

ZONING NOTICE

Notice is hereby given that at a regular meeting of the City Council of the City of Mountain Brook to be held on Monday, August 26, 2019, at 7:00 p.m., in the Council Chamber of the Mountain Brook City Hall located at 56 Church Street, Mountain Brook, Alabama 35213, the City Council will hold a public hearing regarding a proposal that the City Council adopt an ordinance in words and figures substantially as follows:

‘ORDINANCE NO.

AN ORDINANCE TO REZONE A PARCEL OF LAND IN THE CITY OF MOUNTAIN BROOK, ALABAMA FROM RESIDENCE-G DISTRICT TO RESIDENCE-F DISTRICT

WHEREAS, after due consideration, the City Council has determined that the zoning classification of the real estate owned by Overton Village Condos, LLC, which is located along Fairhaven Drive, as more particularly described below, should be zoned Residence-F District, such property being presently zoned Residence-G District;

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Mountain Brook as follows:

Section 1. The zoning map of the City of Mountain Brook, as referred to in Chapter 129, Article VII of the Mountain Brook City Code, as amended from time to time, is hereby further amended by zoning to Residence F District the following described real property, said property currently zoned Residence-G District:

3790 Fairhaven Drive:

A parcel of land situated in the corporate limits of the City of Mountain Brook, being a part of Lot I, Block 2, Overton Village as recorded in Map Book 227, Page 52 in the Probate Office of Jefferson County, Alabama and more particularly described as follows:

Begin at the Southeast corner of Lot 1, Block 2 Overton Village as recorded in Map Book 227, Page 52 in the Probate Office of Jefferson County, Alabama, said point also being on the Westerly right-of-way line of Fairhaven Drive; thence in a Northerly direction along the Easterly line of said Lot 1 and along the Westerly right-of-way line of Fairhaven Drive a distance of 359.94 feet to the Northeasterly corner of said Lot I; thence 88°20'43" to the left in a Westerly direction along the Northerly line of said Lot 1 a distance of 145.00 feet to a corner of said Lot 1; thence 91 °39'07" to the left in a Southerly direction along a line of said Lot 1 and its prolongation a distance of 359.93 feet to a point on the Southerly line of said Lot 1; thence 88°20' 43 to the left in an Easterly direction along the South line of said Lot I a distance of 144.99 feet to the Point of Beginning.

Contains 52,165.3 square feet or 1.2 Acres.

Section 3. The provisions of this ordinance are severable. If any provision of this ordinance is held by a court of competent jurisdiction to be invalid, such invalidity shall in no way affect the remaining provisions of this ordinance.

Section 4. This ordinance shall become effective when published by posting the same as required by law.’

At the aforesaid time and place, all interested parties will be heard in relation to the changes proposed by said ordinance.

CERTIFICATION

I, Tammy Reid, Administrative Analyst for the City of Mountain Brook, Alabama, do hereby certify that I have caused notice of the proposed amendment to the zoning ordinance and of public meeting thereupon set forth above to be published and provided in the manner specified by Article XXV, Sec. 129-431, of the Mountain Brook City Code. I further certify that I have posted said notice in four conspicuous places within the City of Mountain Brook, in the manner and within the time permitted by law, said places being:

Mountain Brook City Hall, 56 Church Street
Cahaba River Walk, 3503 Overton Road

Gilchrist Pharmacy, 2850 Cahaba Road
Overton Park, 3020 Overton Road

Tammy Reid, Administrative Analyst



Planning Commission Application PART I

Project Data

Address of Subject Property 3790 Fairhaven Drive 35243

Zoning Classification RES`G` stacked flats

Name of Property Owner(s) Overton Village Condos, LLC By Marc Perlman

Phone Number (205) 803-3000 Email marc@leitmanperlman.com

Name of Representative Agent (if applicable)

None

Phone Number _____ Email _____

Name of Engineer or Surveyor Walter School Engineering

Phone Number (205) 323-6166 Email aphillips@school.com

- Property owner or representative agent must be present at hearing

Plans

- See applicable Section of the Zoning Ordinance for submittal requirements pertaining to your particular application. Applicable Code Section may be found in Part II, list of application types. Contact City Planner with any specific questions as to required plans submittal.

Statement of Purpose

In Support of
Request for Rezoning at:

3790 Fairhaven Drive, 35243

The subject property is currently zoned Residence 'G' Stacked Flats, which was granted by the City on May 14, 2018. Prior to this date, the property was zoned Mixed Use for approximately ten years. This request would be to allow three two-story townhome buildings (two buildings with 3-units each and one building with 4-units). Each unit will contain a two car garage accessed from a common drive along the rear of the property.

The subject property is located within the *Overton Village* designation, and all buildings/units will be subject to the *Village Overlay* standards. Those include, but are not limited to a density of units, height restrictions, exterior facade materials and landscape requirements.

The requested re-zoning will reduce the number of units permitted in the Residence 'G' zoning from 23 units to 10 units total.

The subject property (3790 Fairhaven Drive) proposed for the three buildings of 10 units is contiguous with a parcel of land, under the same development ownership, in Vestavia, zoned R-9, with one 5-unit building fronting on Poe Drive. An additional parcel at 3789 Fairhaven Drive, was previously rezoned to Residence F, on May 14, 2018 for a 3-unit building.

All units proposed for the Overton Village development will be designed to attract purchasers who are primarily desiring to down-size from larger single family homes in Mountain Brook who want to remain in the community where they have lived for a significant time; and, those who are young professionals without children. There will be no amenities such as pools, tennis courts, clubhouses, or playgrounds in the development.

I trust that the above narrative satisfactorily describes the scope of the project.

By: 

For Overton Village Condos, LLC

Date: 7.8.19

P-19-23 Zoning

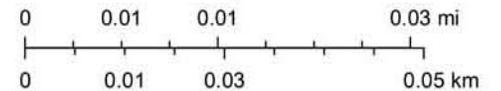


7/30/2019, 11:41:07 AM

Tax_Parcels 0

 Local Business District	 Professional District
 MXD	 Residence C District

1:1,128



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

Web AppBuilder for ArcGIS
Hunter Simmons | Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA |

P-19-23

Petition Summary

Request to rezone a parcel of land in the City of Mountain Brook from Residence-G District (stacked flats) to Residence-F District (townhomes) for a 10-unit townhome development.

Recent Background

On August 5, 2019, the planning commission recommended approval of the proposed rezoning (Case P-19-23) as submitted.

Previous Rezoning Approval

On May 14, 2018 the city council approved the following:

- Rezoned two Fairhaven Drive parcels from Mixed Use District (*44 stacked flats atop 18,000 sf of retail*) to Residence-G District for 23 stacked flats (west side of Fairhaven Drive) (**subject property**); and from Mixed Use to Residence-F District for 4 town homes (east side of Fairhaven Drive);
- Amended the corresponding Overton Village Building & Development Regulating Plan from “Secondary Frontage” to “Residential Neighborhood Frontage;”
- Approved alternate exterior materials in accordance with Section 129-556(b)(5) of the Mountain Brook City Code (*approved by planning commission on October 2, 2017- Case P-17-12*)

Current Project Scope

The previously-approved townhome development on the east side of Fairhaven is moving forward. The subject rezoning to Res-F involves the property on the west side of Fairhaven, and is proposed for 10 townhomes, in lieu of the previously-approved 23 stacked flats. The Res-F zoning district is designed for implementation in the villages and is encouraged by the Village Master Plan.

Res-F Purpose & Applicability and other Code Provisions

Section 129-515 “The Residence F district may be applied to limited sites which can establish an effective transition from the villages to adjacent neighborhoods. The sites shall provide a high degree of pedestrian connectivity within the villages to increase accessibility and patronage of businesses, and to enhance the pedestrian character of the villages.”

In addition to the development standards outlined in the Village Overlay for townhomes, the Res-F District outlines the following additional requirements specific to the Res-F district:

- ✓ ***Sidewalks.*** Sidewalks of not less than 5 feet in width shall be provided between any parking area and the building or buildings which they serve, and there shall be a curb between all parking areas and any adjacent sidewalk.

- ✓ **Exterior lighting.** If artificial illumination is provided for a parking area, it shall be arranged so as to shine and reflect away from any adjacent residential areas and away from any streets adjacent to or near the parcel. No lighting fixtures used for any parking area shall be elevated more than 14 feet above the ground, except for a light which is installed on the ceiling of a porch of a dwelling unit and is designed to illuminate only such porch. Each lighting fixture shall be designed and installed so as to direct its beam of light below the horizontal plane of such lighting fixture.

- ✓ **Total Parking.**

15 spaces required

15 proposed

- ✓ Parking for all residential uses shall be located in the rear of any residential building, and no parking shall be permitted in any front yard; provided, however, that required parking for visitors may be permitted in the front of any building if located on-street and if said spaces are new spaces either dedicated or made available for public use.

Off-Street Parking:

Required minimum per dwelling unit: 2 spaces.

- ✓ Proposed: 10 units x 2 = 10 off-street parking spaces.

Visitor Parking:

Required minimum for 1-10 units: 0.5 parking space/dwelling unit

- ✓ Proposed: 10 units x 0.5 = 5
- ✓ Providing 5 spaces on Fairhaven Drive.

✓ *The proposed plan meets all above provisions for Res-F.*

Traffic Assessment

In conjunction with the previous 2017 plan, Skipper Consulting, Inc., conducted the attached traffic assessment. The major conclusions of the 2017 assessment were that the levels of service on Overton Road would be acceptable, and that a left turn lane onto Poe Drive from eastbound Overton Drive was warranted (townhome units on Poe Drive were an integral part of the MB project reviewed in 2017; *such is not the case today; Vestavia has already approved townhomes on the Poe Drive parcel, without the requirement for a left turn lane.*

In addition to the traffic analysis submitted by the applicant, the City contracted with Sain Associates to review Skipper's traffic analysis on behalf of the City. Sain's comments concur with that of Skipper Consulting (see attached memo from Becky White at Sain Associates).

Landscape Plan

The proposed landscape and planting plans reflect an overall design of landscape (placement of trees and shrubs, and an alternate species plant list). There are no required landscape regulations in Res-F.

Section 129-296, Buffers:

No buffer is required in Res-F; however, a 6-foot high fence is shown along the north and west property lines, and the landscape plan indicates the installation of trees and shrubs along portions of the north and west property lines.

Storm Water

Storm water detention is proposed to limit runoff rates from the developed site; underground detention facilities are proposed on each site, and are reflected on the attached civil drawing by Schoel.

Effect on Schools

While the applicant has indicated that there will be no amenities provided for the development that would normally entice families with school-age children (such as play grounds or swimming pools), this does not guarantee a zero impact on the schools.

Based on the 2018 study of school-aged children by housing type in the city of Mountain Brook:

10 townhomes @ city average of 0.17 students/townhome = *1.7 students projected*

Alternate Materials

Section 129-556 of the Village Overlay denotes specific exterior materials that may be used for residential building facades in the villages. Part 5 of said section allows the use of alternate façade materials with the approval of the Planning Commission. The proposed project utilizes a mix of alternate materials and, as such, requires Planning Commission approval in this regard.

On October 2, 2017, the Planning Commission approved Case P-17-12, which included approval of the use of alternate exterior materials as set forth in the Village Design Review Committee case summary letter for Case V-17-15, with final VDR approval required for the placement and design of materials. *The materials for this current project will follow the same format as previously approved.*

Village Master Plan

The Village Master Plan was adopted in June 2007 and was being studied during the same time frame that the original Mixed Use rezoning proposal for this site was being considered by the Planning Commission (January 2007) and adopted by the City Council (February 2007). Therefore, the master plan recommendations for the subject site were purposely aligned with the mixed-use rezoning for this property at that time (*such is actually noted in the master plan for Overton Village*). Therefore, the master plan anticipates and recommends mixed use development for the subject site because that is what had been approved just prior to its adoption.

The rezoning proposal put forth today is not for mixed use, but for multi-family residential. And while the proposed use does not perfectly align with the land use plan policy map (because it excludes a commercial component), it does align with the overall master plan goals for Overton Village with respect to:

- ✓ The provision of alternative residential formats that are needed to add viability to any future village-like development;

And while the proposed multi-family project does not conform to the strict interpretation of the land use plan it does conform to the spirit and intent of mixing compatible, neighborhood-oriented uses that create human interaction and synergy.

Resurvey Approved

On December 3, 2018, the planning commission approved Case P-18-32, which was a resurvey, separating the large MB piece (west side of Fairhaven) from the Vestavia Hills piece (Poe Drive); these lots having been previously combined in conjunction with the approved mixed use project in 2007.

In October 2007, the Planning Commission approved Case 1731, a resurvey of Lots 2-7 & 33-35 of Block 2 and Lots 33 and 34 of Block 1, Glass's 3rd Addition to New Merkle; the plat was recorded in the Office of the Probate Judge of Jefferson County; *no improvements to Fairhaven Drive were required.*

Vestavia Hills Property on Poe Drive

The project is not inherently dependent on the approved townhome project to the west in Vestavia Hills for the purposes of shared parking, but there is a shared driveway for improved ingress/egress and emergency access/turn-around. The applicant has indicated that an shared ingress/egress easement

Subject Property and Surrounding Land Uses

The property is undeveloped and is surrounded by a mixture of uses. To the north and west are single family dwellings, to the south are commercial uses and to the east are institutional uses (a church and an assisted living facility).

Affected Regulation

Article XXIX, Residence F District.

