDOT count station site). Capacity data is optional unless needed to justify basis of the waiver request.

Crash Data (Required): ¹			
Crash Type	Crash Data: Enter most recent 5 years of crash data	Crash Severity	
		PDO	Injury Crash* Fatal Crash*
Angle	17	8	0
Head-On	0	0	0
Rear End	61	12	0
Sideswipe - same	13	0	0
Sideswipe - opposite	1	0	0
Not Collision w/Motor Veh	2	1	0
TOTALS:	94	21	0

* Number of crashes resulting in injuries / fatalities, not number of persons

Description of Work / Justification for Waiver (Required):	An unsignalized RCUT will be constructed at this location in 2023 as proposed in the corridor project PI#0015702. There will be minimal impact to the intersection operation in the Opening Year due to the new development construction. Therefore, a waiver is requested.
Proposed Intersection Control:	RCUT (stop control)

REQUESTED BY: Paul Slone, PE, PTOE **Date:** 1/12/2022

Title: Southeast Project Team Leader for Traffic/ITS

APPROVED BY: **Date:**

Name:

District Engineer or (Approved Delegate)

GDOT PI # (or N/A): Request By:

County: GDOT District:

Major (State) Road: Speed Limit:

Minor (Crossing) ST: Speed Limit:

Major ST Direction: Area Type:

Intersection Control:

Prepared By: Analyst:

Date: Project ID:

Project Purpose:

2021	Existing Data Year	2021 Existing Year Volumes										
2023	Project Opening Year	1930 (1440) [37700]										
2023	Project Design Year											
		(0)	(37)	(1357)	(46)	SB SR 53	Annual Growth Rate:		1.0%			
		0	3	1,917	10		K Factor:		9%			
EB Sports Academy		Peds ↑	↖	↓	↘	Peds ↔	0	(0)	13 (76) [2000]			
		(25)	3	2021 Intersection Daily Entering Volume (est): 44,300		↖	2	(52)				
		(8)	0			↖	0	(8)				
		(43)	10			↖	16	(224)				
		(0)	0			Peds ↔						
		NB SR 53		↖	↑	↘	Peds ↑	WB Sports Academy		18 (284) [6500]		
				10	1,044	45	0					
				(59)	(1879)	(250)	(0)					
		1099 (2188) [42400]										
Peak Hour % Trucks												
EB	WB	NB	SB									
0%	0%	8%	3%									
<u>Legend:</u>												
000 = AM Peak Approach Vol												
(000) = PM Peak Approach Vol												
[000] = ADT Volume (Estimate)												
Approach Splits: SR 53 - 0.9 / Sports Academy - 0.1												

GDOT PI #		N/A		Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2 1. Does alternative address the project need in a balanced manner and in scale with the project? 2. Does alternative improve safety performance in terms of reducing severe crashes? 3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists? 4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)? 5. Does alternative appear feasible given the site characteristics, constraints & location context? 6. Does alternative appear feasible with respect to other project factors? 7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?					
Project Location:		SR 53 @ Sports Academy							
Existing Control:		Signal (turn lanes on mainline)							
Prepared by:		CHA							
Date:		1/27/2022							
Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column									
Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)				Screening Decision Justification:					
Unsignalized Intersections	Conventional (Minor Stop)	No	No	No	No	No	No	No	Existing condition is signalized
	Conventional (All-Way Stop)	No	No	No	No	No	No	No	Existing condition is signalized
	Mini Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	Single Lane Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	Multilane Roundabout	No	No	No	No	No	No	No	Existing condition is signalized
	RCUT (stop control)	No	No	No	No	No	No	No	Existing condition is signalized
	RIRO w/down stream U-Turn	No	No	No	No	No	No	No	Existing condition is signalized
	High-T (unsignalized)	No	No	No	No	No	No	No	Not a T-intersection
	Offset-T Intersections	No	No	No	No	No	No	No	Not a T-intersection
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not an interchange
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements	No	No	No	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	
	Other unsignalized (provide description):	No	No	No	No	No	No	No	Existing condition is signalized
Signalized Intersections	Traffic Signal	Yes	No	No	Yes	Yes	Yes	Yes	Optimized Signal in Build Condition
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	High LT volumes/inadequate median
	RCUT (signalized)	No	No	No	No	No	No	No	Not appropriate for location
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not appropriate for location
	Continuous Green-T	No	No	No	No	No	No	No	Not a T-intersection
	Jughandle	No	No	No	No	No	No	No	Not appropriate for location
	Quadrant Roadway	No	No	No	No	No	No	No	Not appropriate for location
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not an interchange
	Diverging Diamond	No	No	No	No	No	No	No	Not an interchange
	Single Point Interchange	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements	No	No	Yes	No	No	No	No	
	No RT Lane Improvements	No	No	No	No	No	No	No	