Article XXXI, Village Overlay Standards; Section 129-552(b), Permitted Uses and Building Type

Article XXXI, Village Overlay Standards; Section 129-555(b)(3), Parking, Vehicle and Pedestrian Access Standards, Shared or Off-Site Parking Management Agreement

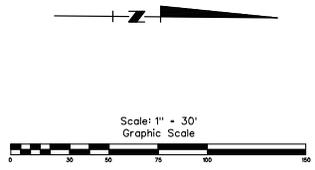
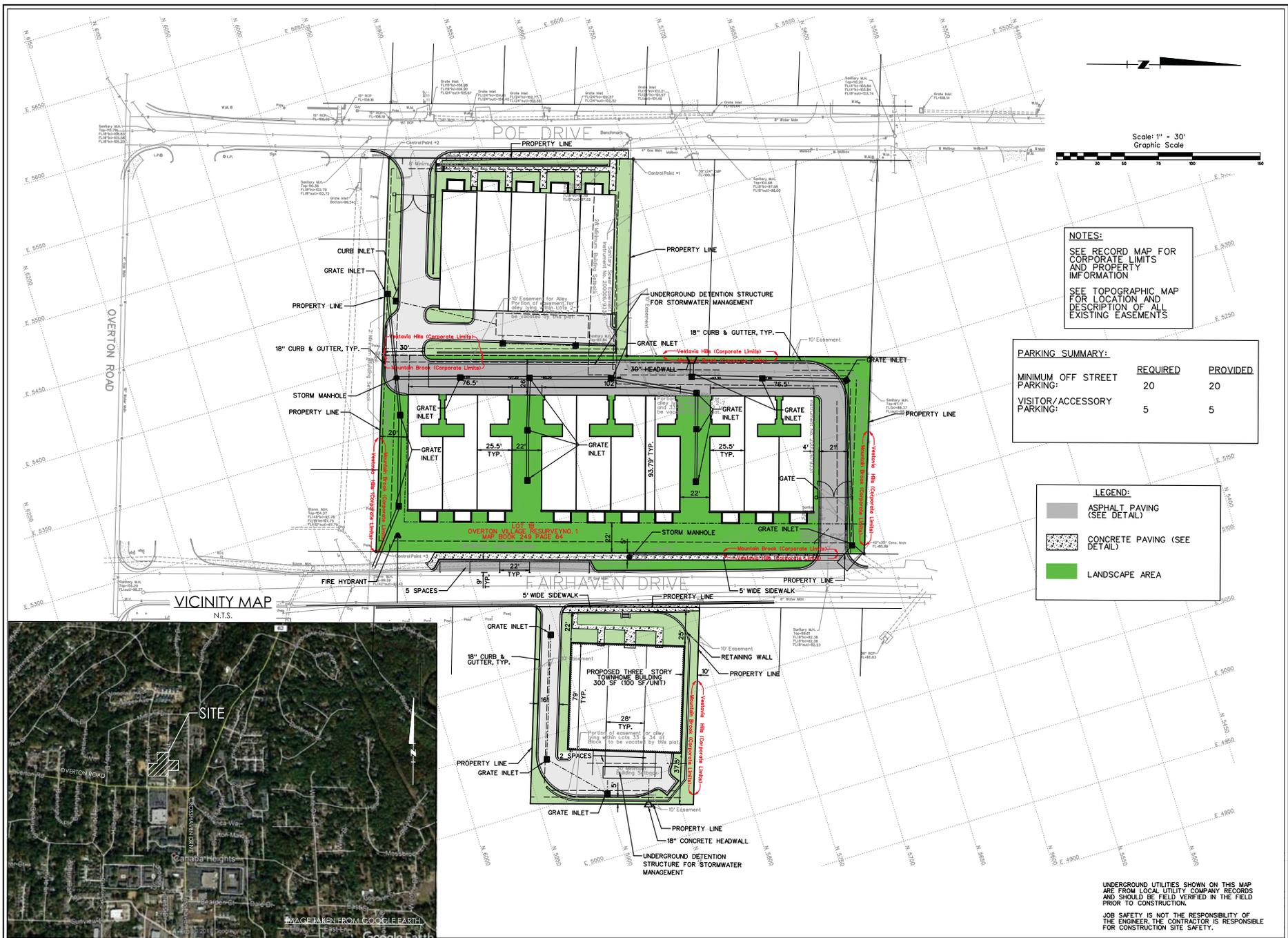
Article XXXI, Section 129-556 (5), Alternate Materials

Appends

LOCATION: 3790 Fairhaven Drive

EXISTING ZONING DISTRICT: Res-G (stacked flats)

APPLICANT: Overton Village Condos, LLC



NOTES:
SEE RECORD MAP FOR CORPORATE LIMITS AND PROPERTY INFORMATION
SEE TOPOGRAPHIC MAP FOR LOCATION AND DESCRIPTION OF ALL EXISTING EASEMENTS

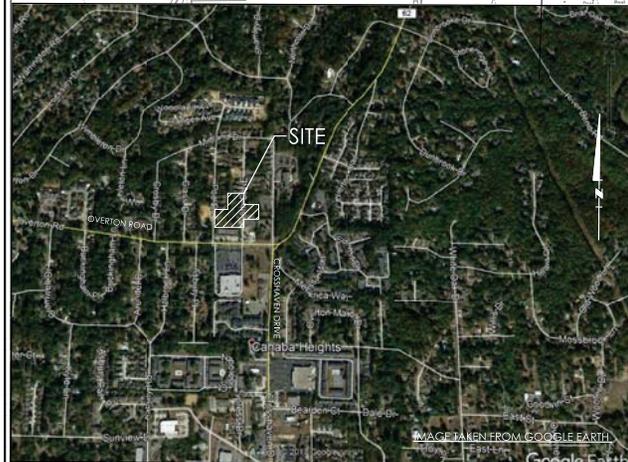
PARKING SUMMARY:

	REQUIRED	PROVIDED
MINIMUM OFF STREET PARKING:	20	20
VISITOR/ACCESSORY PARKING:	5	5

LEGEND:

- ASPHALT PAVING (SEE DETAIL)
- CONCRETE PAVING (SEE DETAIL)
- LANDSCAPE AREA

VICINITY MAP
N.T.S.



UNDERGROUND UTILITIES SHOWN ON THIS MAP ARE FROM LOCAL UTILITY COMPANY RECORDS AND SHOULD BE FIELD VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
JOB SAFETY IS NOT THE RESPONSIBILITY OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SITE SAFETY.

CIVIL SURVEYING
 1001 22ND STREET SOUTH
 MONTGOMERY, ALABAMA 36105
 205.233.6196
 LASER SCANNING + MODELING

SCHUBEL
 REGISTERED PROFESSIONAL ENGINEER
 No. 33623
 CIVIL
 WILSON & BULLOCK

OVERTON VILLAGE
 MOUNTAIN BROOK AND
 VESTAVIA HILLS, ALABAMA

DRAWING SET:
 PERMIT SET
 REVISIONS:

REZONING EXHIBIT

DRAWN BY: P.A.R.
 CHECKED BY: A.S.P.
 FILE NAME: 2019-07-45L_Rezoning Exhibit
 g:\171747\CM\Design\2019\

1



**Overton Village
 Landscape Plan**
 Mountain Brook, AL



REVISIONS

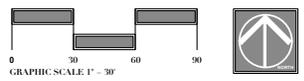
6	7/11/19	dke	Landscape Plan
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DATE:	9/16/17
SCALE:	1" = 30'0"
PROJECT MANAGER:	dke
DRAWN:	dke, ksc
REVIEWED:	dtp
PROJECT NO:	2017-0061

SHEET TITLE:
**Schematic
 Landscape Plan**

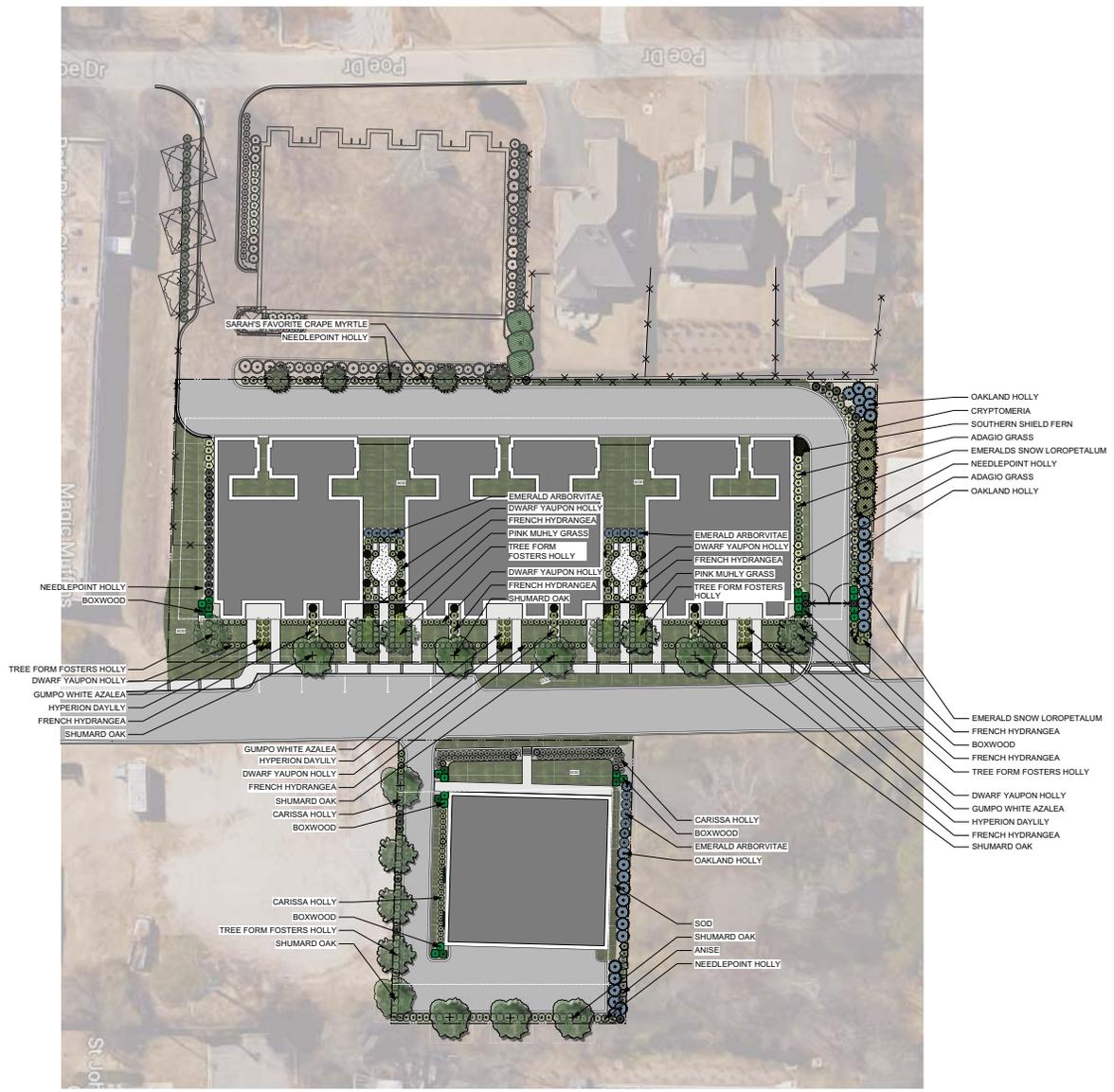
SHEET NUMBER:
L-1.00

SEQUENCE: 1 of 2





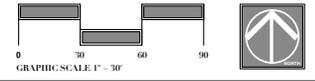
**Overton Village
 Landscape Plan**
 Mountain Brook, AL



NOTE:
 PLANTS AND TREES INDICATED BELOW INDICATE THE DESIGN INTENT. IN THE EVENT THAT CERTAIN VARIETIES ARE UNAVAILABLE AT THE TIME OF CONSTRUCTION, TWO ALTERNATES TO EACH PLANT ARE SHOWN. THE ALTERNATE PLANTS SHALL FULFILL THE DESIRED DESIGN AND OR SCREENING INTENT OF THE LANDSCAPE ARCHITECT AND BE OF A SIMILAR SIZE AND FORM AS THOSE ORIGINALLY PROPOSED.

PROPOSED PLANT LIST	ALTERNATE PLANT LIST 1	ALTERNATE PLANT LIST 2
TREES	TREES 1	TREES 2
Sarah's Favorite Crape Myrtle	Natchez Crape Myrtle	Muskegee Crape Myrtle
Shumard Oak	Willow Oak	Nuttall Oak
Emerald Arborvitae	Arborvitae 'Dagroot's Spire'	Italywild Red Cedar
Oakland Holly	Mary Nell Holly	Nellie R. Stevens Holly
Tree Form Fosters Holly	Tree Form Claudia W. Magnolia	Tree Form Bracken Magnolia
Cryptomeria	Green Giant Arborvitae	Italywild Red Cedar
SHRUBS	SHRUBS 1	SHRUBS 2
Carissa holly	Parson's Juniper	Dw. Yaupon Holly
Adagio Grass	Maiden Grass	Loropetalum Purple Diamond
Green Velvet Boxwood	American Boxwood	Dw. Cryptomeria
Anise	Tea Olive	Cleyera
Needlepoint Holly	Dw. Burford Holly	Holly Stedds
Pink Muhly Grass	Little Lime Hydrangea	Adagio Grass
Dw. Yaupon Holly	Winter Jasmine	Carissa Holly
Emerald Snow Loropetalum	Gardenia Radican	Gardenia Frost Proof
SOD	SOD 1	GROUNDCOVER 2
GROUNDCOVER	GROUNDCOVER 1	Hyperion Daylily
Southern Shield Fern	Autumn Fern	
Emerald Zoysia	Bermuda	

NOTE:
 THIS LANDSCAPE PLAN IS SCHEMATIC AND SUBJECT TO REVISION AS DETAILED SITE, ARCHITECTURAL AND ENGINEERING PLANS DEVELOP. AMENITIES, PLANT QUANTITIES AND PLANTING LAYOUT WILL VARY BASED ON FINAL ARCHITECTURAL AND ENGINEERING PLANS.



REVISIONS
 6 7/11/19 dke Landscape Plan

DATE: 9/16/17
 SCALE: 1"= 30'0"
 PROJECT MANAGER: dke
 DRAWN: dke, ksc
 REVIEWED: drp
 PROJECT NO: 2017-0061

SHEET TITLE:
**Schematic
 Planting Plan**

SHEET NUMBER:
L-2.00
 SEQUENCE: 2 of 2



Sec. 129-234. - Development plan.

(a) *Preliminary development plan.* A preliminary development plan, containing the following information about the proposed development of a parcel, and the following additional items and information, shall be filed with each application for the change of the zoning classification of a parcel to a Mixed Use District. The following requirements are in addition to, and not in lieu of, any other requirements of the city with respect to an application for the rezoning of a parcel.

(1) *Information on preliminary development plan.*

- a. Size, boundary lines, dimensions and street frontage of the parcel; Shown on attached Schoel Engineering drawing, dated 07.11.19.
- b. The part of the parcel which is to be devoted to each use; Shown on attached Schoel Engineering drawing, dated 07.11.19.
- c. Parking areas and facilities, including specific information about the size, location, and design of parking area facilities, the number of parking spaces proposed, and means of addressing any special parking concerns or problems that may be presented by the proposed development; Resident parking for the 10 units is provided by a two car garage for each unit, providing the required two spaces per unit. Guest/service parking calculated at 0.5 spaces per unit = 5 total are provided as parallel parking spaces directly in front of the buildings, and not encroaching into the drive lanes of Fairhaven Drive.
- d. Means of access to and from the parcel; Vehicular access to the three buildings is from a common driveway located at the north end of the parcel. The driveway serves the garages on the rear of the 3 buildings, and connects to the driveway serving the 5 unit townhome building on Poe Drive in Vestavia. The connectivity also benefits emergency vehicle access.
- e. The location and size of any common open space which may be used by some or all of the occupants of the development; The required open space based on 100SF per unit for the 10 townhomes (1,000SF) is provided in two areas separating the three buildings. These areas are depicted on the Architectural Site Plan, dated, July 11, 2019.
- f. Location and dimensions of service yards; A service yard is not required for townhome buildings.
- g. Location, height, other dimensions and floor area of the buildings; The building floor plans and elevations are on attached drawings. The Schoel Engineering drawings show the location of the buildings on the site drawing, dated 07.11.19.
- h. Sidewalks; A sidewalk of the required 5' minimum width is shown across the full width of the property in front of all three buildings.
- i. Landscaping; Preliminary landscaping plan by Dave Eyrich of EDS Landscape Architects, dated 07.11.19 is attached.
- j. Exterior lighting; Exterior parking lighting will be provided by pole mounted LED fixtures where the total height will not exceed 14' and designed for zero spillover onto adjacent property.
- k. Storm drainage and storm water detention facilities; See Schoel Engineering drawing dated 07.11.19 that indicates storm drainage, management and detention.
- l. Fire hydrants; See Schoel Engineering drawing, dated 07.11.19 that indicates proposed fire hydrants.
- m. Outside appearance of buildings; The exterior of the buildings consists of stone and painted brick veneer, painted siding, metal roofs, and composition shingle roofs will be submitted to the VDRC, subject to actual mockup samples being provided.

- n. **Signs;** No development signage is anticipated. Address numbers will be installed on the wall near the front entrance to each unit.
- o. **Materials of which buildings are to be constructed;** The buildings will be constructed of load bearing wood stud walls, standard and/or wood I-joists floor framing, and conventional rafters and/or prefabricated wood roof trusses. The buildings will be constructed to comply with ICC VB-2 (fully sprinklered).
- p. The distance between each building, whether existing or to be constructed, which is to be a part of the development and the front, rear and side boundary lines of the parcel; and the distances between each of such buildings, whether existing or to be constructed; The distance between buildings is shown on the Architectural Site Plan, dated 07.11.19 and in compliance with required front, rear, and side yard setbacks.
- q. The percentage of the building(s) which will be improved with residential uses, whether then existing or to be constructed pursuant to the development plan, and the percentage of the building(s) to be improved with commercial uses, whether then existing or to be constructed pursuant to the development plan; The three buildings will be improved exclusively for residential use. There are no existing structures on the property.
- r. **The height of each building;** The maximum height permitted for Townhomes with the Village Design Overlay standards for a two story building is 26' to eaves/cornices plus roof structure. The roof structure height for a pitched roof (5:12, or more) is 10' maximum. The roof structure for a steep pitch roof (14:12 to 20:12) is 16' maximum. The total maximum height permitted is 36' based on a roof slope of less than 14:12. The total height of all building is 33', 3' less than the maximum.
- s. **The number of floors in each building;** The townhome buildings will contain two floors each.
- t. **The number of square feet included within the parcel;** See attached School Engineering drawing, dated 07.11.19.
- u. **The number, location and size of all parking spaces and the locations thereof relative to the driveways, streets and alleys which provide access to and from the parcel; and** See paragraph c. and d. above which describes parking and drive access.
- v. **The materials with which the parking, driveway and sidewalk areas, will be covered.** The driveways will be paved with asphalt. Curbs and sidewalks where shown will be concrete.

The above information shall be shown on a site plan, except that, where necessary for a clear explanation of such information, the site plan may be accompanied by supplemental material.

(2) Additional items and information.

- a. A survey of the parcel, prepared by a surveyor licensed as a surveyor by the State of Alabama, showing the location, size and legal description of the parcel and the public streets and alleys which abut the parcel or are located upon the parcel, which survey must have been prepared, or certified to the city by the surveyor as being current and accurate; See School Engineering drawing dated 07.11.19.
- b. The density of land use of the parcel, with tabulations by acreage and the percentage of the parcel to be occupied by each proposed use; The parcel will be 100% residential use, and the Residence F Townhomes when incorporated with the Village Design Overlay does not stipulate a maximum number of units per acre.
- c. A copy of any covenants or restrictions to which the parcel is subject; There are none.
- d. A copy of any proposed covenants or restrictions which will be imposed upon the parcel or any improvements thereon; The only covenants will be those developed for the Condominium Association. Included in that will be a covenant that the developed open space will be available to all residents of the townhome units.

- e. A development schedule indicating the approximate commencement and completion dates of the development, and any phases thereof if the development is to be developed in phases; and The development schedule will commence; The development schedule is to commence construction in the Fall of 2019, beginning first with the (previously approved) 5- unit building located on Poe Drive in Vestavia, and the 3-unit townhome building located at 3789 Fairhaven (previously approved) and the three building townhomes, at 3790 Fairhaven in subsequent phases. The construction schedule is estimated to take between 15 – 18 months.
- f. A computerized or physical three-dimensional scale model of the proposed site and building showing the scale, massing, and relationship of the building to the site and topography, to public streetscapes, to open spaces, and to adjacent properties from all relevant perspectives and showing all relevant dimensions. The applicant may submit the model in electronic format if the most recent version of Sketch-up is used, otherwise, the application shall provide perspectives from all relevant angles and at least one for each side of the building. Where applications include multiple similar buildings, one scale model for each similar building type may be submitted, provided all occurrences of the building type have a similar relationship to the site and topography, public streetscapes, open spaces, and adjacent sites as depicted in the model. A 3D model will be provided to the planning staff prior to the planning commission meeting.

Seventeen copies of the preliminary development plan and any materials supplemental thereto shall be delivered to the zoning officer at least 24 days before the date of the hearing at which the planning commission will consider the rezoning application. Revised plans for cases which are heard by the planning commission and then carried-over to the next regular meeting of the planning commission, whether at the request of the planning commission or the applicant, must be submitted at least 17 days before the date of the hearing at which the planning commission will hear the revised case.

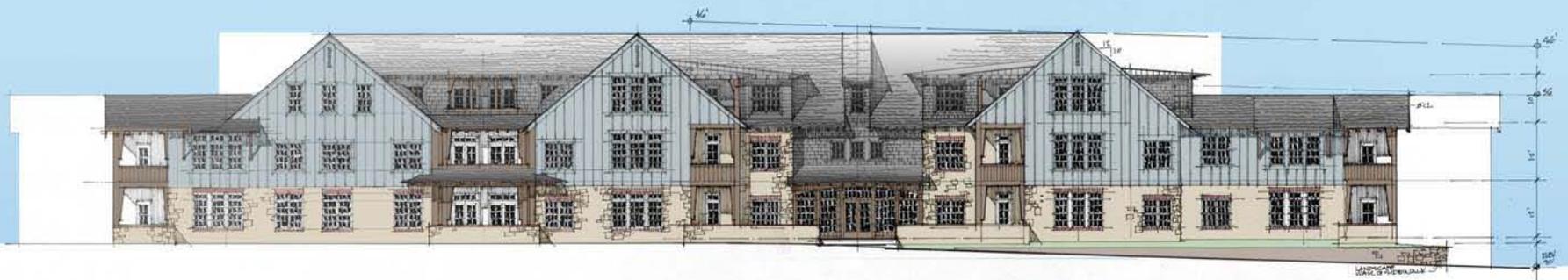
- (b) In addition to such other matters which are considered by the city council with respect to any other rezoning application, the city council may consider the development plan and any supplemental materials in making its decision to approve or deny an application for the rezoning of a parcel to the Mixed Use District. The city council may consider the appropriateness of the proposed development plan in relation to the physical characteristics of the parcel and to the physical characteristics and uses of properties adjacent to or near the subject parcel, and the city council may require such additions, deletions and changes to the development plan and such agreements and covenants with respect to the proposed development, as the city council deems appropriate. The city council may:
 - (1) Approve the development plan, which approval would be evidenced by the signature of the president of the city council;
 - (2) Disapprove the development plan;
 - (3) Make suggestions for revisions to the development plan and, with the approval of the applicant, continue its consideration of the development plan to a future meeting of the city council; or
 - (4) Approve the development plan subject to the applicant making certain specified minor revisions to it, which revisions would be subject to the approval of the zoning officer, and if such revisions are approved by the zoning officer the approval of the development plan would be final upon it being signed by the president of the city council.
- (c) An application for rezoning to the Mixed Use District may be denied by the city council based upon any one or more of the items of information included in the development plan or any supplemental materials.
- (d) An approved preliminary development plan shall be effective for up to 365 days from the date of the city council approval, after which time it shall be considered lapsed if substantial progress has not been made. The city council may grant one extension up to an additional 365 days, if prior to the lapse the applicant presents reasonable justifications for not achieving substantial progress. A lapsed preliminary development plan shall be resubmitted or a new preliminary development plan shall be required prior to any building permit is issued. The city council shall consider any lapsed

preliminary development plan or a new preliminary development plan according to all other provisions of this article, and shall consider the plan based upon the current circumstances at the time of the new submittal.

(Ord. No. 1767, § 1(19-14-4), 2-25-2008; Ord. No. 1770, 2(19-4-4), 5-12-2008)



Overton Village Condominiums
birds-eye view



OVERTON VILLAGE - FEBRUARY 2018

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



OVERTON VILLAGE CONDOMINIUMS
WEST ELEVATION | NOT TO SCALE

November 6, 2017

Ms. Dana Hazen
Director of Planning, Building & Sustainability
City of Mountain Brook
56 Church Street
Mountain Brook, AL 35213

Subject: Traffic Study Review for Overton Village Residential Development
SA #17-0244

Dear Ms. Hazen:

At the City's request, I conducted a review of the traffic impact study assessment prepared by Mr. Aubrey Long, P.E. of Skipper Consulting, Inc. for the proposed Overton Village residential condominium development to be located on Fairhaven Drive and Poe Drive in Mountain Brook and Vestavia Hills. Overall I found the study accurate and in conformity with accepted traffic engineering practices.

Following is a summary of specific items that I believe are noteworthy:

- The new turning movement counts conducted in September 2017 compared to the counts from 2006 show an unusually high increase (more than 200%) in traffic volume for westbound Overton Road during the morning peak hour (394 vehicles in 2006 increased to 824 vehicles in 2017). The increase for this movement is much higher than for any other movement. It would be helpful to have Mr. Long's perspective on why the westbound morning traffic is so much higher than in the previous study.
- The reported intersection levels of service are what I would expect to see for stop controlled side street movements.
- On Friday, November 3, I conducted an observation of traffic operations during the morning peak from 7:30-8:00. I sampled wait times for traffic exiting Fairhaven Drive and Poe Drive. For Fairhaven Drive I was able to sample wait times for 8 vehicles; the times ranged from 3.4 seconds to 65.3 seconds with an average wait time of 16.65 seconds. Two vehicles were sampled for Poe Drive; their wait times were 15.9 seconds and 18.2 seconds. The sampled data wait times corroborate Mr. Long's assertion that the adjacent traffic signals at Crosshaven Drive and Asbury Place provide adequate gaps for traffic to exit the Fairhaven and Poe side streets.
- I concur with Mr. Long's estimation of trip making by the proposed development and the conclusion that this development proposal will generate fewer trips than the previous approved development proposal.

Ms. Dana Hazen
November 6, 2017
Page 2

- I agree with the analysis that shows a turn lane is warranted on Overton Road eastbound approach to Poe Drive, however I wonder if there is sufficient right-of-way to install the turn lane or if the developer has the ability to acquire the necessary right-of-way. Has Mr. Long explored the feasibility of constructing the turn lane? How long would the lane need to be and what, if any, impact would it have to the intersection of Asbury Place and Overton Road.

I hope this summary will be helpful to the City as you consider the development request. If you have questions or need additional assistance, please contact me.

Sincerely,

A handwritten signature in black ink that reads "Becky White". The signature is written in a cursive, flowing style.

Becky White, PTP
Principal / Owner
Sain Associates, Inc.

Additional Information
RE: Overton Village Development Traffic Study

November 9, 2017

Mr. Ron Durham
Durham Developers
1960 Stonegate Drive
Vestavia Hills, AL 35242

Mr. Durham;

The following paragraphs detail additional information/data collected and address comments received since the Overton Village traffic study assessment was completed on September 7, 2017.

Existing Traffic Observations:

Skipper Consulting conducted observations of traffic operations along Overton Road on October 30th, 2017 during the morning and afternoon peak periods (7-9am;4-6pm). Heavy traffic volumes were noted along Overton Road during both periods and was very directional with most of the traffic heading west in the morning and east in the afternoon. Key items noted during the observations were the impact of both signals on Overton Road (Crosshaven & Asbury Pl). The signals are located at each end of the study corridor, which allows for gaps in traffic flows along Overton Road. These gaps were considered acceptable as no significant queues were noted on the side streets during our observations.

Potential Alternate Routes:

As noted previously, trips generated by the proposed development are anticipated to utilize Poe Drive and Fairhaven Drive via Overton Road to access the property. Based on comments received regarding additional traffic along other local streets, we reviewed potential alternate routes that could be utilized to access the subject property. After reviewing the local roadways, it was determined that trips exiting the proposed development could potentially utilize Poe Drive and/or Fairhaven Drive to connect to Crosshaven Drive. This movement could be beneficial due to the traffic signal at Overton Road and Crosshaven Drive. However, this route would not be considered a cut-thru route as it covers a longer distance to reach Overton Road. It is our opinion that only exiting vehicles heading east at Overton Road would potentially use Crosshaven Drive to access Overton Road (as noted previously in the study).

Based on the projected outbound development trips, a range of 0 to 10 vehicles in the morning peak hour and 0 to 5 vehicles in the afternoon peak hour could potentially utilize the Crosshaven Drive route to access Overton Road.

Traffic Volume Increase:

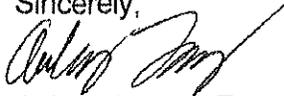
An external review of previous (2006) and current (2017) traffic counts was conducted. It was noted that westbound traffic volumes along Overton Road approximately doubled over the ten year period, which is an unusually high increase. It is our opinion that this substantial increase can be attributed to traffic conditions along U.S. Highway 280. Overton Road provides access to U.S. Highway 280 and I-459 (via Liberty Parkway). Due to congested traffic flows along U.S. Highway 280, drivers have been using Overton Road as an alternative route. Historical traffic counts collected by the Alabama Department of Transportation (ALDOT) support this idea as well. Daily traffic volumes along Overton Road increased approximately seventy-five percent from 2011 to 2014. It is important to note that from 2014 to 2016 volumes increased approximately five percent, which is a normal growth rate for this area.

Left-turn Lane Feasibility:

As previously noted in our traffic study, a left-turn lane along Overton Road at the Poe Drive intersection was warranted based on existing traffic volumes and lane geometry. After reviewing roadway conditions in this area, potential constraints that could affect construction of a turn lane at this location were identified. Adding lanes to this approach would require the roadway to be widened. It appears that right of way would have to be acquired to widen the roadway (Skipper Consulting does not have a survey of this location). Also, the close proximity between Poe Drive and Asbury Place intersections would restrict the total length of the turn lane. No extended or major delays of eastbound traffic along Overton Road were noticed during our observations due to left-turns. Based on the potential constraints and existing traffic operations, a left-turn lane may not be feasible and/or necessary at this location.

This concludes our additional information review of the revised 2017 Overton Village development. If you have any questions, please contact us.

Sincerely,



Aubrey Long, PE
Skipper Consulting, Inc.
205-655-8855

September 7, 2017

Mr. Ron Durham
Durham Developers
1960 Stonegate Drive
Vestavia Hills, AL 35242

Mr. Durham;

At your direction, we have undertaken and completed an updated traffic study assessment for the proposed Overton Village residential condominium development to be located along Fairhaven Drive and Poe Drive in Mountain Brook & Vestavia Hills, Alabama. The focus of this assessment is to update a previous traffic study conducted in July 2006 based on changes to the proposed land uses and existing traffic along the study roadways. The following paragraphs summarize the steps taken as well as our findings and recommendations.