☐ = Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT PI # (or N/A) N/A

County: Hall

Project Location: SR 53 @ Sports Academy

Existing Intersection Control: Signal (turn lanes on mainline)

GDOT District: 1 - Gainesville

Area Type: Urban

Date: 1/27/2022

Agency/Firm: CHA

Analyst: F Baratian

Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 10	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2023 Opening Yr No-Build Peak Hr Intersection Delay	4.6 sec	19.0 sec
2023 Opening Yr No-Build Peak Hr Intersection V/C	0.50	0.74
2023 Design Yr No-Build Peak Hr Intersection Delay	4.6 sec	19.0 sec
2023 Design Yr No-Build Peak Hr Intersection V/C	0.50	0.74

Complete Streets Warrants Met?

- ☐ PEDESTRIANS
☐ BICYCLES
☐ TRANSIT

Crash Type	Crash Data: Enter most recent 5 years of crash data	Crash Severity		
		PDO	Injury Crash*	Fatal Crash*
Angle		15	4	0
Head-On		0	0	0
Rear End		20	4	0
Sideswipe - same		0	0	0
Sideswipe - opposite		0	0	0
Not Collision w/Motor Veh		0	1	0
TOTALS:		35	9	0

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

Proposed Control Type/Improvement:

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Traffic Signal	N/A	N/A	N/A	N/A

Project Cost: (From CostEst Worksheet)

	Signal Timing Optimization	Use Old Mars Hill Rd			
Construction Cost	\$5,000	\$0			
ROW Cost	\$0	\$0			
Environmental Cost	\$0	\$0			
Reimbursable Utility Cost	\$0	\$0			
Design & Contingency Cost	\$0	\$0			
Cost Adjustment (justification req'd)					
Total Cost	\$5,000	\$0			

Traffic Operations:

	Synchro 10		Synchro 10				
Traffic Analysis Software Used	AM Peak Hr	PM Peak Hr	AM Peak Hr	PM Peak Hr			
Analysis Period							
2023 Design Yr Build Intersection Delay	4.7 sec	27.3 sec					
2023 Design Yr Build Intersection V/C	0.52	0.85					

Safety Analysis:

Predefined CRF: PDO	0%				
Predefined CRF: Fatal/Inj	0%				
Predefined CRF Source:	N/A	N/A			
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					

Environmental Impacts:¹

Historic District/Property	None	None			
Archaeology Resources	None	None			
Graveyard	None	None			
Stream	None	None			
Underground Tank/Hazmat	None	None			
Park Land	None	None			
EJ Community	None	None			
Wooded Area	None	None			
Wetland	None	None			

Note: If environmental impact is significant (RED), provide justification impact won't jeopardize project delivery using "Env" worksheet

¹ Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report

Stakeholder Posture:

Local Community Support	Neutral	Neutral			
GDOT Support	Neutral	Neutral			

Final ICE Stage 2 Score:

Rank of Control Type Alternatives:	3.3	-			
	1	-			

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary):

2023 Opening Year-No Build is the 2023 Background Traffic + existing geometry and Signal control

2023 Opening Year-Build is the 2023 with Project Traffic + existing geometry and Signal control retiming