Background Information

The purpose of the traffic assessment was to determine the impacts of revising the proposed land uses for the Overton Village development. The previous traffic impact study was based on multiple land uses, including residential condominiums, office space and specialty retail. The results of the previous study indicated the study intersections would operate with acceptable levels of service along Overton Road and poor levels of service on the side streets. However, the traffic signals along Overton Road would provide acceptable gaps to allow vehicles to enter Overton Road from Poe Drive and Fairhaven Drive without major delays. Also, a left-turn lane was warranted along Overton Road at the Poe Drive intersection (eastbound). The previous conducted traffic impact study is attached to this memo for reference (Exhibit A).

It is important to note, the Overton Village development as previously proposed was approved by the City of Vestavia Hills and the City of Mountain Brook in 2007. The proposed revised land uses of the Overton Village development would reduce the amount of expected land use units and therefore reduce the amount of traffic expected to be generated by the development.

Existing Conditions - 2017

Traffic counts used in the previous 2006 traffic study are more than ten years old and potentially would not be an accurate representation of current traffic in the area. Therefore, new turning movement counts at the study intersections were conducted as part of this assessment. Also, guidelines used for conducting capacity analysis

have been updated since the 2006 study was completed. Therefore, intersection capacity analysis was updated based on the new guidelines and traffic volumes.

Capacity Analysis:

Existing turning movement counts were collected during the morning and afternoon peak hour of a typical weekday at the existing intersection of Poe Drive/Overton Road and Fairhaven Drive/Overton Road. Detailed traffic volume figures are attached to this document for reference (Exhibit B).

Using methods as outlined in the Highway Capacity Manual 2010 Edition, capacity and operation of the study intersections were evaluated for existing 2017 conditions. According to this method of analysis, traffic capacities are expressed as levels of service, ranging from "A" (best) to "F" (worst). In general, a level of service (LOS) "C" is considered desirable, while a level of service "D" is considered acceptable during peak hours of traffic flow. The level of service for each approach is illustrated in Table 1.

Table 1 –Existing 2017 Intersection Levels of Service

<i>Intersection (Traffic Control)</i>	<i>Approach</i>	<i>Existing Conditions</i>	
		<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
Poe Drive at Overton Road (un-signalized)	Overton Road (Eastbound)	A	A
	Overton Road (Westbound)	A	A
	Publix Access (Northbound)	E	E
	Poe Drive (Southbound)	D	C
Fairhaven Drive at Overton Road (un-signalized)	Overton Road (Eastbound)	A	A
	Overton Road (Westbound)	A	A
	Publix Access (Northbound)	C	C
	Fairhaven Drive (Southbound)	E	E

As indicated in Table 1, the Overton Road approaches currently experience acceptable levels of service during existing conditions. Some of the side street approaches currently experience poor levels of service under existing conditions. Poor levels of service at stop controlled side street approaches are to be expected due to the heavy volumes along Overton Road. As stated in the previous traffic study, the traffic signals currently provide adequate gaps in traffic to allow access for the side streets. Printouts of the existing capacity analysis are attached to this memo for reference (Exhibit C).

Proposed Conditions - 2017

Land Uses:

Previously planned land uses (2006) and revised proposed land uses (2017) are listed below.

Previous Land Uses (2006):

Residential Condominiums	62 units
Office Space	6,450 sf
Specialty Retail	19,350 sf

Proposed Land Uses (2017):

Residential Condominiums	41 units
--------------------------	----------

Trip Generation:

Trip generation estimates were determined for the proposed revised 2017 conditions based on data contained in the Trip Generation Manual, Ninth Edition, as published by the Institute of Transportation Engineers (ITE). Morning and afternoon peak hour trip generation estimates for the 2017 conditions are presented in Table 2. Also, trip generations of the previous 2006 study conditions are presented in Table 3 for comparison.

Table 2 – Proposed 2017 Trip Generation Estimates (ITE)

Land Use	Size	AM Peak		PM Peak	
		In	Out	In	Out
Residential Condominiums	41	4	21	19	10

Table 3 – Previous 2006 Trip Generation Estimates (ITE)

Land Use (ITE Code)	Size	AM Peak		PM Peak	
		In	Out	In	Out
Residential Condominiums	62	6	29	27	13
Office	6,450	18	3	15	71
Specialty Retail	19,350	12	7	30	38
Totals		36	39	72	122

As indicated in Tables 2 and 3, the proposed revised 2017 development land uses would generate substantially less traffic compared to the previous 2006 conditions.

Trip Distribution:

The trip distribution patterns used in the previous 2006 study were still considered applicable and were applied to this updated assessment. A global distribution of site generated traffic of fifty percent (50%) to and from the east and fifty percent (50%) to and from the west via Overton Road was utilized. A driveway distribution of site generated traffic was determined that seventy percent (70%) of traffic would access the site via Fairhaven Drive and thirty percent (30%) would access the site via Poe Drive.

Proposed Traffic Volumes:

New turning movement volumes were projected for the revised 2017 assuming the distribution patterns listed previously. Detailed traffic volume figures are attached to this document for reference (Exhibit D).

Proposed Capacity Analysis:

Using methods as outlined in the Highway Capacity Manual 2010 Edition, capacity and operation of the study intersections were evaluated for proposed 2017 conditions. According to this method of analysis, traffic capacities are expressed as levels of service, ranging from "A" (best) to "F" (worst). In general, a level of service (LOS) "C" is considered desirable, while a level of service "D" is considered acceptable during peak hours of traffic flow. The level of service for each approach is illustrated in Table 4.

Table 4 –Proposed 2017 Intersection Levels of Service

<i>Intersection (Traffic Control)</i>	<i>Approach</i>	<i>Proposed Conditions</i>	
		<i>AM Peak Hour</i>	<i>PM Peak Hour</i>
Poe Drive at Overton Road (un-signalized)	Overton Road (Eastbound)	A	A
	Overton Road (Westbound)	A	A
	Publix Access (Northbound)	E	F
	Poe Drive (Southbound)	D	C
Fairhaven Drive at Overton Road (un-signalized)	Overton Road (Eastbound)	A	A
	Overton Road (Westbound)	A	A
	Publix Access (Northbound)	C	C
	Fairhaven Drive (Southbound)	F	E

As indicated in Table 4, the Overton Road approaches would experience acceptable levels of service during proposed 2017 conditions. Some of the side street approaches continue to experience poor levels of service under proposed 2017 conditions. As stated previously, poor levels of service at stop controlled side street approaches are to be expected due to the heavy volumes along Overton Road. However, the traffic signals would provide adequate gaps in traffic to allow access for the side streets. Printouts of the proposed 2017 capacity analysis are attached to this memo for reference (Exhibit E).

Turn Lane Warrant Assessment

Using the existing 2017 and proposed 2017 traffic volumes described previously, a left turn lane warrant assessment was conducted at the Poe Drive/Overton Road intersection under existing and proposed conditions. An assessment was conducted of the need for a left turn lane (eastbound approach of Overton Road) by utilizing methodologies found in the National Cooperative Highway Research Program Report 457. The results of the turn lane assessment are listed in Table 5.

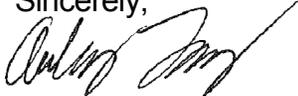
Table 5 – Existing & Proposed Turn Lane Warrant Evaluation

Intersection Approach	Number of Lanes	Speed Limit (mph)	Advancing Volume (Va)	Opposing Volume (Vo)	% Left-Turn in Va	Left-Turn Warranted
EB Overton Road at Poe Drive (EXISTING)	2	30	674	432	6%	Yes
EB Overton Road at Poe Drive (PROPOSED)	2	30	685	438	6%	Yes

As indicated in Table 5, it was determined a left turn lane would be warranted at the study intersection approach under existing and proposed 2017 conditions. A summary of the assessment is attached to this memo for reference (Exhibit F).

This concludes our traffic impact assessment of the revised 2017 Overton Village development. If you have any questions, please contact us.

Sincerely,



Aubrey Long, PE
Skipper Consulting, Inc.
205-655-8855

Exhibit A

Overton Village

Mountain Brook/Vestavia Hills, Alabama

Traffic Impact Study

*Prepared For:
Leitman, Perlman & Rich*



July 2006

OVERTON VILLAGE
Mountain Brook/Vestavia Hills, Alabama

SIGNAL IMPACT STUDY

Prepared for:
Leitman, Perlman & Rich

Prepared by:
SKIPPER CONSULTING, INC.
3644 Vann Road, Suite 100
Birmingham, Alabama 35235
(205) 655-8855

July 2006

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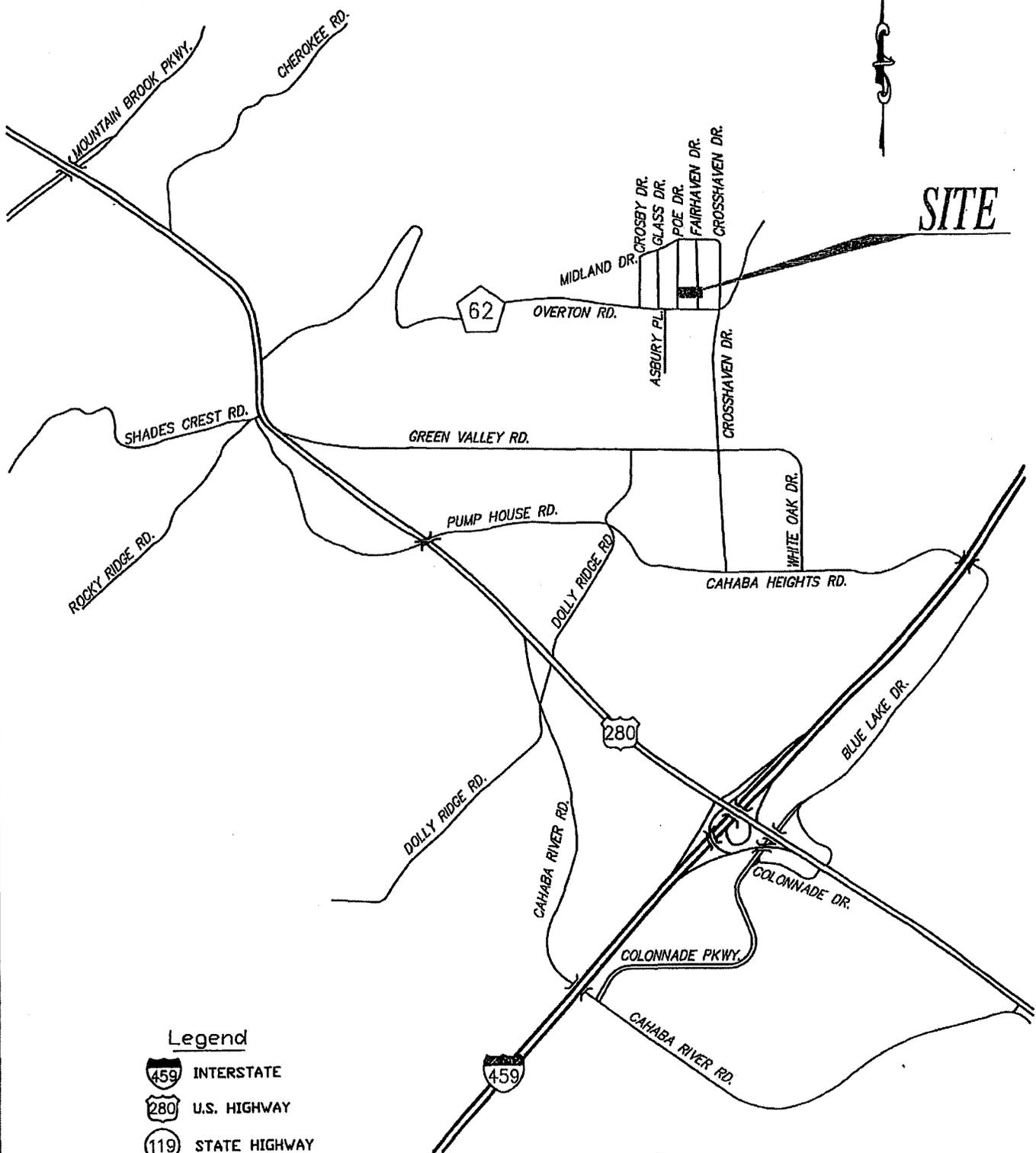
Appendix A	Site Plan
Appendix B	Turning Movement Count Data
Appendix C	Level of Service Descriptions
Appendix D	Existing Conditions Capacity Analysis Worksheets
Appendix E	Future Conditions Capacity Analysis Worksheets

INTRODUCTION

The purpose of this report is to document the analyses and findings of a traffic study conducted for a proposed mixed-use development that would be located in the cities of Mountain Brook, Alabama and Vestavia Hills, Alabama. The proposed mixed use development will be housed in four buildings and contain 62 residential condominiums, 19,350 square feet of specialty retail and 6,450 square feet of office. The proposed development site is located north of Overton Road with three building located between Poe Drive and Fairhaven Drive and one building located along the east side of Fairhaven Drive. Buildings One, Two and Three are in the City of Mountain Brook and Building Four is in the City of Vestavia Hills. The location of the proposed mixed-use development is illustrated in Figure 1. The traffic study has been conducted to accomplish the following objectives:

- Describe the existing traffic conditions at the study intersections;
- Estimate future traffic to be generated by the proposed development;
- Predict the directional distribution of site generated traffic;
- Identify any infrastructure improvements needed to accommodate traffic generated by the proposed development; and
- Develop an access concept for the proposed development

Sources of information used in the report include: Federal Highway Administration; the Institute of Transportation Engineers; Leitman, Perlman & Rich; the City of Mt. Brook; the City of Vestavia Hills; Cohen, Carnaggio, Reynolds Architecture; the Transportation Research board; Traffic Data, LLC; and field reconnaissance and other information collected by Skipper Consulting, Inc.



Legend

-  INTERSTATE
-  U.S. HIGHWAY
-  STATE HIGHWAY
-  COUNTY ROAD

DRAWING NOT TO SCALE

FIGURE 1
SITE LOCATION MAP
OVERTON VILLAGE
MOUNTAIN BROOK, ALABAMA

JULY 2006

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BACKGROUND INFORMATION

Site Description and Access

The proposed mixed use development is would be contained in four buildings .Buildings One Two and Four would be located north of Overton Road between Poe Drive and Fairhaven Drive. Building three would be located on the eastside of Fairhaven Drive north of Overton Road. Access to Buildings One Two and Four will be from an access drive that extends between Poe and Fairhaven. Access to Building four will be directly from Fairhaven Drive. The site plan is included in Appendix A.

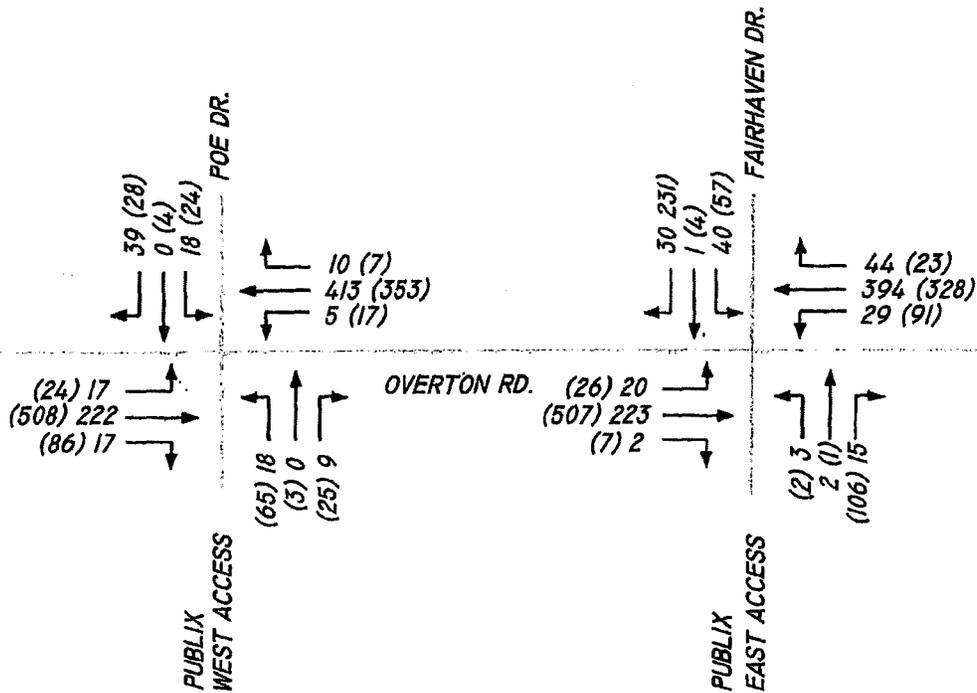
Study Area Roadways

In the vicinity of the proposed development, Overton Road is a two-lane roadway with a posted speed limit of 30 miles per hour. Fairhaven Drive is a local street located across Overton Road from the proposed east access near the site's eastern property line. Poe Drive is a local street located across Overton Road from the proposed west access near the site's west property line. Both Fairhaven Drive and Poe Drive intersect Overton Road from the north forming two "T" intersections approximately three hundred fifty feet apart and will herein be referred to as the study intersections.

EXISTING TRAFFIC CONDITIONS

Existing Traffic Volumes

Turning movement traffic counts were conducted at the intersections of Overton Road and Poe Drive and Overton Road and Fairhaven Drive on Thursday June 29, 2006 from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. Existing peak hour turning movement traffic volumes are summarized in Figure 2. Complete turning movement count data is provided in Appendix B.



Legend

000 - AM PEAK HOUR VOLUMES
(000) - PM PEAK HOUR VOLUMES

DRAWING NOT TO SCALE

FIGURE 2
EXISTING PEAK
HOUR TRAFFIC VOLUMES
OVERTON VILLAGE
MOUNTAIN BROOK, ALABAMA

JULY 2006

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Existing Intersection Capacity Analysis

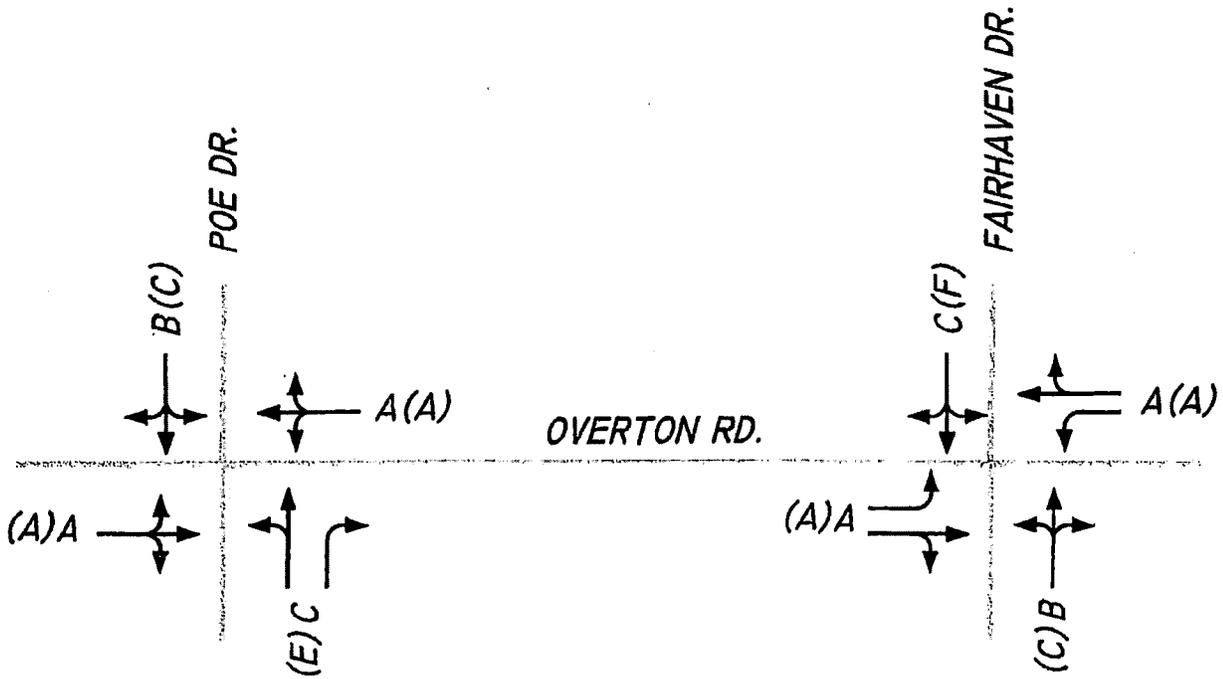
Using methods as outlined in the *Highway Capacity Manual, 2000 Edition*, published by the Transportation Research Board, the capacity and operation of the study area intersections were evaluated. According to this method of analysis, traffic capacities are expressed as levels of service, ranging from "A" (best) to "F" (worst). In general, a level of service (LOS) "C" is considered desirable, while a level of service "D" is considered acceptable during peak hours of traffic flow. The description of levels of service is described in Appendix C.

The study intersections are currently controlled by side street stop signs. Capacity analyses indicate the northbound approach to the Overton Road and Poe Drive intersection and the southbound approach to Overton Road and Fairhaven Drive is currently experiencing unacceptable levels of service during afternoon peak period. Existing morning and afternoon peak hour intersection levels of service are summarized in Figure 3. Capacity printouts are provided in Appendix D.

FUTURE TRAFFIC CONDITIONS

Trip Generation Estimates

Traffic volumes expected to be generated by the proposed mixed use development were estimated according to information outlined in *Trip Generation, Seventh Edition*, published by the Institute of Transportation Engineers. Trip generation estimates were based on the land uses of residential condominium, office and specialty retail. Morning and afternoon peak hour trip generation estimates and intercept rates are summarized in Table 1.



Legend

- C - AM LEVELS OF SERVICE
- (C) - PM LEVELS OF SERVICE

DRAWING NOT TO SCALE

FIGURE 3
EXISTING PEAK HOUR
LEVELS OF SERVICE
OVERTON VILLAGE
MOUNTAIN BROOK, ALABAMA

JULY 2006

1392.001

**Table 1
Afternoon Peak Hour
Trip Generation Estimates**

Land Use	Size	Units	Weekday Trips	AM Peak		PM Peak	
				In	Out	In	Out
Residential Condominium	62	units	428	6	29	27	13
Office	6,450	ft ²	162	18	3	15	71
Specialty Retail	19,350	ft ²	865	12	7	30	38
TOTALS			1,455	36	39	72	123

Trip Distribution Patterns

The directional distribution of estimated new traffic generated by the proposed mixed-use development was based upon existing distribution patterns at the study intersections. Analysis of existing traffic volume data from peak hour turning movement resulted in a directional distribution of site generated traffic of fifty percent (50%) to and from the east and fifty percent (50%) to and from the west during the afternoon peak hour.

Future Traffic Volumes

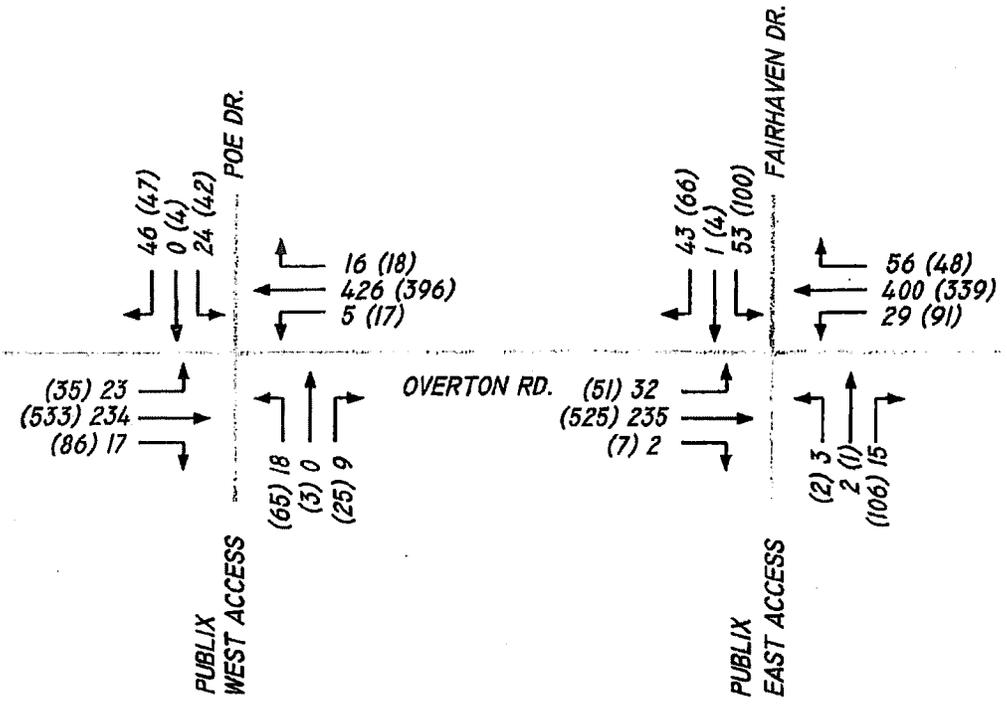
Future peak hour turning movement traffic volumes were developed based on existing turning movement counts, trip generation estimates for the proposed development, and estimated distribution patterns described above. Estimated future peak hour turning movement traffic volumes, summarized in Figure 4, were used to determine access needs for the proposed mixed-use development.

Future Intersection Capacity Analysis

Capacity and operational analyses of the study intersections for the morning and afternoon peak hour were conducted using methods as outlined in the *Highway Capacity Manual, 2000 Edition*. The analysis of future conditions was based on the following: estimated future traffic volumes; and provision of an eastbound left-turn lane on Overton Road at the intersection of Poe Drive. Results of the

SKIPPER

CONSULTING INC.



Legend

000 - AM PEAK HOUR VOLUMES
 (000) - PM PEAK HOUR VOLUMES

DRAWING NOT TO SCALE

FIGURE 4
FUTURE PEAK
HOUR TRAFFIC VOLUMES
OVERTON VILLAGE
MOUNTAIN BROOK, ALABAMA

JULY 2006

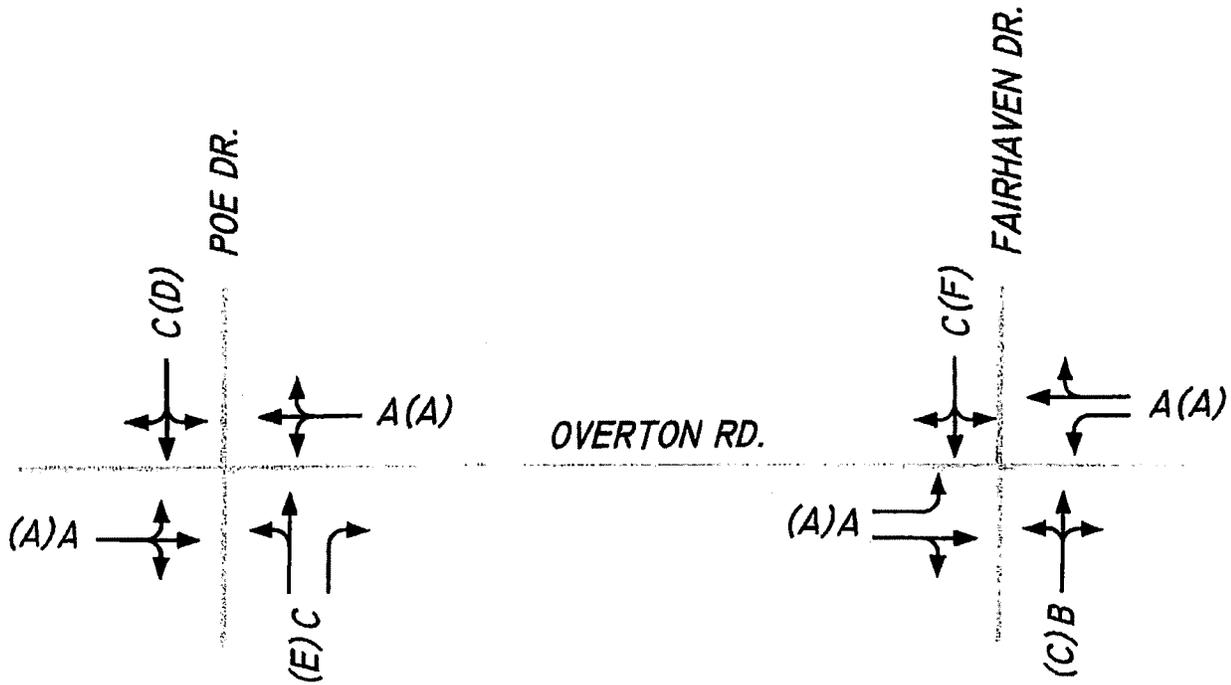
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capacity analyses are summarized in Figure 5. Capacity worksheets for future conditions are provided in Appendix D. As noted in Figure 5, the northbound approach to the intersection of Overton Road and Poe Drive and the southbound approach to the intersection of Overton Road and Fairhaven Drive will continue to experience unacceptable levels of service during the afternoon peak period. Additionally, the southbound approach to the Overton Road and Poe Drive intersection will experience unacceptable levels of service during the afternoon peak period. The unacceptable levels of service at these intersections are due to the traffic volumes along Overton Road. However, the traffic signals along Overton Road will provide acceptable gaps to allow vehicles to enter Overton Road from Poe Drive Fairhaven Drive without inordinately long delays.

Left-Turn Lane Warrant Guidelines

The need for left-turn lanes at the study area intersections were evaluated using methods outlined in the *Intersection Channelization Design Guide, Report 279*, published by the Transportation Research Board. According to the design guide, the following guidelines are suggested when considering the addition of a left-turn lane:

- Left-turn lanes should be considered at all median cross-overs on divided, high-speed highways.
- Left-turn lanes should be provided at all unstopped (i.e. through) approaches of primarily high-speed rural highway intersections with other arterials or collectors.
- Left-turn lanes are recommended at approaches to intersections for which the combination of through/left, and opposing volumes exceeds the warrants outlined in TRB Report 279.
- Left-turn lanes on stopped or secondary approaches should be provided based on the analysis of the capacity and operations of the unsignalized intersection. Considerations include minimizing delays to right turning or through vehicles, and total approach capacity.



Legend

- C - AM LEVELS OF SERVICE
- (C) - PM LEVELS OF SERVICE

DRAWING NOT TO SCALE

FIGURE 5
FUTURE PEAK HOUR
LEVELS OF SERVICE
OVERTON VILLAGE
MOUNTAIN BROOK, ALABAMA

JULY 2006

1392.001

- Left-turn lanes should be considered at intersection approaches that experience a significant number of left-turn involved accidents. A total of four (4) or more such accidents in twelve (12) months or six (6) or more in twenty-four (24) months, is considered appropriate.

Left-Turn Lane Warrant Evaluation

The volume warrants for left-turn lanes at unsignalized intersections were evaluated for the intersection of Overton Road and Poe Drive and. As shown in Table 2, a left-turn lane is warranted at the northbound approach to the intersection of Overton Road and Poe Drive.

Table 2
Left-Turn Lane Warrant Evaluation

Intersection Approach	Number of Lanes	Speed Limit (mph)	Advancing Volume (Va)	Opposing Volumes (Vo)	% Left-Turn in Va	Left-Turn Warranted
NB Overton Road. At Poe Drive	2	30	603	478	8%	Yes

CONCLUSIONS

Based upon the analyses and evaluations presented in this report, the following conclusions can be stated:

1. Access to buildings One, Two and Four of the mixed-use development will be from an access road that will extend from Poe Drive to Fairhaven Drive. Access to building Three will be directly from Fairhaven Drive.
2. Existing conditions capacity analyses indicate the northbound approach to the Overton Road and Poe Drive intersection and the southbound approach to Overton Road and Fairhaven Drive is currently experiencing unacceptable levels of service during afternoon peak period.
3. The proposed mixed use development is expected to generate approximately 75 new trips during the morning peak hour and 195 new trips during the afternoon peak hour.
4. Analyses indicated, to accommodate the proposed planned unit development, an eastbound left turn lane should be constructed on Overton Road at its intersection with Poe Drive.
5. Future conditions capacity analyses indicate the study area intersections would operate at acceptable levels of service during the morning peak period with the forecasted development traffic volumes in place and the proposed roadway improvements in place. The northbound approach to the Overton Road and Poe Drive intersection and the southbound approach to the intersection of Overton Road and Fairhaven Drive will continue to experience unacceptable levels of service during the afternoon peak period. Additionally, the southbound approach to the Overton Road and Poe Drive intersection will experience unacceptable levels of service during the afternoon peak period. The unacceptable levels of service at

these intersections are due to the traffic volumes along Overton Road. However, the traffic signals along Overton Road will provide acceptable gaps to allow vehicles to enter Overton Road from Poe Drive and Fairhaven Drive without inordinately long delays.

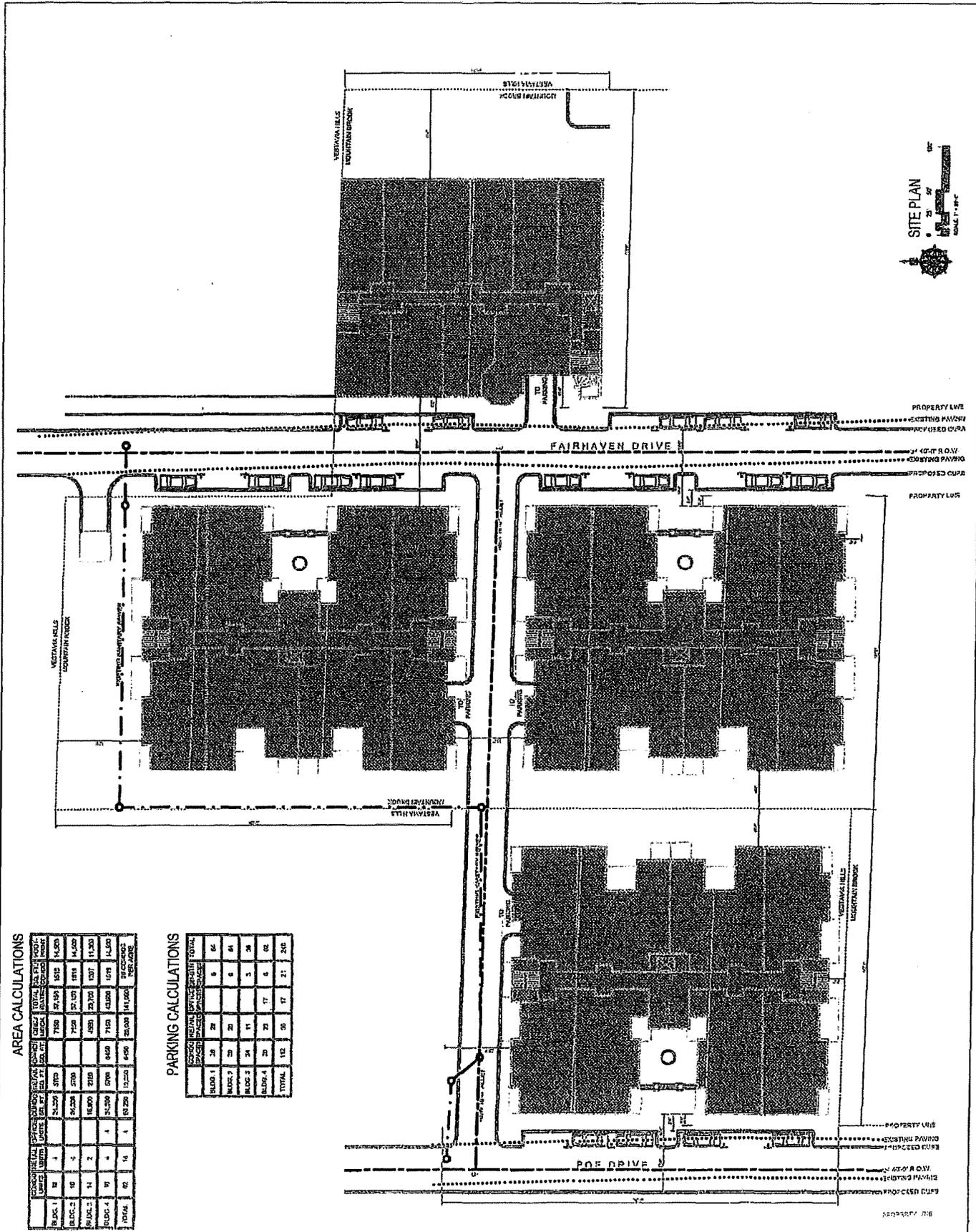
**Appendix A
Site Plan**

AREA CALCULATIONS

BLDG.	UNIT	AREA (SQ. FT.)	AREA (SQ. YD.)	PERCENT	TOTAL AREA (SQ. FT.)	TOTAL AREA (SQ. YD.)
BLDG. 1	1	24,200	278	7.58	317,500	364
BLDG. 2	2	24,200	278	7.58	317,500	364
BLDG. 3	3	24,200	278	7.58	317,500	364
BLDG. 4	4	24,200	278	7.58	317,500	364
TOTAL		96,800	1,112	30.22	1,169,000	1340

PARKING CALCULATIONS

BLDG.	UNIT	AREA (SQ. FT.)	AREA (SQ. YD.)	PERCENT	TOTAL AREA (SQ. FT.)	TOTAL AREA (SQ. YD.)
BLDG. 1	1	24,200	278	7.58	317,500	364
BLDG. 2	2	24,200	278	7.58	317,500	364
BLDG. 3	3	24,200	278	7.58	317,500	364
BLDG. 4	4	24,200	278	7.58	317,500	364
TOTAL		96,800	1,112	30.22	1,169,000	1340



Appendix B
Existing Traffic Count Data

TRAFFIC DATA, LLC

1409 Turnham Lane
 Birmingham, AL 35216
 205-824-0125

Mountain Brook, AL

File Name : mtnbrook02
 Site Code : 00000000
 Start Date : 06/29/2006
 Page No : 1

Groups Printed- Unshifted

Start Time	POE DR Southbound			OVERTON RD Westbound			PUBLIX DRWY Northbound			OVERTON RD Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	1	1	5	1	76	3	0	0	0	1	28	4	118
07:15 AM	5	0	5	0	75	1	2	0	1	4	48	2	143
07:30 AM	6	0	13	0	119	4	4	0	1	6	46	2	201
07:45 AM	5	0	9	4	105	1	2	0	2	5	71	5	209
Total	17	1	32	5	375	9	8	0	4	16	191	13	671
08:00 AM	2	0	12	1	93	1	3	0	3	2	55	5	177
08:15 AM	2	0	4	0	96	4	4	0	3	4	50	5	172
08:30 AM	4	0	7	0	94	1	9	0	1	2	48	4	170
08:45 AM	2	1	19	0	89	1	2	0	1	4	62	7	188
Total	10	1	42	1	372	7	18	0	8	12	215	21	707
04:00 PM	3	1	4	2	75	1	17	2	5	8	101	24	243
04:15 PM	7	2	6	2	81	1	12	1	8	7	84	16	227
04:30 PM	2	1	3	2	61	0	18	1	6	7	84	16	201
04:45 PM	2	0	7	5	84	0	11	3	3	6	118	18	257
Total	14	4	20	11	301	2	58	7	22	28	387	74	928
05:00 PM	1	1	12	3	90	5	14	1	5	6	144	22	304
05:15 PM	3	2	3	1	105	0	17	1	4	8	117	24	285
05:30 PM	1	0	1	8	74	2	15	0	12	3	127	20	263
05:45 PM	3	1	6	1	77	3	19	1	4	7	120	20	262
Total	8	4	22	13	346	10	65	3	25	24	508	86	1114
Grand Total	49	10	116	30	1394	28	149	10	59	80	1301	194	3420
Apprch %	28.0	5.7	68.3	2.1	96.0	1.9	68.3	4.6	27.1	5.1	82.6	12.3	
Total %	1.4	0.3	3.4	0.9	40.8	0.8	4.4	0.3	1.7	2.3	38.0	5.7	

Start Time	POE DR Southbound				OVERTON RD Westbound				PUBLIX DRWY Northbound				OVERTON RD Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1

Intersection	07:30 AM																759
Volume	15	0	38	53	5	413	10	428	13	0	9	22	17	222	17	256	
Percent	28.3	0.0	71.7		1.2	96.5	2.3		59.1	0.0	40.9		6.6	86.7	6.6		
07:45	07:45 AM																209
Volume	5	0	9	14	4	105	1	110	2	0	2	4	5	71	5	81	
Peak Factor	0.898																
High Int.	07:30 AM				07:30 AM				08:15 AM				07:45 AM				
Volume	6	0	13	19	0	119	4	123	4	0	3	7	5	71	5	81	
Peak Factor	0.897				0.870				0.786				0.790				

Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1

By Approach	07:15 AM																256
Volume	18	0	39	57	5	413	10	428	18	0	9	27	17	222	17	256	
Percent	31.6	0.0	68.4		1.2	96.5	2.3		66.7	0.0	33.3		6.6	86.7	6.6		
High Int.	07:30 AM				07:30 AM				08:30 AM				07:45 AM				
Volume	6	0	13	19	0	119	4	123	9	0	1	10	5	71	5	81	
Peak Factor	0.750				0.870				0.675				0.790				

TRAFFIC DATA, LLC
 1409 Turnham Lane
 Birmingham, AL 35216
 205-824-0125

File Name : mtnbrook02
 Site Code : 00000000
 Start Date : 06/29/2006
 Page No : 2

Start Time	POE DR Southbound				OVERTON RD Westbound				PUBLIX DRWY Northbound				OVERTON RD Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	8	4	22	34	13	346	10	369	65	3	25	93	24	508	86	618	1114
Percent	23.5	11.8	64.7		3.5	93.8	2.7		69.9	3.2	26.9		3.9	82.2	13.9		
05:00																	
Volume	1	1	12	14	3	90	5	98	14	1	5	20	6	144	22	172	304
Peak Factor																	0.916
High Int.	05:00 PM				05:15 PM				05:30 PM				05:00 PM				
Volume	1	1	12	14	1	105	0	106	15	0	12	27	6	144	22	172	
Peak Factor	0.607								0.870				0.861				0.898
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
By Approach	04:15 PM				04:45 PM				05:00 PM				05:00 PM				
Volume	12	4	28	44	17	353	7	377	65	3	25	93	24	508	86	618	
Percent	27.3	9.1	63.6		4.5	93.6	1.9		69.9	3.2	26.9		3.9	82.2	13.9		
High Int.	04:15 PM				05:15 PM				05:30 PM				05:00 PM				
Volume	7	2	6	15	1	105	0	106	15	0	12	27	6	144	22	172	
Peak Factor	0.733								0.889				0.861				0.898

TRAFFIC DATA, LLC

1409 Turnham Lane
 Birmingham, AL 35216
 205-824-0125

Mountain Brook, AL

File Name : mtnbrook01
 Site Code : 00000000
 Start Date : 06/29/2006
 Page No : 1

Groups Printed- Unshifted

Start Time	FAIRHAVEN DR Southbound			OVERTON RD Westbound			PUBLIX DRWY Northbound			OVERTON RD Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:00 AM	4	0	4	3	78	9	0	0	3	1	26	0	128
07:15 AM	9	0	2	2	77	13	1	0	3	2	50	2	161
07:30 AM	7	1	9	7	111	8	0	1	1	3	49	1	198
07:45 AM	12	0	10	6	100	12	0	1	4	8	69	0	222
Total	32	1	25	18	366	42	1	2	11	14	194	3	709
08:00 AM	11	0	6	9	90	15	1	0	5	6	53	0	196
08:15 AM	10	0	5	7	93	9	2	0	3	3	52	1	185
08:30 AM	6	1	6	10	91	13	0	0	3	4	49	0	183
08:45 AM	11	0	8	13	85	12	0	1	3	8	59	1	201
Total	38	1	25	39	359	49	3	1	14	21	213	2	765
04:00 PM	7	0	3	18	75	7	1	1	20	4	106	1	243
04:15 PM	8	1	6	22	79	7	1	2	23	5	92	3	249
04:30 PM	5	1	4	21	60	6	1	1	24	9	79	1	212
04:45 PM	17	1	6	25	79	3	0	2	25	6	116	0	280
Total	37	3	19	86	293	23	3	6	92	24	393	5	984
05:00 PM	12	1	6	25	92	6	0	1	25	8	142	2	320
05:15 PM	15	1	5	20	97	8	0	0	25	5	112	3	291
05:30 PM	13	1	6	13	70	4	1	1	26	6	136	2	279
05:45 PM	14	0	5	14	77	5	1	0	30	7	117	0	270
Total	54	3	22	72	336	23	2	2	106	26	507	7	1160
Grand Total	161	8	91	215	1354	137	9	11	223	85	1307	17	3618
Apprch %	61.9	3.1	35.0	12.6	79.4	8.0	3.7	4.5	91.8	6.0	92.8	1.2	
Total %	4.4	0.2	2.5	5.9	37.4	3.8	0.2	0.3	6.2	2.3	36.1	0.5	

Start Time	FAIRHAVEN DR Southbound				OVERTON RD Westbound				PUBLIX DRWY Northbound				OVERTON RD Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	

Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1

Intersection	07:30 AM																801
Volume	40	1	30	71	29	394	44	467	3	2	13	18	20	223	2	245	
Percent	56.3	1.4	42.3		6.2	84.4	9.4		16.7	11.1	72.2		8.2	91.0	0.8		
07:45 AM																	222
Volume	12	0	10	22	6	100	12	118	0	1	4	5	8	69	0	77	
Peak Factor																	0.902
High Int.																	
07:45 AM																	77
Volume	12	0	10	22	7	111	8	126	1	0	5	6	8	69	0	77	
Peak Factor	0.807				0.927				0.750				0.795				

Peak Hour From 07:00 AM to 08:45 AM - Peak 1 of 1

By Approach	07:30 AM																245
Volume	40	1	30	71	29	394	44	467	3	1	15	19	20	223	2	245	
Percent	56.3	1.4	42.3		6.2	84.4	9.4		15.8	5.3	78.9		8.2	91.0	0.8		
High Int.																	77
07:45 AM																	
Volume	12	0	10	22	7	111	8	126	1	0	5	6	8	69	0	77	
Peak Factor	0.807				0.927				0.792				0.795				

TRAFFIC DATA, LLC

1409 Turnham Lane
 Birmingham, AL 35216
 205-824-0125

File Name : mtnbrook01
 Site Code : 00000000
 Start Date : 06/29/2006
 Page No : 2

Start Time	FAIRHAVEN DR Southbound				OVERTON RD Westbound				PUBLIX DRWY Northbound				OVERTON RD Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	57	4	23	84	83	338	21	442	1	4	101	106	25	506	7	538	1170
Percent	67.9	4.8	27.4		18.8	76.5	4.8		0.9	3.8	95.3		4.6	94.1	1.3		
05:00 Volume	12	1	6	19	25	92	6	123	0	1	25	26	8	142	2	152	320
Peak Factor																	0.914
High Int.	04:45 PM				05:15 PM				05:30 PM				05:00 PM				
Volume	17	1	6	24	20	97	8	125	1	1	26	28	8	142	2	152	
Peak Factor	0.875								0.884				0.946				0.885
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
By Approach	04:45 PM				04:30 PM				05:00 PM				05:00 PM				
Volume	57	4	23	84	91	328	23	442	2	2	106	110	26	507	7	540	
Percent	67.9	4.8	27.4		20.6	74.2	5.2		1.8	1.8	96.4		4.8	93.9	1.3		
High Int.	04:45 PM				05:15 PM				05:45 PM				05:00 PM				
Volume	17	1	6	24	20	97	8	125	1	0	30	31	8	142	2	152	
Peak Factor	0.875				0.884				0.887				0.888				

Appendix C
Level of Service Descriptions

DESCRIPTION OF LEVELS OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

Level-of-Service criteria for unsignalized intersections is related to average total delay ranges. Unsignalized intersections are controlled by STOP or YIELD commands to the vehicles approaching an intersection from a minor street.

LEVEL OF SERVICE A: Little or no delay is expected at an intersection with level of service A, where the average vehicle delay is less than 5.0 seconds/vehicle.

LEVEL OF SERVICE B: Short traffic delays may be expected at level of service B, where the average delay is between 5 and 10 seconds/vehicle.

LEVEL OF SERVICE C: Average traffic delays could be expected at level of service C, where the average delay per vehicle ranges from 10 to 20 seconds/vehicle.

LEVEL OF SERVICE D: Average traffic delays are encountered at an intersection with level of service D, where the average intersection delay ranges from 20 to 30 seconds/vehicle.

LEVEL OF SERVICE E: The point at which volume is at or approaching capacity and significant delays are expected. An intersection with level of service E experiences average delay of 30 to 45 seconds/vehicle.

LEVEL OF SERVICE F: When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. Average intersection delay of 45 seconds/vehicle or more is representative of a level of service "F" condition.

Source: *Highway Capacity Manual*, Special Report 209, published by the Transportation Research Board of the National Research Council, Washington, D.C., 1994.

Appendix D
Existing Capacity Printouts

TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	DJT			Intersection	Overton at Poe/Publix			
Agency/Co.	Skipper Consulting, Inc.			Jurisdiction	City of Mountain Brook			
Date Performed	7/11/06			Analysis Year	2006			
Analysis Time Period	PM Peak							
Project Description Overton Village								
East/West Street: Overton Road				North/South Street: Poe Drive/Publix				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	24	508	86	17	353	7		
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.89	0.89	0.89		
Hourly Flow Rate, HFR (veh/h)	26	564	95	19	396	7		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration	LTR			LTR				
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	65	3	25	12	4	28		
Peak-Hour Factor, PHF	0.86	0.86	0.86	0.73	0.73	0.73		
Hourly Flow Rate, HFR (veh/h)	75	3	29	16	5	38		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	1	0	1	0		
Configuration	LT		R		LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LTR	LTR	LT		R		LTR	
v (veh/h)	26	19	78		29		59	
C (m) (veh/h)	1167	939	164		497		325	
v/c	0.02	0.02	0.48		0.06		0.18	
95% queue length	0.07	0.06	2.25		0.19		0.65	
Control Delay (s/veh)	8.2	8.9	45.4		12.7		18.5	
LOS	A	A	E		B		C	
Approach Delay	--	--	36.5			18.5		

(s/veh)				
Approach LOS	-	-	E	C

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TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	DJT			Intersection	Overton at Fairhaven/Publix			
Agency/Co.	Skipper Consulting, Inc.			Jurisdiction	City of Mountain Brook			
Date Performed	7/11/06			Analysis Year	2006			
Analysis Time Period	AM Peak							
Project Description <i>Overton Village</i>								
East/West Street: <i>Overton Road</i>				North/South Street: <i>Fairhaven Drive/Publix</i>				
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	20	223	2	29	394	44		
Peak-Hour Factor, PHF	0.80	0.80	0.80	0.93	0.93	0.93		
Hourly Flow Rate, HFR (veh/h)	24	278	2	31	423	47		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	1	0	1	1	0		
Configuration	L		TR	L		TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	3	1	15	40	1	30		
Peak-Hour Factor, PHF	0.79	0.79	0.79	0.81	0.81	0.81		
Hourly Flow Rate, HFR (veh/h)	3	1	18	49	1	37		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration		LTR			LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	24	31	22			87		
C (m) (veh/h)	1102	1294	566			353		
v/c	0.02	0.02	0.04			0.25		
95% queue length	0.07	0.07	0.12			0.95		
Control Delay (s/veh)	8.3	7.9	11.6			18.5		
LOS	A	A	B			C		

Approach Delay (s/veh)	-	-	11.6	18.5
Approach LOS	-	-	B	C

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TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	DJT			Intersection	Overton at Fairhaven/Publix			
Agency/Co.	Skipper Consulting, Inc.			Jurisdiction	City of Mountain Brook			
Date Performed	7/11/06			Analysis Year	2006			
Analysis Time Period	PM Peak							
Project Description Overton Village								
East/West Street: Overton Road				North/South Street: Fairhaven Drive/Publix				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	26	507	7	91	328	23		
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.88	0.88	0.88		
Hourly Flow Rate, HFR (veh/h)	29	569	7	103	372	26		
Percent Heavy Vehicles	0	-	-	0	-	-		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	1	0	1	1	0		
Configuration	L		TR	L		TR		
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	2	2	106	57	4	23		
Peak-Hour Factor, PHF	0.89	0.89	0.89	0.88	0.88	0.88		
Hourly Flow Rate, HFR (veh/h)	2	2	119	64	4	26		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	0	0	1	0		
Configuration		LTR			LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L	LTR			LTR		
v (veh/h)	29	103	123			94		
C (m) (veh/h)	1172	1007	481			133		
v/c	0.02	0.10	0.26			0.71		
95% queue length	0.08	0.34	1.01			3.98		
Control Delay (s/veh)	8.1	9.0	15.0			79.9		
LOS	A	A	C			F		

Two-Way Stop Control

Approach Delay (s/veh)	-	--	15.0	79.9
Approach LOS	-	--	C	F

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Appendix E
Future Capacity Printouts

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	DJT			Intersection	Overton at Fairhaven/Publix		
Agency/Co.	Skipper Consulting, Inc.			Jurisdiction	City of Mountain Brook		
Date Performed	7/11/06			Analysis Year	Future		
Analysis Time Period	PM Peak						
Project Description <i>Overton Village</i>							
East/West Street: <i>Overton Road</i>				North/South Street: <i>Fairhaven Drive/Publix</i>			
Intersection Orientation: <i>East-West</i>				Study Period (hrs): <i>0.25</i>			
Vehicle Volumes and Adjustments							
Major Street	Eastbound			Westbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)	51	525	7	91	339	48	
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR (veh/h)	56	583	7	101	376	53	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0			0	
Lanes	1	1	0	1	1	0	
Configuration	L		TR	L		TR	
Upstream Signal		0			0		
Minor Street	Northbound			Southbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)	2	2	106	100	4	66	
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	
Hourly Flow Rate, HFR (veh/h)	2	2	117	111	4	73	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	1	0	0	1	0	
Configuration		LTR			LTR		
Delay, Queue Length, and Level of Service							
Approach	Eastbound	Westbound	Northbound			Southbound	
Movement	1	4	7	8	9	10	11
Lane Configuration	L	L	LTR			LTR	
v (veh/h)	56	101	121			188	
C (m) (veh/h)	1141	995	461			130	
v/c	0.05	0.10	0.26			1.45	
95% queue length	0.15	0.34	1.04			12.77	
Control Delay (s/veh)	8.3	9.0	15.6			300.7	
LOS	A	A	C			F	

Approach Delay (s/veh)	--	-	15.6	300.7
Approach LOS	-	-	C	F

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TWO-WAY STOP CONTROL SUMMARY								
General Information				Site Information				
Analyst	DJT			Intersection	Overton at Poe/Publix			
Agency/Co.	Skipper Consulting, Inc.			Jurisdiction	City of Mountain Brook			
Date Performed	7/11/06			Analysis Year	Future			
Analysis Time Period	AM Peak							
Project Description Overton Village								
East/West Street: Overton Road				North/South Street: Poe Drive/Publix				
Intersection Orientation: East-West				Study Period (hrs): 0.25				
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	23	234	17	5	426	16		
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR (veh/h)	25	260	18	5	473	17		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L		TR	LTR				
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	18	0	9	24	0			
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR (veh/h)	20	0	10	26	0	50		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	1	0	1	0		
Configuration	LT		R		LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR	LT		R		LTR	
v (veh/h)	25	5	20		10		76	
C (m) (veh/h)	1084	1296	259		775		434	
v/c	0.02	0.00	0.08		0.01		0.18	
95% queue length	0.07	0.01	0.25		0.04		0.63	
Control Delay (s/veh)	8.4	7.8	20.1		9.7		15.0	
LOS	A	A	C		A		C	
Approach Delay	--	--	16.6			15.0		

(s/veh)				
Approach LOS	-	-	C	C

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TWO-WAY STOP CONTROL SUMMARY								
General Information			Site Information					
Analyst	DJT		Intersection	Overton at Poe/Publix				
Agency/Co.	Skipper Consulting, Inc.		Jurisdiction	City of Mountain Brook				
Date Performed	7/11/06		Analysis Year	Future				
Analysis Time Period	PM Peak							
Project Description Overton Village								
East/West Street: Overton Road			North/South Street: Poe Drive/Publix					
Intersection Orientation: East-West			Study Period (hrs): 0.25					
Vehicle Volumes and Adjustments								
Major Street	Eastbound			Westbound				
Movement	1	2	3	4	5	6		
	L	T	R	L	T	R		
Volume (veh/h)	35	533	86	17	396	18		
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR (veh/h)	38	592	95	18	440	20		
Percent Heavy Vehicles	0	--	--	0	--	--		
Median Type	Undivided							
RT Channelized			0			0		
Lanes	1	1	0	0	1	0		
Configuration	L		TR	LTR				
Upstream Signal		0			0			
Minor Street	Northbound			Southbound				
Movement	7	8	9	10	11	12		
	L	T	R	L	T	R		
Volume (veh/h)	65	3	25	42	4	47		
Peak-Hour Factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90		
Hourly Flow Rate, HFR (veh/h)	72	3	27	46	4	52		
Percent Heavy Vehicles	0	0	0	0	0	0		
Percent Grade (%)	0			0				
Flared Approach		N			N			
Storage		0			0			
RT Channelized			0			0		
Lanes	0	1	1	0	1	0		
Configuration	LT		R		LTR			
Delay, Queue Length, and Level of Service								
Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	LTR	LT		R		LTR	
v (veh/h)	38	18	75		27		102	
C (m) (veh/h)	1112	916	135		479		234	
v/c	0.03	0.02	0.56		0.06		0.44	
95% queue length	0.11	0.06	2.75		0.18		2.06	
Control Delay (s/veh)	8.4	9.0	60.8		13.0		31.8	
LOS	A	A	F		B		D	
Approach Delay	--	--	48.1			31.8		

(s/veh)				
Approach LOS	-	-	E	D

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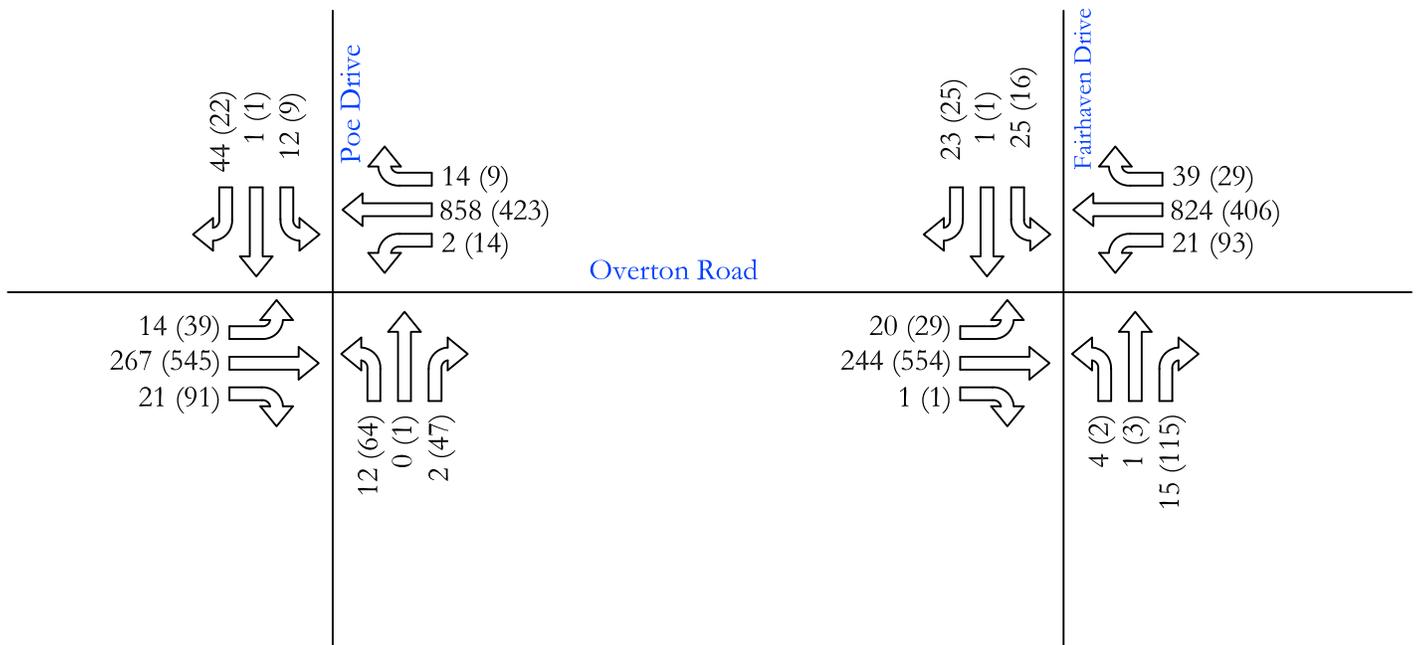
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Exhibit B



North
Scale: n.t.s



Legend

AM (PM) = XX(XX)

Exhibit C

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	14	267	21	2	858	14	12	0	2	12	1	44
Future Vol, veh/h	14	267	21	2	858	14	12	0	2	12	1	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	89	89	89	58	58	58	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	287	23	2	964	16	21	0	3	17	1	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	980	0	0	310	0	0	1336	1312	298	1304	1316	972
Stage 1	-	-	-	-	-	-	328	328	-	976	976	-
Stage 2	-	-	-	-	-	-	1008	984	-	328	340	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	704	-	-	1250	-	-	130	159	741	137	158	306
Stage 1	-	-	-	-	-	-	685	647	-	302	329	-
Stage 2	-	-	-	-	-	-	290	327	-	685	639	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	704	-	-	1250	-	-	101	154	741	133	153	306
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	154	-	133	153	-
Stage 1	-	-	-	-	-	-	667	630	-	294	328	-
Stage 2	-	-	-	-	-	-	229	326	-	664	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	43.9	27.8
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	101	741	704	-	-	1250	-	-	237
HCM Lane V/C Ratio	0.205	0.005	0.021	-	-	0.002	-	-	0.339
HCM Control Delay (s)	49.6	9.9	10.2	0	-	7.9	0	-	27.8
HCM Lane LOS	E	A	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.7	0	0.1	-	-	0	-	-	1.4

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	244	1	21	824	39	4	1	15	25	1	23
Future Vol, veh/h	20	244	1	21	824	39	4	1	15	25	1	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	86	86	86	71	71	71	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	268	1	24	958	45	6	1	21	32	1	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1003	0	0	269	0	0	1358	1365	269	1354	1343	981
Stage 1	-	-	-	-	-	-	313	313	-	1030	1030	-
Stage 2	-	-	-	-	-	-	1045	1052	-	324	313	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	690	-	-	1295	-	-	126	147	770	127	152	303
Stage 1	-	-	-	-	-	-	698	657	-	282	311	-
Stage 2	-	-	-	-	-	-	276	303	-	688	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	690	-	-	1295	-	-	109	140	770	118	144	303
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	140	-	118	144	-
Stage 1	-	-	-	-	-	-	676	636	-	273	305	-
Stage 2	-	-	-	-	-	-	243	297	-	646	636	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	17.5	39.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	316	690	-	-	1295	-	-	166
HCM Lane V/C Ratio	0.089	0.032	-	-	0.019	-	-	0.383
HCM Control Delay (s)	17.5	10.4	-	-	7.8	-	-	39.6
HCM Lane LOS	C	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	1.7

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕ ↗			↕	
Traffic Vol, veh/h	38	545	91	14	423	9	64	1	47	9	1	22
Future Vol, veh/h	38	545	91	14	423	9	64	1	47	9	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	94	94	94	76	76	76	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	626	105	15	450	10	84	1	62	10	1	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	460	0	0	731	0	0	1263	1255	679	1252	1303	455
Stage 1	-	-	-	-	-	-	766	766	-	485	485	-
Stage 2	-	-	-	-	-	-	497	489	-	767	818	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1101	-	-	873	-	-	147	172	452	149	161	605
Stage 1	-	-	-	-	-	-	395	412	-	563	552	-
Stage 2	-	-	-	-	-	-	555	549	-	395	390	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1101	-	-	873	-	-	130	156	452	119	146	605
Mov Cap-2 Maneuver	-	-	-	-	-	-	130	156	-	119	146	-
Stage 1	-	-	-	-	-	-	368	384	-	524	539	-
Stage 2	-	-	-	-	-	-	519	536	-	316	363	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	49.3	20.4
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	130	452	1101	-	-	873	-	-	269
HCM Lane V/C Ratio	0.658	0.137	0.04	-	-	0.017	-	-	0.134
HCM Control Delay (s)	74.6	14.2	8.4	0	-	9.2	0	-	20.4
HCM Lane LOS	F	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.5	0.5	0.1	-	-	0.1	-	-	0.5

Intersection

Int Delay, s/veh 4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	554	1	93	406	29	2	3	115	16	1	25
Future Vol, veh/h	29	554	1	93	406	29	2	3	115	16	1	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	95	95	95	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	622	1	98	427	31	2	4	142	20	1	31

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	458	0	0	624	0	0	1342	1342	623	1399	1327	443
Stage 1	-	-	-	-	-	-	688	688	-	638	638	-
Stage 2	-	-	-	-	-	-	654	654	-	761	689	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1103	-	-	957	-	-	129	152	486	118	155	615
Stage 1	-	-	-	-	-	-	436	447	-	465	471	-
Stage 2	-	-	-	-	-	-	456	463	-	398	446	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1103	-	-	957	-	-	110	132	486	74	135	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	132	-	74	135	-
Stage 1	-	-	-	-	-	-	423	434	-	451	423	-
Stage 2	-	-	-	-	-	-	388	416	-	271	433	-

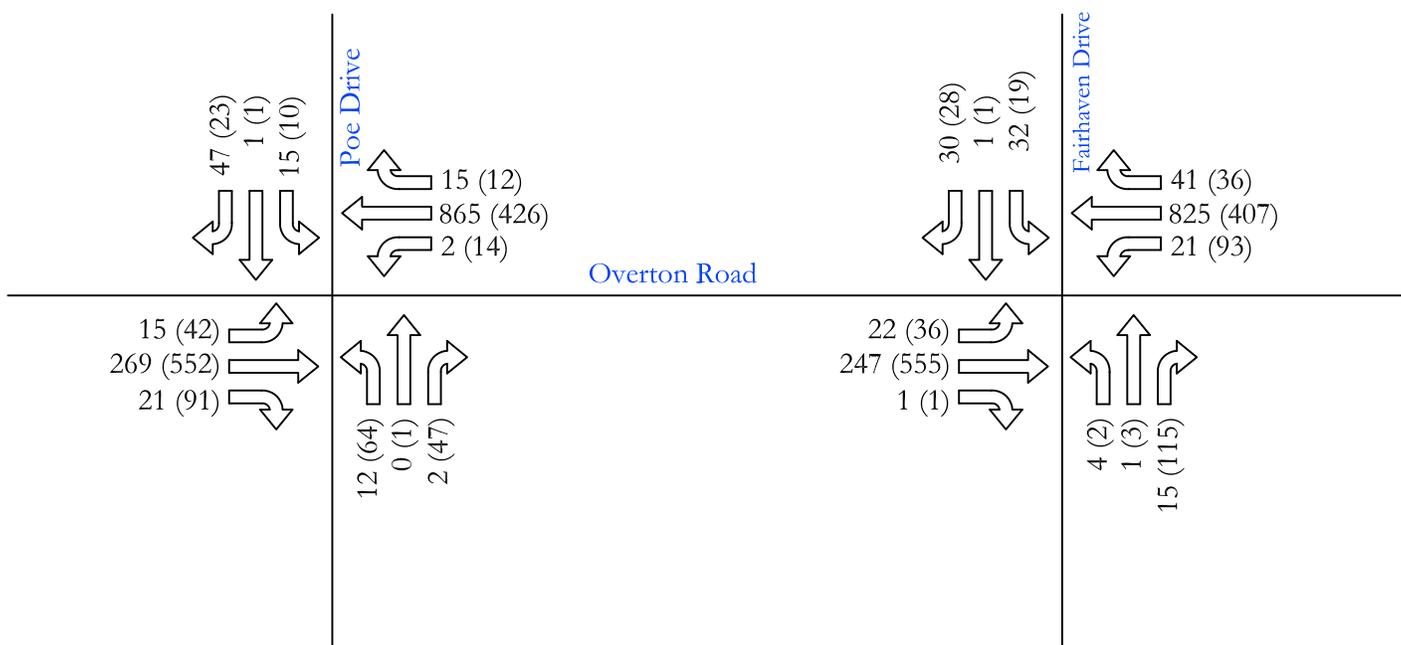
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.6	17.6	38.2
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	432	1103	-	-	957	-	-	159
HCM Lane V/C Ratio	0.343	0.03	-	-	0.102	-	-	0.326
HCM Control Delay (s)	17.6	8.4	-	-	9.2	-	-	38.2
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.3	-	-	1.3

Exhibit D



North
Scale: n.t.s



Legend

AM (PM) = XX(XX)

Exhibit E

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	15	269	21	2	868	15	12	0	2	16	1	48
Future Vol, veh/h	15	269	21	2	868	15	12	0	2	16	1	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	89	89	89	58	58	58	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	289	23	2	975	17	21	0	3	23	1	68

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	992	0	0	312	0	0	1356	1330	301	1321	1332	984
Stage 1	-	-	-	-	-	-	333	333	-	988	988	-
Stage 2	-	-	-	-	-	-	1023	997	-	333	344	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	697	-	-	1248	-	-	126	155	739	134	154	301
Stage 1	-	-	-	-	-	-	681	644	-	297	325	-
Stage 2	-	-	-	-	-	-	284	322	-	681	637	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	697	-	-	1248	-	-	95	150	739	130	149	301
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	150	-	130	149	-
Stage 1	-	-	-	-	-	-	662	626	-	289	324	-
Stage 2	-	-	-	-	-	-	218	321	-	659	619	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	46.9	31.6
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	739	697	-	-	1248	-	-	225
HCM Lane V/C Ratio	0.218	0.005	0.023	-	-	0.002	-	-	0.407
HCM Control Delay (s)	53.1	9.9	10.3	0	-	7.9	0	-	31.6
HCM Lane LOS	F	A	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	0.8	0	0.1	-	-	0	-	-	1.9

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕	↕		↕	↕	
Traffic Vol, veh/h	22	248	1	21	825	41	4	1	15	35	1	23
Future Vol, veh/h	22	248	1	21	825	41	4	1	15	35	1	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	86	86	86	71	71	71	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	273	1	24	959	48	6	1	21	45	1	30

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1007	0	0	274	0	0	1369	1377	273	1365	1354	983
Stage 1	-	-	-	-	-	-	321	321	-	1032	1032	-
Stage 2	-	-	-	-	-	-	1048	1056	-	333	322	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	688	-	-	1289	-	-	124	145	766	125	150	302
Stage 1	-	-	-	-	-	-	691	652	-	281	310	-
Stage 2	-	-	-	-	-	-	275	302	-	681	651	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	688	-	-	1289	-	-	106	137	766	116	142	302
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	137	-	116	142	-
Stage 1	-	-	-	-	-	-	667	629	-	271	304	-
Stage 2	-	-	-	-	-	-	242	296	-	638	628	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.2	17.8	50.1
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	310	688	-	-	1289	-	-	153
HCM Lane V/C Ratio	0.091	0.035	-	-	0.019	-	-	0.501
HCM Control Delay (s)	17.8	10.4	-	-	7.8	-	-	50.1
HCM Lane LOS	C	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	2.4

Intersection

Int Delay, s/veh 6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Traffic Vol, veh/h	42	552	91	14	426	12	64	1	47	10	1	23
Future Vol, veh/h	42	552	91	14	426	12	64	1	47	10	1	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	94	94	94	76	76	76	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	634	105	15	453	13	84	1	62	11	1	26

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	466	0	739	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.12	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.218	-	2.218	-
Pot Cap-1 Maneuver	1095	-	867	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1095	-	867	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.3	53.6	21.6
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	124	447	1095	-	-	867	-	-	255
HCM Lane V/C Ratio	0.69	0.138	0.044	-	-	0.017	-	-	0.15
HCM Control Delay (s)	82.1	14.3	8.4	0	-	9.2	0	-	21.6
HCM Lane LOS	F	B	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	3.7	0.5	0.1	-	-	0.1	-	-	0.5

Intersection

Int Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↕	↕		↕	↕	
Traffic Vol, veh/h	36	555	1	93	407	36	2	3	115	19	1	28
Future Vol, veh/h	36	555	1	93	407	36	2	3	115	19	1	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	95	95	95	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	624	1	98	428	38	2	4	142	23	1	35

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	466	0	0	625	0	0	1366	1367	624	1421	1349	447
Stage 1	-	-	-	-	-	-	705	705	-	643	643	-
Stage 2	-	-	-	-	-	-	661	662	-	778	706	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1095	-	-	956	-	-	124	147	485	114	151	612
Stage 1	-	-	-	-	-	-	427	439	-	462	468	-
Stage 2	-	-	-	-	-	-	452	459	-	389	439	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1095	-	-	956	-	-	104	127	485	71	131	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	127	-	71	131	-
Stage 1	-	-	-	-	-	-	411	423	-	445	420	-
Stage 2	-	-	-	-	-	-	382	412	-	263	423	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.6	17.8	43.9
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	429	1095	-	-	956	-	-	150
HCM Lane V/C Ratio	0.345	0.037	-	-	0.102	-	-	0.395
HCM Control Delay (s)	17.8	8.4	-	-	9.2	-	-	43.9
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.3	-	-	1.7

Exhibit F

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

2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	674
Opposing volume (V_O), veh/h:	432

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	498
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

PM Peak Existing 2017

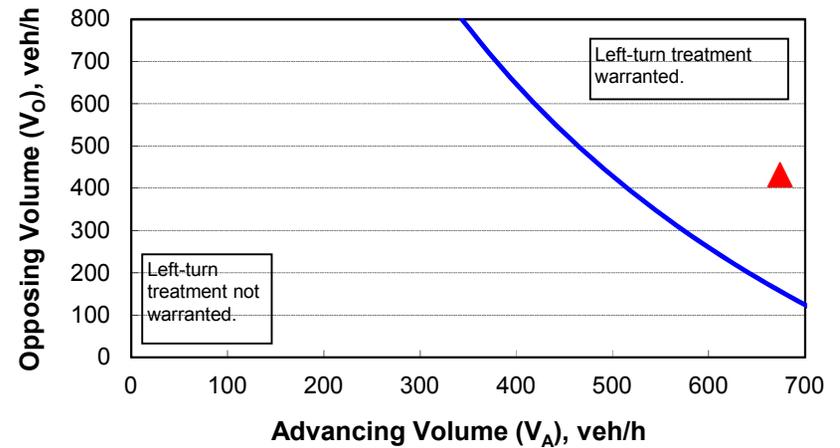


Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

2-lane roadway (English)

INPUT

Variable	Value
85 th percentile speed, mph:	30
Percent of left-turns in advancing volume (V_A), %:	6%
Advancing volume (V_A), veh/h:	685
Opposing volume (V_O), veh/h:	438

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	495
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

PM Peak Proposed 2017

